

CHAPTER SIX WIND INSTRUMENTS

The Zhou classics mention several kinds of pre-Shang wind instruments: ocarina, (vertical) flute, double-pipe, panpipe, and mouth-organ. In this chapter, these will be discussed separately. Whenever possible, some pre-Shang examples will be depicted, in order to trace the development of the instrument. Since no bamboo or wooden wind instrument has been preserved, much of my study will have to depend on information derived from the classics and oracle bone inscriptions.

I. OCARINA

The Chinese ocarina does not look like the ocarina of the Western world, though the way it produces the notes is similar. Some organologists prefer the term "vessel flute" or "globular flute" in describing Chinese ocarinas. In the classics, the ocarina is called xun, written 埙 or 埙, with the semantic radical "earth" (土) on the left to indicate that it is made of earth. Large ones are called jiao, written 角 (Er Ya, section "Instruments").

The phonetic element (𠂔) is in the center of the word, and the four "mouths" perhaps symbolize its loud sound, or perhaps show the finger-holes of the instrument. In this work the word "ocarina" will be used for the sake of convenience.

There have been many opinions concerning the origin of the Chinese ocarina. The simple shape of an earlier example, with just one blow hole at the top of the cylindrical body, and with no finger holes, leads people to think that the ocarina has developed from a simple pipe-shaped instrument (Li 1964 :22). The fact that both pipes and ocarinas of bone have been found further strengthens this belief (KGXB 1964.1:52). Some people believe that it developed from a simple whistle (哨子) which was made from a nut shell (Chuang 1972:178). In fact in some cultures, ocarinas are still made of nut shells. Li Chun-yi, inspired by the fact that some deer hunters in northeast China used to attract the male deer by imitating the calls of a female deer on a wooden whistle, suggested that the primitive pipe-shaped ocarina could have been used similarly before it became a musical instrument (KGXB 1964.1:52).

These opinions are helpful in studying the instrument, though it is difficult to determine which is closer to the truth. People of different regions could have

invented the same instrument, based on different inspirations. Without intending to deny the above opinions, I would like to make some remarks from the viewpoint of etymology on the two words which represent this instrument.

In the word 埙, the left part "土" is the semantic radical meaning "earth," implying that though ocarinas could be made of other material, the most common material used is clay. The right part 熏 (:xun, "to heat something on a fire") is explained as the phonetic element (Shuo Wen, Juan 13.2:27). This is correct, but I think it also serves a semantic function. Perhaps it indicates that the ocarina is fired earthenware.

The older form of the other word seen on some Zhou ocarinas is 囗 (Luo 1916a:1), with the radical "earth" on the right. The other half "囗" has always been explained as a phonetic element, but I think it also serves a semantic purpose. This element 囗 (= 圓) means "round" in Chinese, but very few people have thought out why it means that. Its lower part is the graph for "shell" (貝); a circle is added to the top to indicate that it is round, or has an opening. This graph has been chosen to be the phonetic element for the word "ocarina" possibly because the ocarina, like the shell, looks round or cylindrical. There is also a possibility that people who made this word for ocarina believed that the ocarina was an imitation of a shell instrument.

A. Pre-Shang ocarinas

Owing to the lack of information, the examples depicted below do not include the earliest ones unearthed recently at He Mu Du, Yu Yao, Zhe Jiang Province (浙江省 餘姚 河姆渡), at a neolithic site dated to 5000 B.C. (YYLC 1979.2:30). The following samples do not represent all known shapes either. More than twenty pottery ocarinas in the shape of a flattened round fish, each bearing three finger-holes, were unearthed at a neolithic site at Huo Shao Guo, Yu Men Shi, Gan Su Province (甘肅省 玉門市 燒溝) in 1976. The pitch data, but not the pictures, of none pieces in good condition have been published (YYLC 1979.2:31). It must be repeated that the recent pitch-tests of many unearthed instruments have been criticized as inaccurate (see Chapter Five, section III). Nevertheless, the pitch data of some instruments are included here in the hope that although the frequencies may be slightly inaccurate, they can still show the relative intervals of the notes.

1. In the excavations carried out at Ban Po, Xi An, Shaan Xi Province (陕西省西安半坡) during 1954-57, more than 10,000 objects dating from 4700-4000 B.C. were found, among which are two pottery "whistles" (Xi An Ban Po 1963:190). Scholars usually regard them as ocarinas (Li 1964 :21; YYLC 1979.2:24). The report says that they are in good condition, have the same shape and size, and are made of fine earth. They are dark grey in color, and the surface is shiny, though not smooth. One of them has a hole at each end (Figure 83), and the other is open only at the top.



Figure 83 -- Drawing of one of the two pottery whistles (ocarinas) found at Ban Po, Xi An, Shaan Xi Province, 1954-1957. Ca. 4700-4000 B.C.
Overall height: 5.8 cm.

(From Xi An Ban Po 1963:190)

2-4. Three ocarinas slightly later than the example above were found at Jing Cun, Wan Quan, Shan Xi Province (山西省萬泉荆村) in 1931 (Yang 1980:12). These ocarinas, now in the Shan Xi Provincial Museum, suggest a development in the construction of the instrument. One is cylindrical, with only a blow hole at the top and no finger-hole. It produces the pitch f^2 . The second one is elliptical and has one finger hole. It produces two notes, c^3 and e^3 , when blown with the finger hole closed and open respectively. The third one is round and has two finger holes. The notes it produces are e^2 , b^2 and d^3 . The second and third examples both include a minor third interval (c^3 - e^3 and b^2 - d^3), an interval that occurs on many pre-Shang and Shang instruments and which is considered to be of significance to Chinese music (YYLC 1978.1:184-206). It must be pointed out that it is possible to make all the tones within a major sixth on an ocarina with only one finger-hole, simply by controlling how much of the finger-hole is covered. One must not come to the conclusion that people who used a one-hole ocarina only made melodies of two notes.



Figure 84 -- Photos of three ocarinas found at Jing Cun, Wan Quan, Shan Xi Province in 1931. 山西省萬泉縣荆村
Ca. 4000 B.C., or earlier.

(From Yang 1980:diagrams 1-3)

* The sign \frown is used to signify a minor third interval.

5-8. Four pottery "ocarinas" found at Yang Shao, Min Chi, He Nan Province (河南省渑池縣仰韶村) were illustrated by J.G. Andersson (Andersson 1947:pp. 67-68), pl. 72, nos. 9-12). It is not certain whether these are ocarinas, as it is abnormal to have all the finger holes situated along the instrument's equator. However, Chuang Pen-li judged, just from the pictures, that they are ocarinas (Chuang 1972:179). Example (a) has four finger-holes along the equator, examples (b) and (c) each have only one. Example (d) does not have any finger-holes, and the blow hole is open at both ends.

