


Orientalations

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The Metamorphosis of the *Qin*, 500 BCE-CE 500

Bo Lawergren

The *qin*, a type of zither, has long been considered China's pre-eminent musical instrument. Confucius is said to have played the *qin*, as well as the *se*, another form of zither (Fig. 1, bottom). The latter had practically disappeared by the middle of the 1st millennium CE, but the *qin* has remained popular, especially in Confucian, Daoist and Buddhist circles. First mentioned in the ancient classics, its history, playing technique and symbolism have received much attention through the ages,

not least in the 20th century (see, for example, van Gulik, 1969a, Watt, 1981, DeWoskin, 1982, and So, 2000). Until recently the earliest known extant *qin* was made during the Tang dynasty (618-906). It is practically identical to modern examples (the 'classical' *qin*, as in Fig. 1, centre). Many assumed this was the model Confucius would have been familiar with, but a different type (the 'ancient' *qin*; see Fig. 1, top) emerged when the tomb of Marquis Yi of Zeng (*c.* 433 BCE) was opened in



(Fig. 1) Three extant zithers shown on the same scale. In each case the player would have sat at the upper left corner of the instrument.

Top: *Qin*
From the tomb of Marquis Yi of Zeng, Suizhou,
Hubei province
Wood with black lacquer
Length 67 cm
(After Lawergren, Fig. 3.4a)

Middle: *Qin* named 'The Dragon's Moan'
Style: 'Pearl Necklace'
Wood covered with gold-speckled lacquer;
feet and tuning pegs: nephrite; strings: silk
Length 123 cm
Freer Gallery of Art
Gift of Charles Lang Freer, F1915.100
(Photography by the author)

Bottom: *Se*
From the tomb of Marquis Yi of Zeng
Length 167 cm
(After Lawergren, fig. 3.2)

Date

-500

-400

-300

-200

-100

0

+100

+200

+300



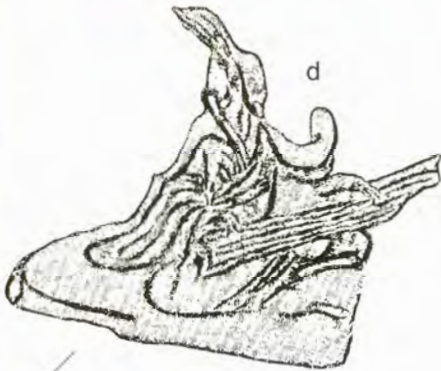
a



b



c



d



e



f



g



1978. Further examples of the ancient model have since been excavated, all from the state of Chu (of which Zeng was a part) located south of the ancient Chinese heartland. At first sight the two types look different – the older one has two distinct parts (soundbox and neck), while the newer has a continuous body – but they have many less visible properties in common (see below). Some features were unique to the older type, and these point to Central Asian influences, a surprising discovery on an object long considered basic to Chinese musical culture (Lawergren, pp. 73-79).

The close link between the ancient and classical qin does not automatically imply that one descended from the other. Both types could have developed independently until the ancient form vanished, but in this article I will demonstrate that

(Fig. 2) *Qin* from c. 500 BCE to c. CE 1100

a. Extant qin (see Fig. 1, top)

b. Extant *qin*
From Guodian, Tomb 1, Jingmen, Hubei province ~
Length 83 cm
(After Wenwu 1997.7, p. 41)

c. Bronze mirror
Freer Gallery of Art, F1935.13
(Photography by the author)

d. Stone relief from Sichuan
(After Rudolph, no. 56)

e. Terracotta figure from Sichuan
Shanghai Museum
(Based on author's photograph)

f. Bronze mirror
Eastern Han/Three Kingdoms period (CE 25-265)
Honolulu Academy of Arts, HAA 8509.1 (previously M60)
Gift of Donald H. Graham, Jr, 1996
(Photography by Shuzo Uemoto)

g. Bronze mirror
Freer Gallery of Art, F1937.15
(Photography by the author)

h. Bronze mirror
The Metropolitan Museum of Art, 1994.605.105
Gift of Charlotte C. and John C. Weber
(Photography by the author)

i. Bronze mirror
The Cleveland Museum of Art, 1995.333
(After Chou, no. 3)
(Photography by Kenneth Bé)

the classical type emerged through a slow change of the earlier form. The process unfolded approximately between 500 BCE and CE 500. It was a period when many classical Chinese texts were composed or edited, and some concern the *qin*. With a clearer understanding of the instrument, such passages acquire new and fuller interpretation.

