周銅鼓考

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美洲福開森

近年陝西鳳翔西鄉出二銅器，狀如筒形。圓徑各當英尺七寸，高甲六寸又三分之一，乙六寸，頂平而底空。其周圍之花紋分作兩截，上中下有闌三市，花紋若蟠虺然。頂之中心爲一圓點，邊際外郭有闌，圓點與外郭之間亦有一闌，平面視之若璧狀。花紋與周圍同，周圍中闌之兩面各有不規則之小孔一，適當鑄範之合縫處。其一則頂上中闌有狹長之孔四，長各約半寸，寬約一寸之八分之一，兩兩相對，由裏面磨之而透於其表。其一雖無孔，而裏面亦有磨治之跡，惟不透耳。古銅器中筒形之物，大抵皆冒於木質之上，如戈戟之鐏鐓是也。此器特大，不類木質物之附屬品，且頂上之四孔，一有一無，尤

不應同物而異制。余以爲皆銅鼓也。試立二證以明之。

鼓爲革屬之樂，爲八音之一。以銅製鼓，經傳無徵，東漢以後，始見銅鼓之名。後漢書馬援傳云：「援好騎，善別名馬，於交阯得駱越銅鼓，乃鑄爲馬式。」見於紀載者，當以此爲最先。此類銅鼓，今所流傳者猶甚夥，其雕鏤之圖案雖極精細，而較之中國古器，迥非同一系統。故向之考證家，皆目爲蠻夷之物，其說是也。日本住友氏藏一銅鼓，著於泉屋清賞，名曰「人面夔龍雷紋銅鼓。」其器橫臥，下有四足承之，上有鳥形，兩面作鼉皮紋，鼉皮邊際作無數小釘，似以釘蒙革之狀。其圖案與商周銅器相仿彿，可決其爲周代之物。是周已有銅鼓矣。蓋銅器時代，冶鑄之術特精，凡一切物質所成之器，皆有以銅仿製者：如禁爲木製，而傳世有「銅禁」（舊爲端方所藏，今歸吾

國中央博物館）新鄭所出之「王子嬰次盧」外周花紋作編織形，上下皆有繩周帀纏縛之，則原器當以竹編成，而亦以銅仿製者。（今在開封博物館）惟樂器限於八音，其材質似不宜隨意製造，然宣和博古圖錄著銅磬四，泉屋清賞著銅鼓一，則非金屬之樂，何不可以銅製耶？其證一也。

樂器必求中律，製成其形式，未必即能中律也。故古有磨治之法。考工記磬氏云：「已上則摩（摩磨古通）其旁，已下則摩其耑。」（耑端古通）已太也。上清聲下濁聲也。謂嫌其聲太清，則磨其兩旁，使之改濁；其聲太濁，則磨其兩端，使之改清也。此言磨石磬之法也。若金屬之鐘，考工記鳧氏未言磨治之法，而清阮元依其經驗，亦有磨乳之法。其著鐘枚考云：「余所見古鐘甚多，大小不一，而皆有乳。乳

即枚也。其枚或長而銳，或短而鈍，或且甚平漫，鐘不一形。余在杭州鑄學宮之樂鐘，算律以定其範，將爲黃鐘者，及鑄成則失之爲夾鐘。乃令其別擇一鐘，挫其乳之銳者，乳鈍而音改矣。夫乃知考工但著摩磬之法，而不著摩鐘之法者，爲其枚之易摩，人所共知，不著於書也。」此言磨鐘之法也。阮氏所以發明此法者，一、由於磬氏之文，二、由於枚之易見。然阮氏知其一不知其二，磨治之法猶不僅此也。鐘之枚有二種：其一長枚如釘，其一則短枚如螺旋，長枚可磨，短枚不可磨。然則短枚者將奈何？曰，不磨其枚而磨其腹內。其磨之之法蓋有二種：其一，磨鐘體之裏面，由于以至於舞，其形如溝。即鳧氏所謂「于上之摩謂之隧」也。其一則於鐘之裏面，磨作長方形之小陷，其數不等，而皆兩兩相對。其陷有透者，有不透者。其受磨之處，有當