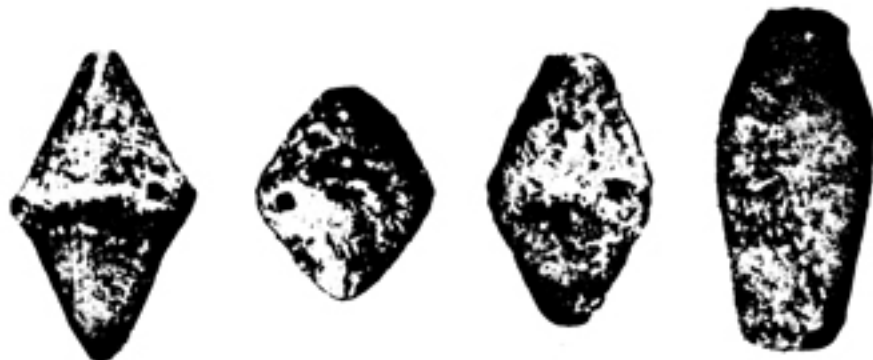


Figure 85 -- Four ocarinas (?) found at Yang Shao, Min Chi, He Nan Province before 1947. Ca. 3500-3200 B.C.

(From Chuang 1972:pl. 2.1-2)*

9. An ocarina with only one finger-hole was unearthed at Er Li Tou, Yan Shi, He Nan Province (河南省偃師二里頭). Other instruments found with it include two clapper bells and one qing.



Figure 86 -- Photo and drawing of an ocarina unearthed at Er Li Tou, Yan Shi, He Nan Province, 1960-1964. Ca. 19th-16th century B.C.

(Photo - from KG 1965.5:pl.5.11)

(Drawing - from Shang Zhou Kao Gu:20)

From these examples, it can be observed that the ocarina seems to have developed from a cylindrical, one-hole instrument to an oval or round instrument with one or more holes. One thing which the above examples share is

that they do not bear any decoration, though other pottery unearthed from the same sites and of the same dates is colorfully decorated. In the next section we shall see that the Shang ocarinas are typologically a continuation of the examples depicted above.

B. Shang Ocarinas

There have been many Shang ocarinas unearthed in this century, chiefly in He Nan Province, where several important Shang cities were situated. Earlier ones were found at sites at Zheng Zhou, later ones at Hui Xian and Xiao Tun, where the last Shang capital was believed to have been located. The most decorated and most developed ones are from Xiao Tun, indicating that the instrument reached its peak in the second half of the Shang period, ca. 13-11th century B.C. From this period down to the Song Dynasty (10th century A.D.), the ocarina kept a standard construction with five finger-holes (Chuang 1972:186). In the following description, it should be noted that the instruments might be slightly older than the suggested dates of the tombs or sites in which they were found.

1. An early pottery ocarina with one finger-hole unearthed at Ming Gong Lu, Zheng Zhou, He Nan Province (河南省鄭州.銘功路), was illustrated by Li Chun-yi (Li 1964 :44). It is elliptical, and its two notes, $\downarrow d^3$ and $\downarrow g^3$, make an interval of a perfect fourth.



Figure 87 -- Pottery ocarina unearthed at Ming Gong Lu, Zheng Zhou, He Nan Province.
Early Shang, c. 16-14th century B.C.
One finger-hole.

(From Li 1964 :pl.16.1)

2. One early pottery ocarina with three finger-holes was unearthed at Er Li Gang, Zheng Zhou, He Nan Province (河南省.鄭州.二里崗). The arrangement of the three finger-holes, with two on top and one below (Figure 88), is also adopted in later Shang ocarinas which have two more finger-holes added at the back.



Figure 88 -- Pottery ocarina unearthed at Er Li Gang, Zheng Zhou, He Nan Province. Early Shang, ca. 16-14th century B.C. Three finger-holes

(From Li 1964 :pl.16.2)

3-5. Three pottery ocarinas of the mid-Shang period were found in the tomb of Lady Hao at Xiao Tun in 1976 (Figure 89). They are greyish in color and smooth on the surface, shaped like an olive with a small flat bottom. Each has five finger-holes, three in front and two on the back. This is the standard design of Shang ocarinas of this and later periods. There are no decorations on the body.



Figure 89 -- Three five-stop pottery ocarinas unearthed in the tomb of Lady Hao at Xiao Tun, 1976. Mid-Shang, ca. 12th century B.C., or earlier.

	(a)	(b)	(c)	
Height:	9.2	5.2	9.0	cm.

(From Tomb of Lady Hao 1980:pl.185.2)

6-8. Three black pottery ocarinas were unearthed in a tomb at Liu Li Ge, Hui Xian, He Nan Province (河南省, 光澤縣, 王店王店). Each has five finger-holes, two large ones on the back, and two large and one small one on the front (Figure 90). These ocarinas, including a fourth broken one found in a pit at the same site, look the same as the examples found at Xiao Tun.

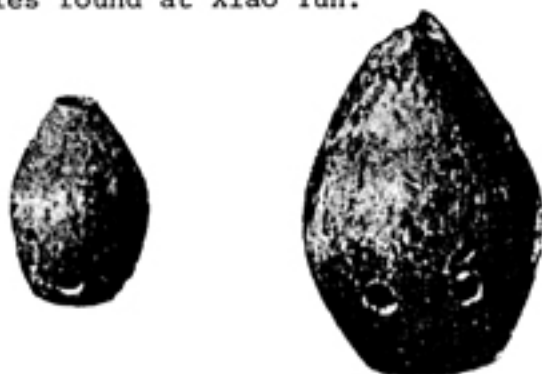


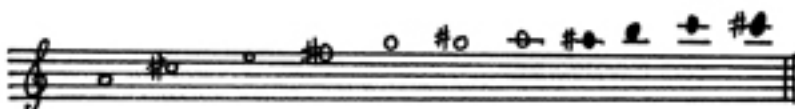
Figure 90 -- Two of the three black pottery ocarinas unearthed in a tomb at Liu Li Ge, Hui Xian, He Nan Province, 1950-1951. 13th-11th century B.C., or earlier.

	(a)	(b)	
Height:	4.3	7.3	cm.

(From Li 1964:pl. 17)

The two small ones were tested and both were found to produce the same eleven pitches (Li 1964:45). Based on this fact, Li Chun-yi suggested that the Shang people may have had the concept of scale, mode, perfect fifth, consonant thirds, semitone, absolute pitch and standard pitch (KGXB 1964.1:53-54). The results of the test are given below. Black notes indicates those which are difficult to produce on the instruments.