The classical qin and its tuning device

The *qin* in Figure 2m-r are oblong in shape, about 125 cm long, and 20 and 15 cm wide at the right and left ends respectively ('right' and 'left' as seen by the players in Fig. 1). Together with the flat bottom plate, the convex top plate ('soundboard') forms a hollow soundbox (ibid., fig. 3.8.5). It is covered with dark

j. Bronze mirror
Honolulu Academy of Arts, HAA 7502.1 (previously numbered 124)
Gift of Donald H. Graham, Jr, 1993
(Photography by Shuzo Uemoto)

k. Lacquered bowl
Nanchang, Jiangxi province
White gashes are cracks in the lacquer.
(After *Wenwu* 2001:2, fig. 13; for a Daoist context, see Kaogu 2002:2, pp. 77-86).

l. Inscribed bricks (cf. Lawergren, fig. 3.8.5). Unconventionally, the player (Xi Kang) sits at the left end of the qin. Normally, players sit at the right end. The significance of the inversion is not known.

m. Extant qin
Deposited in the Shōsō-in Imperial Repository, Nara, Japan in 817
Length 114 cm
A cyclical date (*yihai*) inside the body limits the date of manufacture to the year 795, 735, 675 or 615. Stylistic features of a calligraphic inscription on the back rule out an earlier date (Huiwen Lu, private information), pace van Gulik 1969a, pp. 205-209. (After Hayashi et al., pls 2, 27-34).

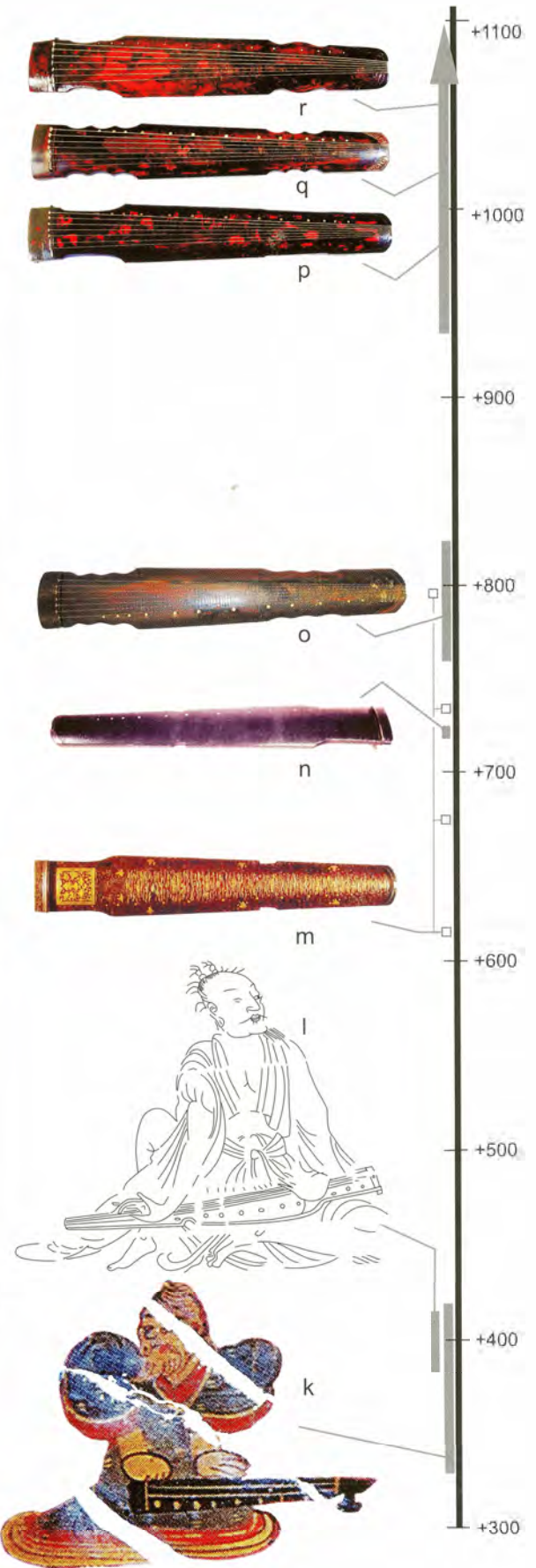
n. Extant qin, 713-41 (van Gulik 1969a, pl. facing p. 192 and p. 236)
Length 110 cm
Originally Hōryū-ji Hōmotsukan temple, Nara; now in Tokyo National Museum
(After Tokyo National Museum, p. 103)