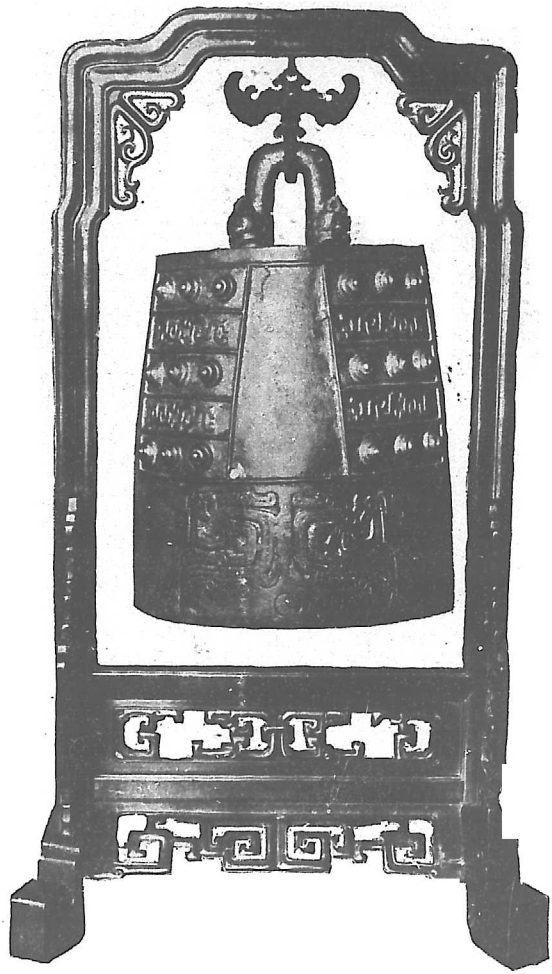
鈕者，有當篆者，有當舞者。與此器頂上之孔磨法正同。然後知此孔亦所以定律也。二器之磨，一透一不透者，必鑄成之後，各求其中律，磨治之功，有多有少耳。此同物異形之故，可以鐘磬之受磨治例之也。今取鐘舞之磨與此鼓之磨兩圖比照，可以知其故矣。其證二也。有此二證，故余斷定此器之爲銅鼓，夫鼓之名物多矣。見於周禮鼓人者六：一曰雷鼓，二曰靈鼓，三曰路鼓，四曰鼖鼓，五曰鼛鼓，六曰晉鼓。見於小師者，有應鼓，棘。見於儀禮大射儀者，有建鼓。應鼙，朔鼙，鼖。禮記明堂位「夏后氏之鼓足，殷楹鼓，周縣鼓。」詩周頌有瞽「應田縣鼓」鄭玄於鼓人注云：「雷鼓八面鼓也，靈鼓六面鼓也，路鼓四面鼓也，鼖鼓長八尺，鼛鼓長丈二尺，晉鼓長六尺六寸。」此銅鼓特小，與上述六鼓無涉。明堂位之足鼓，楹鼓，縣鼓，亦爲特殊之形制，

與此銅鼓亦無涉。小師之應鼓，即大射儀之應鼙，亦即周頌之應。小師之棘，即大射儀之朔鼙，亦即周頌之田。應與棘皆爲小鼓，應以應大鼓，棘以引大鼓者也。朔，始也，引鼓者始擊之，故棘又謂之朔。毛詩之田，鄭玄明堂位注及爾雅釋樂郭注引作朄，與說文申部同。蓋三家詩如此也。住友氏之鼓承以四足，殆夏后氏之足鼓也。此鼓蓋應棘之屬也。三代法物，傳之二三千年，無從徵信，幸有金屬仿製之器，得以窺見足鼓及應棘之制，以與禮經相參證。豈非世界之瓌寶歟？

鐘裏面

Interior view of Chou dynasty bell, showing cuts used in toning.