Notes available on the small ocarina unearthed at Liu Li ge, Hui Xian, He Nan Province.



(KGXB 1964.1:53)

9. Bone ocarina: A carved bone ocarina with five* finger-holes was found in Large Tomb No. 1001 at Xi Bei Gang in 1935 (Gao 1962:222). It is in the shape of an olive, dark brown in color, and richly decorated with tao-tie motifs, perhaps indicating that it belonged to the ruling class. There are two holes on the back at the mouth position of the tao-tie (animal face). On the front, there are three holes, neatly situated at the two eye positions and beneath the nose (Figure 91). Chuang Pen-li reported that its compass is slightly over an octave, $g^{2+} - a^{3-}$, and that it can produce many half-tones (Chuang 1972:199). There is one graph inscribed at the bottom: ㄨ (ㄨ :you, "right?").



Figure 91 -- Front and back views of the bone ocarina found in Large Tomb No. 1001 at Xi Bei Gang, 1935. Mid-Shang, ca. 12th century B.C. Collection of Academia Sinica, Taipei. Height: 5.3 cm.

(From Chuang 1972:pl.4.1)

This is not the only Shang ocarina with inscriptions. One pottery ocarina in the collection of Yu Xing-wu bears the graph 𠂔 (癸:gui) at the bottom (Yu 1940, vol. 2:40). In OBI, this graph is used to signify the tenth day of the ten-day cycle, but what it represents is not known. Besides these, two other Shang ocarinas are also inscribed with one graph each at the bottom (Chuang 1972:pl.3:2-3). The graphs seem to read 卜 (外 "exterior") and 六 (六 "sixth") respectively. Often a single graph on an object may be the name of the owner. However, considering the fact that some Zhou stone qing are inscribed with a number and the graph "left" or "right" to indicate their position on a stand (Yang 1980:diag. 31), it is possible that the graphs on these four ocarinas also signify their order or position (6th, 10th, exterior, right) in an ensemble. If this is true, then there were perhaps many ocarinas in an ensemble in Shang times.

10. White pottery ocarina: A fine white pottery ocarina similar in shape and decoration to the bone one above was unearthed at Xiao Tun in tomb No. M333 (Umehara 1964:104).

Chuang Pen-li, who wrongly reported that it was found in tomb No. 1001 (Chuang 1972:181), said that its lowest note is d^{#2} (Ibid.:200).

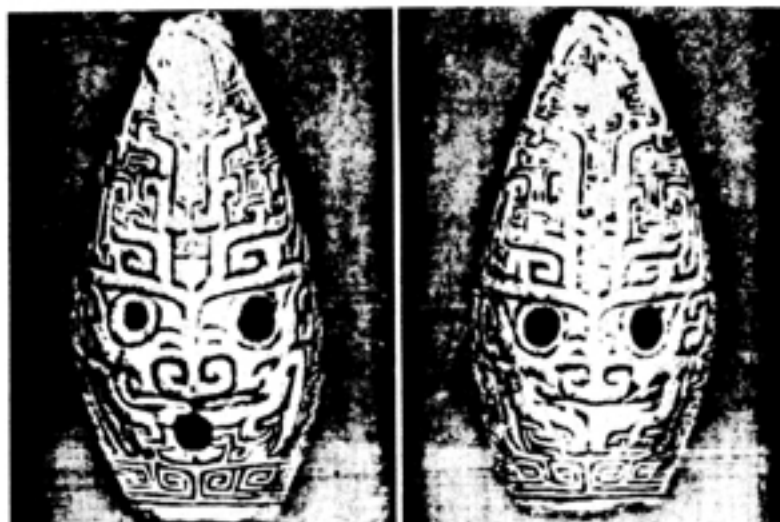





Figure 92 -- Front and back views of a white pottery ocarina found in tomb No. M333 at Xiao Tun. Ca. 12th century B.C.? Height: 6.6 cm.





(From Chuang 1972:pl.4.2)




Besides the above bone and pottery ocarinas, a broken white marble instrument was found in Large Tomb No. 1550 at Xi Bei Gang in 1935; it also bears rich tao-tie decoration (Gao 1976:31).







From the above description it can be seen that the pre-Shang ocarinas were the prototypes of the Shang ones. The instrument reached its peak in the mid-Shang period, with shapes, decoration and pitches all well-controlled. There is not much change seen in the unearthed Zhou ocarinas (Yang 1980:diag. 23-24; Chuang 1972:pl.5.3) as far as shape and number of finger-holes are concerned. The only difference is that the Zhou samples usually bear a longer inscription stating who made the instrument. As far as I know, the unearthed Zhou ocarinas are not decorated and are made of clay. Shang ones, as we have seen, are made of clay, bone, high-fired pottery and marble.

Several scholars have tried to identify the scale system of the Shang people through the pitch data of the unearthed qing, bells and ocarinas. Of the three sources, I think the data from the ocarinas is the most unreliable. The problem is that it is often difficult to determine whether the instrument found was an instrument actually used or if it was considered imperfect. Moreover, the many pitches available on an ocarina need not be the actual pitches used. The most discouraging thing is that often each note can be altered as much as a semitone just by changing the strength and angle of blowing (Chuang 1972:200). This means that the reliability of the testing depends very much on the person who does the blowing. Besides, who knows what special techniques the Shang people practiced and what their concept of "accuracy" was? In many cases the folk musicians tolerate the inaccuracy of certain notes on flutes and fretted instruments.

C.  ( :pin) Ocarina 

This graph , also written , has been equated with the modern word  (:pin), meaning "things," "articles" (OBD:644). In my opinion the three "" of this graph do not represent pieces of things, because this graph is used as a verb in OBI. If the graph is regarded as representing the ocarina, and means "to play the ocarina," it makes more sense in most places where it occurs.

Many Shang ocarinas have five finger holes, three of which appear on the front and are always arranged with two on top and one at the bottom, looking like . If the Shang people wanted to make a pictograph for this instrument, this shape is ideal, except that it might be mistaken for a face or a mask. If a simpler graph was preferred, they could have made use of the characteristic appearance of the instrument and have written it as . It is common that only the special part of an object is represented in a pictograph. For instance, the graph "to see"  (見 :jian) shows only

one eye on a "person" (), with the mouth and nose omitted (Sun :367). Thus it is possible that  might represent the ocarina. It is occasionally written with two holes at the bottom because Shang people had a certain amount of freedom in writing the graphs. Moreover, people usually prefer placing two components at the bottom if they have to pile up three (e.g.,  ,  Sun :268, 292, 417 respectively), hence the  , 

version 𪛗. In Zhou times, a large ocarina was called (jiao), the four mouths perhaps symbolizing the finger-holes (Er Ya, chapter "Instruments"). This supports my interpretation that the OBG 𪛗 refers to the ocarina.