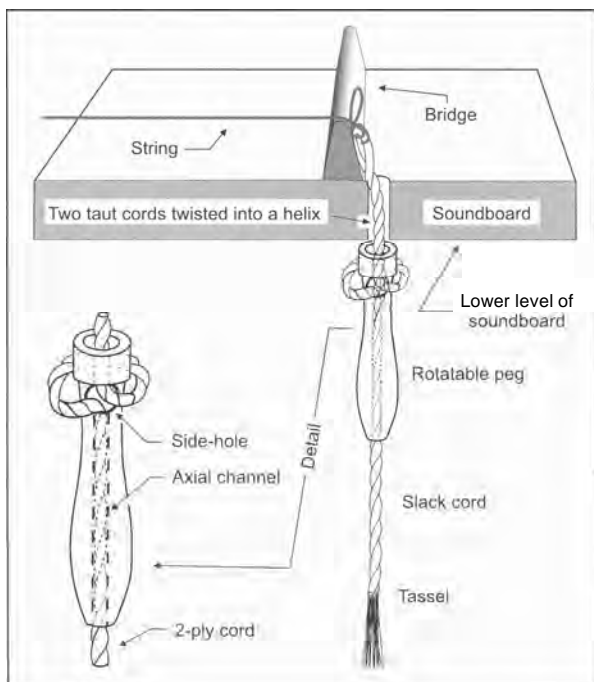
o. Extant qin (see Fig. 1, middle)

p. Extant qin named 'Crane Singing on a Serene Night'
Style: 'Confucian' (Zhongni shi)
Length 127 cm
(After Bell Yung et al., eds, no. 2)

q. Qin in the 'Pearl Necklace' style (Lianzhu shi)
Length 122 cm
(After Bell Yung et al., eds, no. 1)

r. Qin in the 'Thunderous Noise' style (Bili shi)
Length 121 cm
(After Bell Yung et al., eds, no. 4)





(Fig. 3) Tuning mechanism on the classical *qin*. The peg is *c.* 5 cm long.

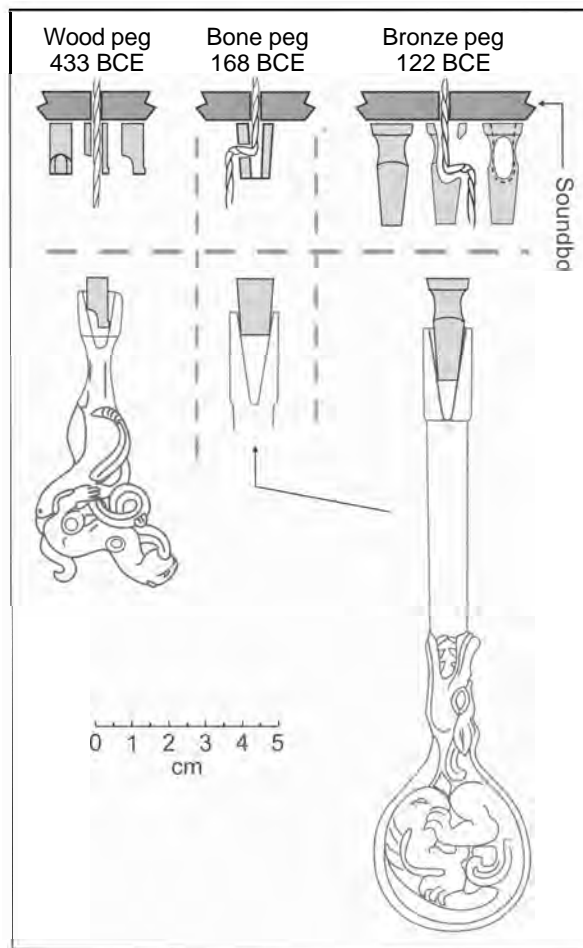
lacquer, except for thirteen round studs along the edge opposite the player (van Gulik, 1969a, p. 194). When the *qin* is played, the fingers of the left hand press the strings against the soundboard at positions guided by the studs. The right end of each string is indirectly attached to a tuning peg under the instrument, and the left end is tied to an anchor or foot under the box.