鐘

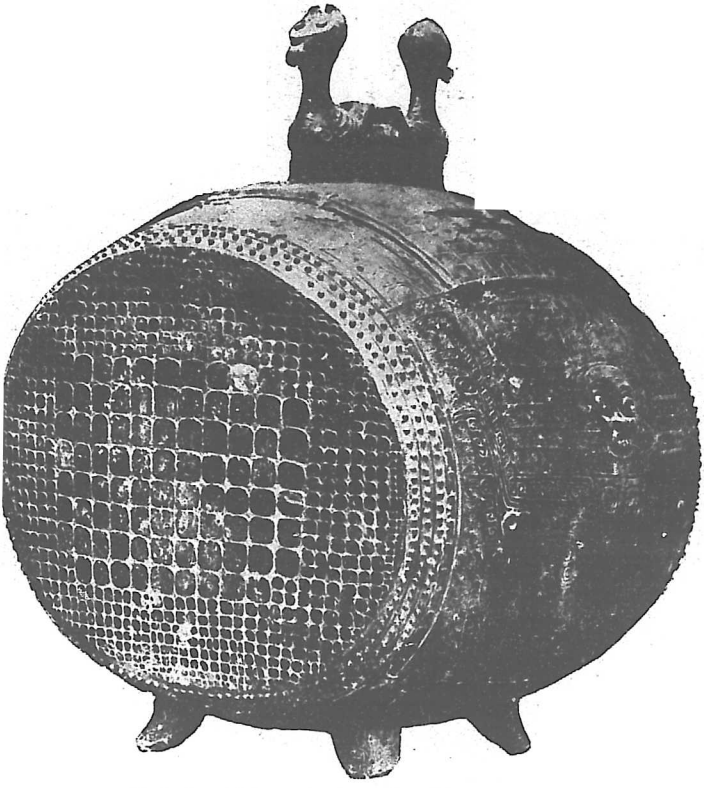


Chou Dynasty Bell. Suspended on wooden frame.

住友氏藏銅鼓側面

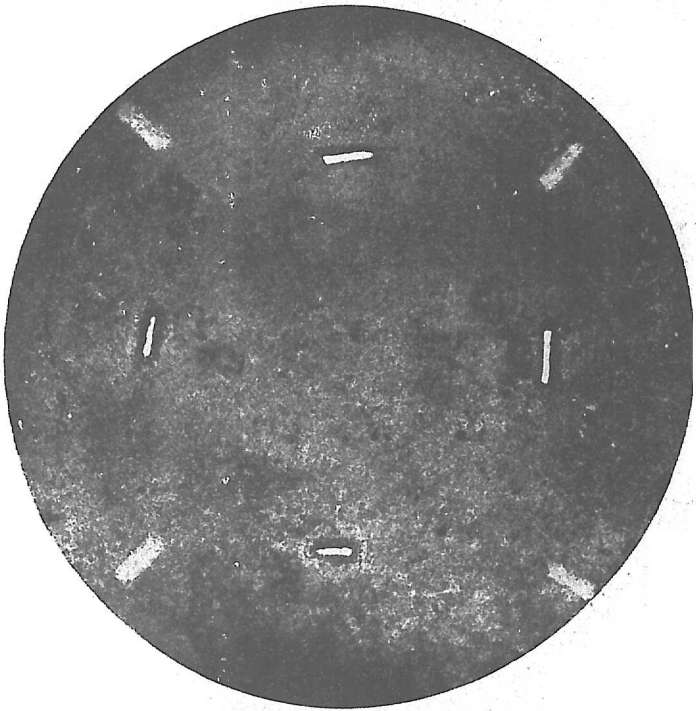
Side view of Sumitomo bronze drum.

住友氏藏銅鼓正面



End view of Sumitomo bronze drum, showing imitation of lizard-skin drumhead.

Interior view of top face of Fig. B, showing cuts used in toning.



甲鼓裏面

Interior view of top face of Fig. A, showing cuts used in toning and also four slits.

銅鼓側面 右甲 左乙

Fig. B.

Fig. A.

Side view of the two drums. On wooden stands.

銅鼓平面 右甲 左乙

Fig. B.

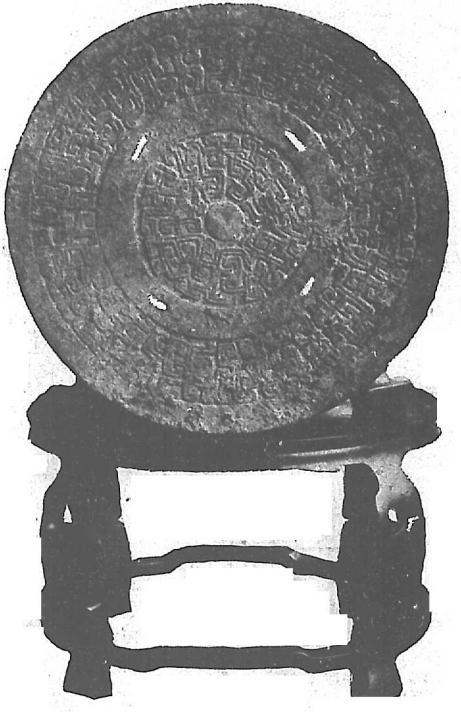


Fig. A.

Top faces of two drums. The drums are reclining on wooden stands.

meaning of response and suggests that drums of this name were used as echoes of large ones. The yin (輘) of the Hsiao Shih which is not mentioned in Giles Dictionary is the same as the so p'i of the Ta Shê and as the t'ien of the Yu Ku ode. Yin and so (No. 10212) have the meaning of introducing and these drums were used in preludes to the performances of larger ones. The t'ien mentioned in the Yu Ku ode of the Mao Shih is written as yin (輘) by Chêng Hsüan in his comments on the Ming T'ang Wei section of the Li Chi and also by Kuo P'o in his explanation given in the Shih Yo chapter of the Êr Ya. In this they are supported by the statement of the Shuo Wên under the Shên classifier (Giles Dict. No. 9816). Probably the character t'ien in the Mao Shih was given as yin in all the other three editions of the Book of Poetry[1] which existed during the Han dynasty.