There is semantic and phonetic evidence to support my interpretation. In Cantonese, one of the old dialects, the pronunciation for the word 埙 (ocarina) and this word 𪛗 are fen and ben respectively. Observe that these two words have the same final en. They might even have had the same initial originally, because phoneticians have found that the initial f in modern Chinese should be b in the Zhou period (SHKX 1980.1 :335). So both words might have been pronounced ben, and this supports my thought that they were originally one word, meaning the ocarina.

In classical Chinese, the word 𪛗 means "to taste (with the mouth," "to play (with the mouth)"--for example, "to taste tea" (品茶) and "to blow the flute" (品簫). In my opinion these meanings may have evolved from the word for "ocarina" which has to be put to the mouth when it is played. The modern meaning--"things"--should be regarded as an evolved meaning ("things" are often put up to the mouth to be tasted).

The following is one of the many OBI that makes good sense if the graph 𪛗 is referring to the ocarina:

OBI 96

(Qian 5.35.4)

𪛗	王	𪛗	𪛗	亡	尤
貞	王	賓(傭)	品(埙)	亡(無)	尤
Divine: (If the)	king	welcomes (the spirit and plays the)	ocarina, no demon? will there be)		

Traditionally the OBI above would be translated: "Divine: (If the) king welcomes (the) spirit (and offers) things, (will there be) no demon?" I think this translation, though it makes sense, is doubtful. The Shang people usually listed the things offered in detail, and describe how the things were handled in the sacrifices. It seems unlikely that this OBI should say only "things," without telling the quantity and the way in which they were to be used. My tentative translation, treating 𪛗 as "ocarina," is supported by many other OBI of similar syntax which concern instruments. For instance, the following example mentions the use of the double pipe when the spirit was welcomed:

OBI 97 (Qian 5.19.4)

貞	王	宥	𦉳	亡	𦉳
Divine:	king	welcomes	double pipe,	no disaster?	
(If the)		(the spirit	(will there		
		and plays)	be)		

A similar OBI mentions the use of a drum:

OBI 98 (Zhu 388)

王	宥	𦉳	亡	𦉳
king	welcomes	drum,	no	disaster?
(if the)	(the spirit	(will		
	and plays)	there be)		

Correspondingly, the following OBI mentions the drum and the ocarina:

OBI 99 (Ku 985)

卜	𦉳	𦉳	干	川	𦉳	𦉳
cracked bone,	Should	ocarina	to	(name)	don't	drum?
(divine:)	we (play)			(and)	(play)	

There is another OBI relating this graph with the large-drum:

OBI 100 (Tun Nan 2346)

𦉳	𦉳	𦉳	𦉳	王	𦉳	𦉳
Should	play	(for)	Should	(the)	large-	(be)
we	ocarina	Yia?		king's	drum	used?

Perhaps the most interesting OBI is the following one, which seems to relate the ocarina to a stringed instrument:

乙未
 乙未

(On the day)
 Yi-wei
 (should we)

酉
 酉

offer
 wine,
 (and)

系

系(繫)

play the
 zither
 (and the)

𪛗

品(頌)

ocarina (to . . .)?
 (names of
 ancestors)

For interpretation of the graph 𪛗 (系 :xi), which I have translated as "zither," see Chapter Seven, section III.A. Traditionally the last two graphs in this OBI were roughly translated as "... offer things. . . ." (Yu 1979:29), but this is not reliable. There are other similar OBI with the graph 𪛗 omitted; for example: "𪛗𪛗" (Duo

1.426). If the graph "𪛗" really means "to offer (things)," then this OBI would lack the verb referring to the act of offering. My reading, though tentative, seems to make better sense. Also, considering the fact that wine offerings were often associated with the performance of instruments (e.g., with the qing; see OBI 64 in Chapter Three), OBI 101 might offer additional evidence for the use of instruments.

II. 𪛗 (言 :yan) VERTICAL FLUTE

In the classics the words for "flute" are xiao (簫), di (笛 or 簫), and chi (簫 or 簫 "transverse flute"). These words have the semantic radical "bamboo" (竹) on the top, and the phonetic element at the bottom. In other words, they are not old pictographs and cannot be depended upon in tracing the shapes of old instruments.

In my opinion, some neolithic bone "whistles" could have been the prototype of the vertical flute. The pipe below, with one hole near one end, is polished and reported to be a whistle.



Figure 93 -- One of three bone whistles unearthed at a neolithic site at Mei Yan, Jiang Su Province (江蘇省梅堰). Belonging to Qing Lian Gang Culture* or Liang Zhu Culture period.** Ca. 3000 B.C.? Length: 6.2 cm.

(From KG 1963.6:pl.4.22)







* 青蓮崗文化 ** 良渚文化

Some bone whistles unearthed at He Mu Du, Yu Yao, Zhe Jiang Province, and dated to 5000 B.C. (YYLC 1979.2:30), have more than one hole (Figure 94).



Figure 94 -- Bone whistles unearthed at He Mu Du, Yu Yao, Zhe Jiang Province. Collection of Hang Zhou Museum (杭州). Ca. 5000 B.C.

(Drawing by Tong Kin-woon, 1981, at Hang Zhou)

There seems to be no bamboo flute ever found in Shang sites. However, it can be seen from OBG that the Shang people had flutes of some sort, represented by the OBG , which can also be written , , , , .

(Shima :124). In 1931 Guo Mo-ruo, inspired by the statement in the *Er Ya* ("A large flute is called *yan* (言)"), correctly equated the graph with the modern word 言 (:yan, "flute"; evolved meaning: "to say," "speech"). He pointed out that the graphs 𠂔 and 𠂕 show a flute at the top and a human mouth at the bottom. He also showed why the Zhou graph for "musical note" is written similarly, 𠂖 (音 :yin), with just an additional stroke in the mouth--when the mouth blows, a note results (Guo 1962:95). However, he did not think that 𠂔 and 𠂕 are different versions of the same graph for "flute," and he did not regard the graph "flute" as a verb meaning "to play the flute." Therefore he wrote that the meanings of the graph in OBI "are not understood" (Guo 1962:101).