The tuning pegs differ significantly from those on Western instruments like violins and pianos. *Qin* pegs have a narrow channel along their central axis, which is connected through a side-hole to the outside (Fig. 3). Each playing string is tied to a thick cord which enters the axial channel, exits through the side-hole, encircles the peg, and passes back into the axial channel. This circuitous path locks the cord to the peg which, when turned, twists and shortens the cord. As a result, the string is stretched and the pitch raised. Western strings, on the other hand, are wound perpendicularly around the pegs. When twisted, the peg pulls directly on the string. *Qin* strings have graduated thickness, and this, combined with appropriate tensions, allows progressive scales – although all strings have the same length.

No other instrument, Eastern or Western, has a tuning mechanism resembling that of the *qin*. For example, *se* strings were tuned by adjusting their lengths with small movable bridges, but their tensions were left unchanged. The same method was used on ancient *zhu* (Lawergren, pp. 79-80) and is highly visible on modern *zheng* (ibid., pp. 80-83), both of which are also zithers.

Comparing the ancient and the classical *qin*

The two upper instruments in Figure 1 have similar tuning mechanisms located under the right end of the soundboard, indicating that both are *qin*. Their pegs have similar axial channels, and the side-hole was introduced in *circa* 122 BCE (Fig. 4, top), but it had been preceded by a side-channel in *circa* 168 BCE. Both instruments have string-anchors under the left end of the soundboard, and both lack movable bridges. The ancient pegs grew longer with time, but never reached the 5 cm



(Fig. 4) Tuning mechanism on the ancient *qin*. The cords were attached to the pegs approximately as in Figure 3, but the paths are drawn in a simplified manner here.

that is now standard. Modern players turn the pegs with their fingers, but their ancient counterparts used long, narrow tuning keys. On their *qin*, pegs were spaced too closely to accommodate fingers. One end of the key had a socket that fit the pegs (Fig. 4, bottom), and the other had a handle sumptuously decorated with animals and humans (Fig. 5). The scenes derive from the visual repertoire associated with the animal style of Central Asia and China's northern zone. The inspiration for the bull-man in Figure 5e is probably even more distant – Persepolis, the capital of the Persian empire. Tuning keys were not produced after the Western Han dynasty (206 BCE-CE 8),

presumably because the pegs had become more widely spaced, providing access to the fingers. Keys were functional and aesthetically pleasing, and the latter aspect made them collector's items long before their function was clear. The opulence of a recently discovered solid silver key with precious stone inlay (Fig. 5i) points to the great prestige enjoyed by the *qin* and its accoutrements near the beginning of the Common Era.

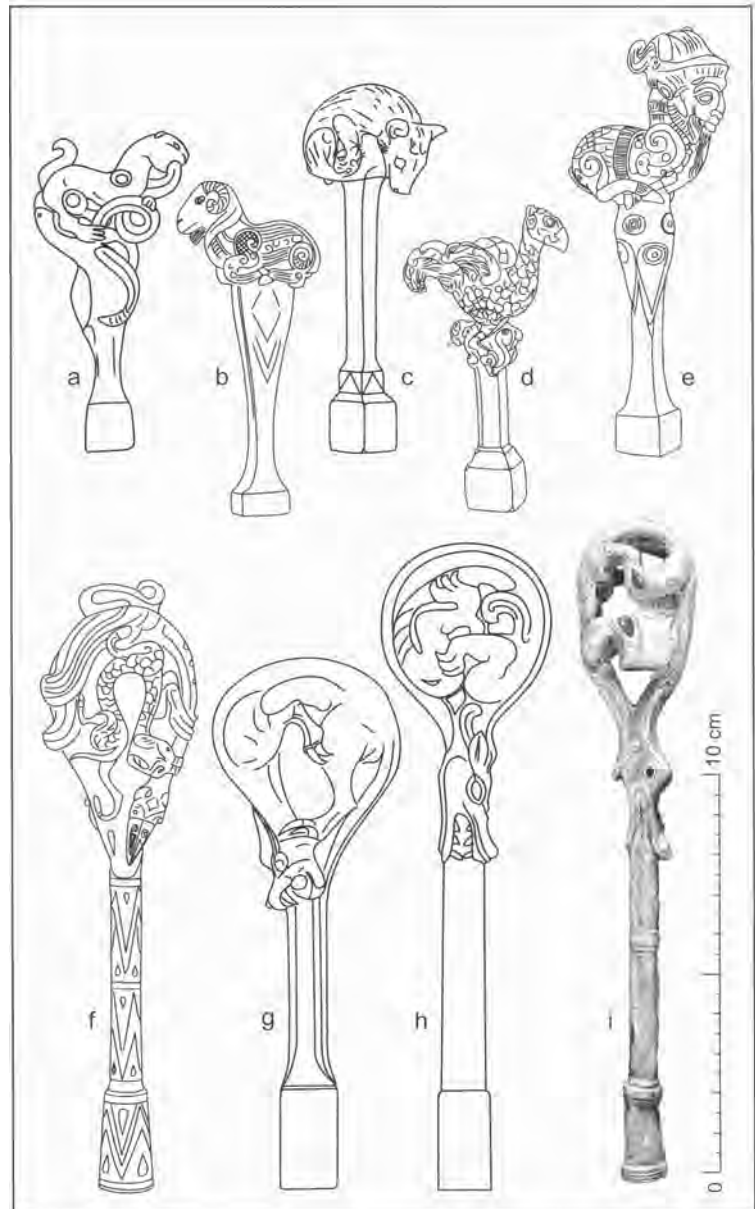
The transformation

Different stages of the *qin* are presented chronologically in Figure 2. Actual examples from about 450 to 150 BCE have survived, but there are no known depictions from this period. For the next 550 years the situation is reversed, with representations of *qin* but no surviving instruments – these reappear in the 7th century CE. Representations occur on terracotta, stone reliefs, and bronze mirrors. Judging by the way players are depicted, the first two media have some distorted details. Terracotta figures of *qin* players were ubiquitous during the Han dynasty – especially in Sichuan province – but the *qin* often look generic and lack the details which can distinguish them from *se*. Although catalogues and museum labels may call them *qin*, the identification is rarely convincing. But many mirrors are clearer and possess fine detail. On the examples discussed here, *qin* are typically only 12 mm long (Fig. 2f-j) but the magnified images are highly informative. Moreover, many mirrors carry inscriptions naming the musician Boya. He was a legendary *qin* player first mentioned in literary texts from the mid-3rd century BCE, which assert that his music could evoke majestic mountains and quiet streams (Cahill, pp. 55-56). Apparently, the form of *qin* that had evolved by Boya's time allowed him to attain the heights of expressive power that made him the legendary figure he subsequently became. During the Eastern Han period (25-220), mirrors place Boya among Daoist deities, and texts treated him as the very embodiment of the *wenren*, the cultivated gentleman. His lofty position accords with the elevated status assigned to the *qin* at this time.