In 1941, Yu Xing-wu further confirmed that the graph 𠂔 shows a flute. However, he mistook its other versions 𠂕 and 𠂖, interpreting them as a forked tongue stretching out from a mouth, the dots showing pieces of food (OBD 677-679). Thus he wrongly equated these graphs with the modern word "tongue" (舌 :she). In his OB dictionary, Li Xiao-ding was suspicious of the possibility of any human having a forked tongue, but he still accepted Yu's interpretation (OBD 681).











My research supports Guo's opinion that 𠂔 shows a flute and a mouth. I think the added dots symbolize the sound coming from the instrument, comparable to the dots added to the drum 𠂗 and the clapper drum 𠂘.

There is other evidence to prove that "𠂔" shows a pipe. For instance, the OBG 𠂙 shows two pipes tied together

(see section III). The following are some OBI which make good sense if the graph 𠂔 is translated as "to play the flute," though the exact construction of the flute is not known:

OBI 102

(Cui 50)

				
				
Divine: (The)	king	should not	play flute (to the)	River?

The same divination is seen on many other pieces of bone (Shima :124), but the graph for "flute" is written 𠂔, 𠂕, or 𠂖, which proves that they are different

versions of the same graph. There are OBI which say "play the bells for River" (𦵑 干 河), showing that musical instruments were often performed for the spirit of "River" (see Chapter Two, OBI 41). The flute was also played for other ancestors:

OBI 103

(He 148)

𦵑	𦵑	𦵑	𦵑	𦵑	𦵑
貞	王	言	父乙	勿	言
Divine: (Should the)	king	play flute (for)	(ancestor) Father-yi?	Don't	play flute?

Comparing this with other OBI which mention the king plays bells for Father-yi (Chapter Two, OBI 36), there is little doubt that the graph 𦵑 refers to an instrument, the vertical flute. In my opinion, the problematic OBG 𦵑 (𦵑 :zhi) represents a group dance in which the dancers held a flute (𦵑) and a ge-halberd (𦵑). For details of this dance, see Chapter Eight (section IV.E).

III. 𦵑 (𦵑 :guan) DOUBLE PIPE

There is an OBG which shows two (always two) pipes bound together: 𦵑, also written 𦵑 (Shima :133).

The thirty OBI listed by Shima show that it represents an instrument (or the sacrifice named after this instrument), often in association with drumming. In 1931 Guo Mo-ruo equated it with the modern word 簫 (:yue), which means "musical bamboo pipe with three holes" (Shuo Wen, Juan 2.2.:32. "樂之竹管三孔"). The equation itself

is not wrong, for the word yue, besides referring to a pipe with three holes, also refers to the double pipe which, in my opinion, is the instrument represented by this OBG. However, Guo's other opinion concerning the graph is not correct and caused much misunderstanding later. He observed that one Zhou poem describes a dance in which the dancers held this yue in the left hand and a long feather in the right (Shi Jing, section "Bei," poem no. 38. 詩邶風: "左手執簫右手秉翟"), and he thought it

impossible for the dancer to hold a flute and stop the finger-holes with the left hand alone. Based on this reasoning, and inspired by the fact that the pictograph

shows two pipes, he wrote that it does not represent a single flute with finger-holes, but rather a panpipe (Guo 1962:93).

Guo's interpretation has been widely accepted by scholars and dictionaries (OBD:650, 653-661; Zhou 1975: 1118-1119). Ethnomusicologists who do not read OBI also have followed his opinion (Li 1964 :45; Yang 1980:25).¹

A. My interpretation

In my opinion, the graph 𪛗 can, as Guo suggested, be equated with the modern word 簫 (= 簫 :yue), but there is the possibility that it can also be equated with two other modern words: 命 (:lun) and 管 (:guan). No matter with which word it is equated, the graph does not represent the panpipe, but rather, the double pipe, though the exact construction of the instrument is not known.

This opinion might seem surprising at first, but there is evidence that these three words originally meant the same thing--the double pipe--and at least the pronunciations of the latter two words were once the same or very similar. In Chapter Five, section II.A.3, I have pointed out that the word lun (倫) originally referred to "pipe player"; this interpretation supports my theory that 𪛗 represents pipes.

In Zhou texts the word yue (𪛗) always refers to a pipe or the double pipe with finger-holes. The number of holes could be from three to six (Shuo Wen, Juan 2.2:32, Duan's commentary), perhaps representing different stages of development. The Zuo Zhuan says: "(On that day) the dancers did not use the yue-pipe", the commentary of Du Yu (A.D. 222-284) says: "Yue means the guan-pipe" (Zuo Zhuan, 8th year of Duke Xuan. "萬人去簫" 杜預註: "簫, 管也"). This is one of the many texts which clearly equate the yue with guan.

What then is the guan? Zheng Xuan says: "Guan is like the vertical flute but smaller. Two (pipes) are put together and blown" (Zhou Li, Juan 13, "Xiao Shi" 周禮春官. 小師. 鄭註: "管如簫而小, 併兩而吹之").

This double pipe was extinct by the second century, for Cai Yong (A.D. 133-192) remarked that "The guan is extinct now" (Cai Zhong Lang Ji, ch. "Yue Ling Zhang Ju" 蔡中郎集. 月令句: "管其器今亡"). The one-pipe yue with three

holes is also extinct in China, but remains in use in Korea. It is interesting to note that Koreans still use the same Chinese word and keep its old Chinese pronunciation, yak.

The fact that the words yue and guan both evolved the meaning "a key" also supports the theory that these two words originally meant the same thing. The Zhou Li says: "(The gate keeper) controls the key (guan) and the lock, and is responsible for opening and closing the gate of the city" (Zhou Li, Juan 15, "Gate Keeper").






周禮地官司門門:"掌授管鑰以啓閉國門." Zheng Xuan's commentary says: "The guan means the yue (key): (鄭玄注:"管謂鑰也"). I think the two words evolved the meaning "key" because a key looks like a pipe.

Moreover, the fact that the three words 鑰, 鑰 and 管 were originally one word can also be seen in their interchangeability when used as components of other Chinese words. For instance, "to walk" can be written 踰, 踰 or 逋; "to soak, to cook in hot water" (漬) can be written 滌, 滌 or 滌. This is not a secret nor my discovery. Many similar examples can easily be found in dictionaries (see Zhou 1975:6451).