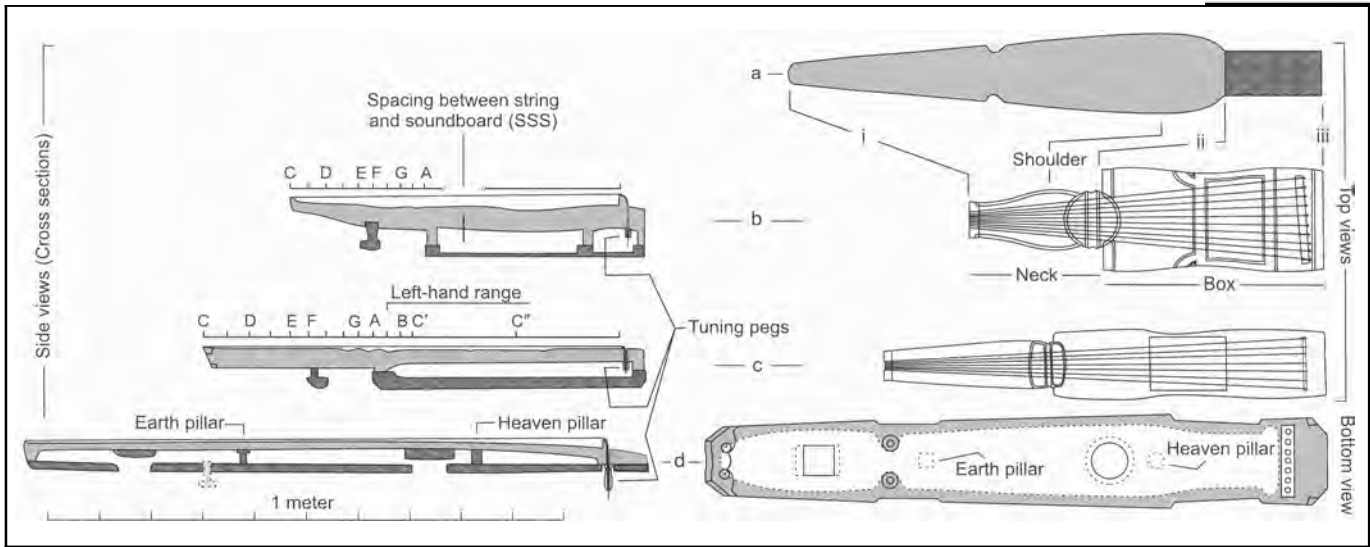
Length and string-spacing

The length of the *qin* increased from 67 cm to around 125 cm, but the process lasted a millennium (Fig. 7, lighter line). The expansion can easily be documented on extant instruments, but representations (shown as open rectangles) introduce large uncertainties in the length estimates of players and instruments. On Eastern Han mirrors (Fig. 2f-i). Boya's head is so large that lengths become meaningless. Most data fall on a smooth line which increases steeply in the beginning (Fig. 7, lighter line) and reaches a final value around CE 600. That date marks the emergence of the classical *qin*.

Only extant instruments can supply data accurate enough to quantify the spacing between the strings and the soundboard ('SSS', Fig. 6 left). Fortunately, the extant instruments belong to the crucial period of change (Fig. 7, darker line). Around 200 BCE the 'SSS' values abruptly decreased from 20 to c. 5 mm. The small value, still in effect today, allows the fingers of the left hand to press the string all the way down to the soundboard and slide them left and right (glissando playing). This technique is an essential part of classical *qin* technique but



(Fig. 5) Tuning keys arranged in approximately chronological order from 'a' (5th century BCE) to 'i' (2nd century BCE). All are made of bronze except key 'i', which is solid silver, 18 cm high and inlaid with gemstones of carnelian, agate (white and clear) and turquoise. Private collection, New York (Line drawings after Lawergren, Fig. 3.9.3)



(Fig. 6) Left: *Qin* side views (cross sections) and string position
 Right: Top views
 a: Approximate reconstruction of Xi Kang's *qin* in Fig. 21
 b: Leigudun
 c: Mawangdui
 d: a classical *qin* signed by Prince Lu (1633), cf. Lawergren, fig. 3.8.4

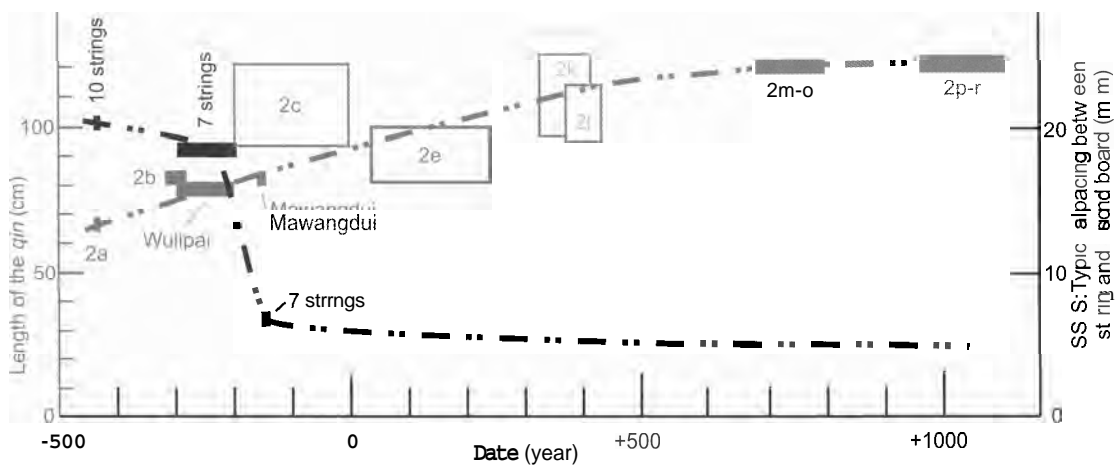
would not have been feasible before 200 BCE. At the time of Marquis Yi, only open strings could have been played, but he may not have considered it a shortcoming, since he was used to the steady pitches of bell chimes. The mention of Boya's expressive playing probably implies the use of glissandi by the mid-3rd century. The date is approximately corroborated by the darker curve in Figure 7.

Bottom surface

Viewed from the side, the upper surface of Yi's *qin* is almost flat and runs along the entire box and neck, but the bottom surface is short, no longer than the box. When played, the bottom rested on the player's thighs, and the short surface gave little stability. If fingers pressed down on the left end of the *qin*, the instrument would topple. To preserve stability, players could only press at points above the supported bottom surface (to the right of A in Fig. 6b and 6c). Such a restriction limited the range of pitches but could be removed if the *qin* had a wider support surface. This condition could be achieved if the neck was eliminated.

But the box-and-neck structure remained during the Western Han dynasty. The instrument balanced precariously on the player's lap, and his left hand needed to stay closely above it. An image on a mirror in the Freer Gallery of Art illustrates the

(Fig. 7) The lighter line shows length of *qin* v. date. The labels of the data points refer to the pictures in Figure 2 with the additions of Wulipai (Lawergren, p. 77), Mawangdui (ibid., p. 77; the original report in *Wenwu* 1974: 7, pp. 39-48, erroneously gives the length as 62.3 cm). The Song dynasty is the average of those in Bell Yung et al., eds, some shown in Figs 2p-r. The darker line shows spacing between strings and soundboard on ancient *qin*
 (Data from Fig. 6, left)



point (Fig. 2c). It has long been known, and an identical example, dated to 206-180 BCE, was recently excavated in Xuzhou, Jiangsu province (see *Wenwu* 1997:2, p. 12, fig. 18 and back cover). Extant instruments only show the ancient *qin* in the heartland of the state of Chu, but the new image now also attests to its existence further northeast. The *qin* are identical in both regions.

During the Eastern Han dynasty most *qin* lost their composite nature, but one harked back to the earlier design (Fig. 2f), and another retained the neck-and-body division (Fig. 2g) although both parts had equal height. But Boya seemed to prefer the *qin* without any noticeable division between body and neck (Fig. 2h-j). According to the texts, Boya was exclusively a *qin* player, and it is gratifying to see the visual confirmation on the mirrors.

Many terracotta zithers are problematic, but the example in Figure 2e may be an exception. Although thin, the *qin* survived unbroken because its entire length is supported by the player's bulky legs and dress. Its slender soundboard matches the dimensions of the *qin* in Figure 2h-r.

After the end of the Eastern Han dynasty all *qin* were thin and lacked necks. Around CE 250 Xi Kang wrote an essay which confirms that observation: 'As both hands can touch the strings widely apart, so very low notes can be produced. As the strings are long, each can give the entire scale...' (van Gulik 1969b, p. 114). To sound the entire scale, Xi's *qin* must have been stable even when he pressed its left-most end. It must have had a long and flat bottom surface which could be supported on his wide lap.

Side curve

Viewed from the top, the box of Marquis Yi's *qin* resembles a rectangle. The long sides are slightly concave, and the curvaceous neck is attached to the left short side (Fig. 6b, right). By

the middle of the 1st millennium, the curvaceous neck had expanded to comprise most of the *qin* (see Fig. 6a-b, between arrows i and ii) and the rectangle had contracted (between arrows ii and iii). In other words, the radical change of shape that transformed the ancient *qin* into the classical one can be viewed as a simple alteration of neck and body proportions. To amplify that idea, consider Xi's *qin* and scan it from right to left (Fig. 2l and 6a). First there is a short section with parallel sides. Then follows another short section where the sides rapidly expand to a 'shoulder'. From there on, the sides converge slowly towards the left end, leaving it slightly narrower than the right. This is also the pattern of the traditional *qin*, although small additions come and go (for example small side-indentations, fashionable from CE 400 to 750) (Fig. 2m-n). And, more surprisingly, it is the pattern of the ancient *qin* provided the length-dimension is altered. On the classical *qin* the 'shoulder' (*jian*; van Gulik, 1969a, pp. 101-102) is placed near the right end of the body. On the ancient *qin* it is near the right end of the neck. The morphological correspondence suggests an ancient source for the peculiar shape of the classical *qin*.

Clearly, shoulders were present already on Eastern Han mirrors (Fig. 2i-j). Subtler hints of shoulders are given on the instruments in Figures 2e and 2h. On the latter, the player may be wearing a thin horizontal apron, but on Figures 2f-g and 2j the object looks more like a pillow. Anatomical details are distorted in Figure 2k and other details may not fare better, but the string-anchor under the body seems believable (cf Fig. 2a-c). The instrument in Figure 2d is sketchy, but the convex soundboard at the right end suggests it is a *qin*. The inward-curving left end may be a neck.

More complex shapes were introduced during the Tang period; for example, the instrument in Figure 20 displays a series of wave-patterns ('Pearl Necklace'). These remained popular during the Song period (960-1279) (Fig. 2q), when many new patterns arose, and many are still replicated today.