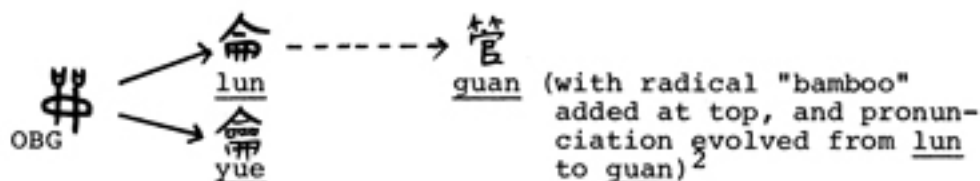
We may question why, if they all mean "the double pipe," the OBG 𠂔 and the two later words 命 and 命 look so different? Putting aside the triangle shape at the top (perhaps a semantic element added to indicate that the pipes are bound together; see next section), why do the words 命 and 命 seem to show more than two pipes, and why does 命 not contain the mouths?

The inscriptions on a newly unearthed Zhou bronze ding vessel can perhaps answer this question (Zhong Shan Wang Ding -- WW 1979.1:15. 中山王鼎). In this inscription the graph 命 is written 𠂔 (命其德 = 論其德).

It can be seen that although the lower part seems to include several pipes, there are in fact only two pipes, represented by the two longer vertical strokes, thus fitting the meaning "double pipe." The other vertical strokes do not represent pipes. Moreover, there are dots on the upper end of the pipes: 𠂔, and this is comparable to the mouths shown in the OBG 𠂔 and the later word 命.

Thus, this version of the graph lun  proves that its modern version  in fact represents only two pipes, and the mouths, after being changed to dots, finally disappeared ( →  → ) in the modern form.

The following perhaps shows the way one OBG evolved into three modern words:



In my opinion, the word 𪛗 shows three "mouths" because by the Zhou period, it already became a general radical for words relating to wind instruments. In that case, people did not bother about the number of "mouths" in the word. For example, the single pipe transverse flute chi was often written 𪛗 (Shuo Wen, Juan 2.2:33), with 𪛗 as a semantic radical on the left.

Based on the above, it seems appropriate to say that the OBG 𪛗 can be equated with any of the three modern words: yue 𪛗, lun 𪛗, and guan 𪛗, all meaning "double pipe." In this work, I have chosen to equate it with the third word.³ This first word includes more mouths than a double pipe could have. The second word is not chosen because most people nowadays do not know that it originally referred to the double pipes and because its lower part is misleading in terms of the number of pipes depicted. Besides, these two words, 𪛗 and 𪛗, are too close in shape to two other OBG 𪛗 and 𪛗, which perhaps refer to the panpipes or the mouth organ (see section IV).

B. Use of the double pipe observed in OBI




As far as can be seen in OBI, the double pipe was used only in sacrifices to ancestors, usually in association with the bin dance, performed to welcome spirits, and with the ritual yong (𪛗 = 𪛗, "continuous drumming"). It is reasonable to think that the double pipe may have been used on other occasions, but it is not recorded in the OBI. The following examples are good records of the use of this pipe:





王	賓	中	口	𠂔	𦏧	𠂔	𠂔
王	賓	中	丁	𠂔	管	亡	禍
(If the) king	welcomes	(ancestor) Zhong-ding (and performs)		drumming (and the)	double no disaster pipe,		

Perhaps the sacrifice was sometimes held outdoors.
One example shows that the Shang people worried about rain:



王	賓	𦏧	𠂔	𦏧	𦏧	𦏧
王	賓	𦏧(管)	不	𦏧(𦏧)	𦏧(𦏧)	𦏧
(If the) king	welcomes (the spirit and performs)	double pipe, (we)	won't	encounter		rain?



IV. PANPIPES ?

In Chinese classics, the panpipes are called xiao (簫) or pai-xiao (排簫 "arranged xiao"). Traditionally scholars thought that the OBG  represented the panpipes, but my study shows that it referred to the double pipe (see section III). I have not found any OBG which can be definitively identified as showing the panpipes. However, there are two OBG,  and , which seem to represent the panpipes; they are tentatively interpreted below.

The earliest panpipe known is the one with thirteen pipes unearthed in 1978 (WW 1979.7:21). Earlier panpipes might have had fewer pipes, but a pictograph close to  is still too complicated for daily use. If simplified into a number of vertical strokes, "𦏧", it might be mistaken for "bamboo book" (𦏧 = 冊 :ce). Traditionally in Chinese pictographs, a large number of objects can be represented by three--for example, the five fingers of a hand are represented by three: . Similarly, the three strokes in the graphs  and  perhaps represent many

pipes. The three mouths are included to clarify that the vertical strokes are hollow pipes and not strips of bamboo in a "bamboo book." The triangle at the top might be a semantic element added to indicate that the pipes are bound together.

The interpretation above is tentative. There is no proof that the two graphs  and  are different

versions of one graph. In fact, no OBI can be cited to show that they really refer to instruments. The graph  is only seen once and is used as a place name (Fu 4.42; Shima :133). The other graph, , is also seen

only once on a bone fragment; however, the syntax shows that it possibly refers to an object, perhaps a musical instrument:

OBI 106


(Cun 1.477)








Divine:





. . . ?



Considering that there is space below the second graph, this may be a short but complete OBI, the last and simplified inquiry of a series of longer ones. In this case, it could be translated as: "Divine: (Should we use the)  ?"





In the graphs , , and  ( :he, "small mouth-organ," see section V.A), the meaning of the triangle is not known. In 1920, Lin Yi-guang suggested that it shows the upside-down mouth of the pipe player (Zhou 1975:1116); his opinion is accepted by some scholars (Zhou 1975:1119). However, the mouth-organ is blown from the side, so there is no reason to have a mouth at the top. In fact, there is no proof that the Shang people used a triangle to represent an upside-down mouth in OBG (see footnote 9 in Chapter Five for the graph ).



I think there are two possible ways to interpret the meaning of the triangle. First, as Zhou Ming-hui (周明煒) pointed out, it could be equated with the




later graph "△" included in the Shuo Wen dictionary (Juan 5.1:15), meaning "to assemble, to bring together" (= 集 :ji). In other words, in the OBG the triangle is a semantic element implying that the pipes are bound together (Zhou 1975:1117).





I have a second tentative interpretation. As mentioned previously in this section, there is no evidence to prove that the two graphs  and  actually refer to



the panpipes. Considering the fact that they look similar to the semantic part of the graph for the small mouth-organ in OBG, , and in bronze inscriptions, 

(Rong 1959:96), it is possible that they in fact refer to the mouth-organ (with the phonetic element  omitted). If this reasoning is correct, then the triangle at the top of these graphs (,  and ) perhaps represents



the same thing that is shown at the top of the graph for "large mouth-organ":  (see section V.B). In other words, "  " is a pictograph showing the side-view



of a large mouth-organ with a "  " (resonator?) at the top; "  " is a compound graph showing the "  "

(to signify that it belongs to the mouth-organ type), the "  " (to signify that it is made of many pipes), and the phonetic element "  ". The graphs  and  , in

this case, can be explained as the same graph referring to the small mouth-organ, with the phonetic element omitted. This is not too risky a suggestion, for the Shang people seem to have been quite free in their writing of the graph  . One version of this graph even had the triangle part omitted:  (see section V.A).


At present it is not possible to judge which of these interpretations is more correct, but at least my interpretation sheds new light on the study of these graphs.

There are some problematic OBG traditionally thought to refer to the "bamboo book": , ,

, and  . In my opinion, it is possible that they may concern the panpipes or the mouth-organ. For a discussion of these graphs, see section V.C of this chapter, and also Chapter Two, section II.B.

V. MOUTH-ORGAN

The mouth-organ, an instrument thought to have existed before Shang times, is generally called sheng (笙) in the Zhou classics. A small one, said to have thirteen pipes, is called he (箛) = 和. Er Ya, section "Instruments"). A large one, said to have thirty-six pipes, is called chao (箛) or yu (箛)--Shuo Wen, Juan 5.1:16. These numbers perhaps represent only the "standard" numbers known to the late Zhou and Han scholars.

Mouth-organs of different regions and periods could have had different constructions. For instance, the wooden chamber (windchest) of an unfinished mouth-organ (perhaps a burial property) found in a tomb dated in the mid-fifth century B.C. shows ten pipe-holes arranged in two rows of five each:  (KGXB 1972.1:pl.9.1). In 1978, five

small mouth-organs were found in the fifth century B.C. tomb of Marquis Yi of Zeng; each has fourteen pipes arranged in two rows, with bamboo reeds and a gourd chamber (Figure 95 a). Nowadays, the mouth-organs used in central China usually have wooden or metal chambers, but the old-style mouth-organ with a gourd chamber is still popular among the tribal people who live in the mountains of south China in Yun Nan Province (Figure 95 b).



Figure 95 -- a. A small mouth-organ with 14 pipes found in the tomb of Marquis Yi of Zeng, 1978. 湖北隨縣曾侯乙墓
Ca. 433 B.C.

- b. A small mouth-organ of the Yi Nationality (彝), Yun Nan Province, south China. The pipes are equipped with resonators at the top.



中國建設


(a. from China Reconstructs 5 (1979):29)

(b. from Min Zu Hua Bao 1980, 8:back cover)

民族畫報

No mouth-organs have been unearthed at any Shang site. However, there are OBG to prove that the Shang people had mouth-organs of different sizes.

A.  ( :he) Small mouth-organ

In 1914, Luo Zhen-yu was the first person to equate this graph with the modern word  (:he) correctly.






However, he only thought of its evolved meaning: "to harmonize (things)" (OBD :653). In 1931, Guo Mo-ruo correctly pointed out that this graph refers to the small mouth-organ (Guo 1962:100; OBD:653-660), but he did not explain the meaning of the triangle at the top of the graph. Li Xiao-ding accepted Guo's interpretation in his OB dictionary, but he said its meaning in OBI is not clear (OBD :661). In my opinion, this graph in OBI simply means "the small mouth-organ." This graph is not a pictograph, but rather a compound graph. Its right part 禾 (禾 :he) is the phonetic element. Its left part 𠂇 implies that it is made of pipes (𠂇). The

meaning of the triangle is unknown. It perhaps indicates that the pipes are bound together, or may represent a resonator (see discussion in section IV).

1. Use of the small mouth-organ observed in OBI





I have only found three OBI which clearly mention this instrument. One OBI shows that it was used in sacrifices to ancestors:

OBI 107 (Qian 2.45.2)

				
貞	𠂇 甲	𠂇 禾	𠂇 (逕)	唐 (湯)
Divine:	(ancestor)	small	and	(ancestor)
(To)	Fang-jia	mouth-	also	Tang?
	(should we	organ	(to)	
	play the)			

The following OBI, which mentions the mouth-organ and the clapper-drum in one sentence, is the best evidence that the graph refers to an instrument:

OBI 108 (Ning 1.73)

			
𠂇 (惟)	𠂇 禾	𠂇 𠂇	𠂇
... Should	small mouth-	clapper	(be)
(the)	organ (and the)	drum	used?

On the same piece of bone, there are three other graphs referring to drums:



(pole drum),



(drum) and



(meaning uncertain, see Chapter Four, section II). The "killing" ritual (𠂔 = 𠂔 :mao) and divination about rain are also seen. It is possible that the instruments and the sacrifices were meant to plead for rain. The contents of this piece in turn help us to confirm that the graph 𠂔 (with the triangle omitted)

on another piece of bone should also be understood as the mouth-organ. The OBI on that piece of bone basically divines about the same things: the use of the mouth-organ, killing of goats, and rainfall.

OBI 109 (Tun Nan 2623)


其	用	兹	𠂔	求
... should	use	this	small	(to) beg ... ?
(we)			mouth-organ	

The fact that the triangle shape can be omitted in the graph "small mouth-organ" is of significance. It suggests that other OBG containing the component "𠂔", but not the triangle, may perhaps also refer to the mouth-organ and not, as other scholars have thought, to the "bamboo book" (see section VI for a discussion).








B. (𠂔 :yu) Large mouth-organ


In 1980 Qiu Xi-gui observed that this graph, like many other graphs referring to instruments, is often preceded by the adjective "new" (𠂔) and the verb "to set up" (𠂔), thus he inferred that it might also represent an instrument. Further inspired by the presence of the element "𠂔" in the center of the graph, he equated it with the modern word with the same element, 𠂔 (:yu), meaning "large mouth-organ" (Qiu 1980:75).

Qiu's interpretation seems reliable. The graph seems to show the side-view of a mouth-organ, with the phonetic element 𠂔 (𠂔) in the center. The triangle at the top perhaps represents a resonator. Some mouth-organs of the aboriginal mountain tribes in Yun Nan Province are equipped with resonators of top of the pipes (see Figure 95b above). Their large mouth-organs can be over ten feet in height. Perhaps the Shang people also had very large mouth-organs, and that is why some OBI mention "to set up" the large mouth-organ.







In Chapter Two I have pointed out that OBI concerning musical instruments often inquire whether the use of some new or old instrument is proper (sections II.A and B). From this I inferred that if a graph seems to represent an instrument, and if it is associated with the adjectives "new" or "old," or with the phrase "... used, is it proper?", then it is quite possible that it in fact refers to an instrument. For example, some OBI mention using the old  :



OBI 112 (Ren 1878)

				
重(惟)	舊		牢	用
Should	old		cattle	(be)
(the)		(and)		used?