(Fig. 8) Zithers with support foot
 Left: Stone statue
 From Yungang, Shanxi province (?), 6th century
 Collection Musée Guimet, Paris, Inv. no. MG 18914
 Right: Wall painting
 Jiuquan, Gansu province, 390-440
 (After Gansu Sheng *Wenwu Kaogu Yanjiusuo*, 1989)

Qin tables

Today qin players sit on chairs with the instrument placed on a table in front of them. This posture is so familiar that one may forget its relatively recent origin. Throughout the period of metamorphosis, the *qin* stayed on the lap, but stability was difficult to maintain when virtuosi tried swift left-hand movements. Even after the qin had acquired a straight bottom, such difficulties remained. Near the beginning of the 5th century, zithers with a foot appeared (Fig. 8). They were not conventional qin (their sides were straight), but some features (seven strings, size and lap position) were qin-like. Such instruments soon disappeared, and the stability problem was not tackled until the 12th century, when the qin began to be put on a table (or 'altar'; van Gulik 1969a, p. 50). This move also increased loudness because the table took part in the sound vibrations.

Among the first illustrations of *qin* tables are paintings by the Song emperor Huizong (r. 1100-25) and Liu Songnian (c. 1190-1230) (see Fourcade, p. 63 and Addiss, no. 9). Both show a player sitting on a chair with his qin on a table some 20 cm above his lap.

But *qin* continued to be shown as a lap-played instrument for centuries, into the Qing period (1644-1911) and beyond (see van Gulik 1969a, p. 67; Sickman, no. 225; Addiss, nos 13-16). No doubt, some scenes were meant to evoke an archaic playing style; for example, the portrait of Boya painted by Wang Zhenpeng (ca. 1280-1329, Siggstedt, fig. 8), but others probably showed tradition-bound players contemporary with the painters.

Eventually qin tables were universally adopted, but the lengthy process underscores the tenacious hold of qin traditions which had accrued over thousands of years. Significantly, it was not the qin itself that acquired the stabilizing foot around CE 400, but a related, newly conceived model less constrained by tradition.

New light on the Classics

When the *qin* is mentioned in classical texts, it is often understood as a metaphor, but with new insight, some passages acquire richer interpretation. Consider a statement attributed to Confucius: 'When wife and child are loving and harmonious, it is like playing the se and *qin*' (Karlgrén, p. 108, no. 164). Centuries later the sizes of Confucius' two zithers had been forgotten, and the pair could only be interpreted as a metaphor for filial concord. Now we know that his se and *qin* had human lengths (167 and 67 cm respectively), and the statement becomes factual as well as metaphorical. It is a double-entendre that involves exterior (size) and interior ('harmonious') relationships between two unrelated pairs.

Many texts about the *qin* were produced during the Eastern Han dynasty (DeWoskin, p. 111), a time when the qin had not yet acquired its classical dimensions. Our new insights facilitate a realistic interpretation where previously none was apparent. Consider the story told by Huan Tan (c. CE 30) about the mythical Emperor Shen Nong, who is said to have invented the *qin*: 'He made a qin...three feet (chi), six inches (*cun*), and six fen long, representing the number of days in a full year. It was one and eight-(tenth) *cun* [1.8 inches] thick, symbolizing the multiple of three and six' (Pokora, p. 181). Later commentators accepted Huan's cosmological interpretation but could not see a realistic connection with the large classical *qin* of their times. We now realize that the number approximates the dimension of the *qin* at the time of Huan Tan. Taking a foot equal to 23.1 cm (Lawergren, p. 73), 3.66 feet is 84 cm, exactly the length of a

qin in around CE 30 (Fig. 7, lighter line). A thickness of 1.8 inches (3.5 cm) is similar to that of the Mawangdui qin (8 cm with bottom plate, 2.6 cm without).

The engraved pattern on top of Marquis Yi's qin outlines two geometrical figures (Fig. 6b, right). One figure is nearly circular, the other nearly square. Since the motifs were repeated on later versions of the ancient *qin* (see Fig. 6c, right), they probably held deep significance. Perhaps they referred to another part of Shen Nong's design. After having chosen the 3-6-6 dimension, he decided that 'above it was circular, which followed the model of Heaven; below it was square, following the model of earth' (Pokora, p. 181). Curiously, the two contrasting shapes can still be found on the classical ain. Invisible inside the body is a pair of short wooden spacers inserted between the top and bottom plates. The pieces have circular and square cross sections. Their names are 'Heaven pillar' and 'Earth pillar' respectively (Fig. 6d; van Gulik 1969a, Fig. 20 and p. 193).

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