Some OBI clearly inquired about the old  :


OBI 113 (Jia 536)




			
重	舊		用
Should	old		(be)
(the)			used?






The radical "ancestral tablet" (), as seen above, can be added to the graph  ; it clarifies that the object represented is used for religious purposes. In the following example, the radical is seen again, along with the phrase "is it proper?":


OBI 114 (Ren 1875)

					
重(惟)	茲		用	又(有)	足
Should	this		(be)	Is	proper?
			used?	it	








Traditionally the radical "ancestral tablet" was added to graphs concerning instruments. For example, it was added to the verb "to set up (instruments):  (see Chapter


Two, section I.B, graphs (e) and (f):  , ). It seems reasonable to think that the same radical might be added to the graph  for a similar reason. Some OBI

relating the graphs  ,  ,  , and  with the large-drum  and musical feasts have been translated in Chapter Two (section II, OBI 57, 58, 59, 60, 61), and will not be repeated here.







The most interesting OBI is perhaps the following example which inquires whether the  should be used for ancestor Xiao-yi:



OBI 115 (Duo 1.386)

			
重(惟)	小乙		用
Should it	(ancestor)		(be)
be (to)	Xiao-yi		used?
	(that the)		







It could be argued that the above OBI perhaps asks whether the "bamboo book" (a prayer book?) should be read. However, by comparing it with the following OBI of similar syntax and content, it seems highly possible that the graph  represents an instrument:

OBI 116 (Ku 20)

					
重(惟)	小乙	唐(庸)	用	又(有)	足
Should it	(ancestor)	pole	(be)	Is	proper?
be (to)	Xiao-yi	drum	used?	it	
	(that the)				

In the OBI above, the graph  is another version of the OBG "pole drum"  (see Chapter Two, section II.A; also see Chapter Four, section V.F). There are yet other OBI with similar content which are useful for comparisons:

OBI 117 (Cui 282)

					
重(惟)	小乙	作	美	庸	用
Should it	(ancestor)	perform	feather	pole	used?
be (to)	Xiao-yi	(the)	dance	drum	
	(that we		(and have		
	should)		the)		

If the evidence above is not enough to definitely prove that the graphs containing the component "𦰩" in fact refer to the mouth-organ or the panpipe, it is at least sufficient to show that "bamboo book" might not be the only and correct answer. More study should be done on these graphs.

VII. CONCLUSION

In this chapter we have seen that the Shang people possessed several kinds of wind instruments, including the ocarina, vertical flute, double pipe, mouth-organs of different sizes, and perhaps even the panpipe.

The Shang ocarina was a continuation of the pre-Shang ones in typology, and the Shang people developed richly decorated ocarinas with as many as five finger-holes. Shang ocarinas have a range of more than one octave and many semi-tones can be produced by special patterns of fingering. However, we do not know their scale system and whether all the semitones were actually used. Shang ocarinas were made of earth, high-fired pottery, bone and marble, again showing the versatility of the Shang artists in making instruments.

My interpretation of several graphs related to wind instruments has attempted to clarify some doubtful points in the research of OBG. The correct interpretation of the graph for vertical flute (𦰩 = 言 :yan) in turn led to the discovery of a group dance (𦰩 = 𦰩 :zhi) in which the dancers held a flute and a ge-halberd. My interpretation of the graph for double pipe (𦰩 = 管 :guan) verifies the existence of this instrument which became extinct after the Zhou Dynasty. The correct readings of the OBI containing the graphs for small mouth-organ (𦰩 = 𦰩 :he) and large mouth-organ (𦰩 = 𦰩 :yu) settled the doubts of previous scholars. The fact that the Chinese term for "harmony" (in the musical sense), he-sheng (𦰩聲 or 和聲), literally means "mouth-organ sounds," shows an interesting relationship between the mouth-organ and "harmony." It is possible that the Shang people already used the mouth-organ to produce chords. This practice has never stopped in Chinese musical tradition.



In this Chapter I have given some suggestions that graphs containing the component "𦰩" perhaps concern wind instruments--namely, 𦰩, 𦰩, 𦰩, 𦰩, 𦰩, 𦰩, 𦰩, 𦰩, 𦰩. However, more research on these

graphs is needed before a reliable conclusion can be drawn.

The fact that the Shang people had several kinds of wind instruments shows that music in Shang times was well developed, and that their sets of bells and qing could have been used as melodic instruments rather than just as percussive instruments. We have no way to prove that music and dance were only used for religious purposes. However, the relevant OBI strongly show that music was one of the chief things used to please the gods and ancestors.

NOTES

1. In a short article talking about Shang instruments, H.E. Gibson also equated the 𪛗 with the modern word guan (管). However, in the same paragraph, he also equated the same graph with the later bronze graph 𪛗 and another modern word 簫 (:yue). Gibson explained that the OBG 𪛗 "comprised two bamboo or more" (Gibson 1937:15). This shows that he did not really know that 𪛗 represents the double pipe. When there are more than two pipes, it is not a double pipe.
2. There is evidence, semantic and phonetic, to prove that 管 and 命 are closely connected. For example, the word 綸 in some traditional usage is not pronounced lun, but rather, guan, which is exactly the same as the word 管 (e.g., in the term guan jin 綸巾, an old-style turban). Both words mean "to arrange, to control" (理也), perhaps a meaning evolved from the pipes which have to be arranged and controlled. The interchangeability of these words has been thoroughly studied by Wen Yi-duo (聞一多, see Zhou 1975:6451).
3. Among the several pieces of "ancient music" (古樂) which were group dances depicting historical events (see Chapter Eight, I), the one attributed to the reign of Yu (禹), the first king of Xia, is called "The Great Xia: (大夏, "Li Ji, ch. "Ming Tang Wei." 禮記 明堂位). This piece was also called the Xia-yue (夏簫, "Lü Shi Chun Qiu, ch. "Ancient Music" 呂氏春秋 古樂); perhaps the double pipe "yue" was used in the dance, hence the name. Some scholars may think that if the OBG 𪛗 is equated with the modern word "yue" (簫), then this graph might refer to the ancient music yue and not simply to the double pipe.

This is not impossible. However, the graphs following the verb "to welcome spirits" () can refer to a sacrifice (Shima:267) or a performance (see OBI 143 in Chapter Eight) or an instrument (see OBI 98, which mentions the drum). At present, it is not possible to say definitely whether the graph  in OBI refers to "double pipe" or to "the ancient music yue." I prefer to read it as "double pipe," because the graph does depict the instrument.

4. See footnote 4 in Chapter Two for the meaning of "sacrifice."