The drum in the Sumitomo Collection has four feet and should be called a tsu ku (足鼓) according to the statements of the Ming T'ang Wei section of the Li Ki, while the two drums here described should be known either as ying ku (應鼓) or yin ku (輘鼓).

The materials used in the manufacture of the ceremonial objects of early China were easily subject to decay. It is fortunate that some of them like these two small drums were reproduced in bronze. Otherwise they could never have been preserved to our time.

1. Ch'i Shih, Lu Shih and Han Shih.

found in the classical allusions to various types of drums. In the Ku Jên section of the Chou Li (see Biot's Le Tcheou-Li Vol. I, p. 265) six kinds of drums are mentioned, viz. Lei, Ling, Lu, Fên, Kao and Chin. The Ta Shê section of the I Li (see Steele's I Li, Vol. I, p. 151) speaks of four classes, i.e. Chien Ku, Ying P'i, So P'i and T'ao. In the Ming T'ang Wei section of the Li Ki (see Legge's Li Ki, p. 37) it is said that the drums of the Hsia dynasty were called tsu (Giles Dict. No. 11840), those of the Yin dynasty ying (No. 13293) and those of the Chou dynasty hsüan (No. 4545). Three kinds of drums are noted in the Yu Ku ode of the Chou Sung in the Book of Poetry (see Legge Pt. IV. Bk. I (II), Ode V. Par. 1). These are called ying (Giles Dict. No. 13294), t'ien (No. 11236), and hsüan (No. 4545).

In explaining the six kinds of drums mentioned above Chêng Hsüan in his comments on the Ku Jên section of the Chou Li explains that the Lei is a drum with eight faces, the Ling with six faces and the Lu with four faces. The Fên is eight feet in length, the Kao twelve feet and the Chin six feet and six tenths. As the two drums which are here illustrated are very small they evidently do not belong to any of these six types nor do they seem to resemble the three specially designed types mentioned in the Ming T'ang Wei section of the Li Ki and known as tsu, ying and hsüan. The ying ku of the Hsiao Shih section of the Chou Li is identical with the ying p'i of the Ta Shê section of the I Li and with the ying of the Yu Pi ode of the Book of Poetry. Ying (Giles Dict. No. 13294) has the

It was because the process of toning bells by grinding their plugs was so obvious and so easy that there was no necessity of making a record of it." As far as I know this statement by Juan Yüan is the first reference made to this process of toning bells by polishing the plugs. The method was evidently so obvious that it was not referred to by earlier writers. But there are other methods of toning of which Juan Yüan made no mention. His process was only applicable to bells with long plugs and there are other bells with short ones which resemble the ends of spiral univalve shells. These are too short to be ground and the bell must be toned by grinding its inside surface. There are two ways of doing this, one by polishing a channel from the top to the bottom of the bell as mentioned in the Hu Shih Section of the K'ao Kung Chi and the other by making oblong cuts. These cuts are usually in pairs and are made either on the top or the sides. In some instances the cuts penetrate the casting. This method was the one used in toning these two drums. Drum (a) has four slits on the top and both (a) and (b) have several cuts some larger and others smaller on the interior surface. These slits and cuts were all made after the drums were cast for the purpose of toning them so as to produce the right sound. This method is still used in toning bells. This is the second reason why these objects must be considered to be drums. It also explains the differences between the two.

An additional corroboration of the two foregoing reasons for believing that these objects are drums may be

must be classified as drums along with the one in the Sumitomo collection.

2. In musical instruments the most important thing is the proper tone. Even though the shape of a given instrument may be according to specifications one cannot always be sure that it will produce the right tone. Adjustment may be necessary. In the Ch'ing Shih chapter of the K'ao Kung Chi section of the Chou Li the method of grinding jade chimes, ch'ing, is recorded. It is said that "if the ch'ing is too high in tone the sides should be polished; if it is too low in tone polish the ends". In the case of bells (instruments usually made of bronze), although no mention is made in the Hu Shih chapter of the K'ao Kung Chi of the method of modifying the tones, Juan Yüan in his Yen Ching Shih Chi speaks of a method of doing so by grinding the plugs. In this essay on the plugs of bells Juan Yüan says: "Of the many ancient bells which I have seen, both large and small, all have nipples. Nipples are what the K'ao Kung Chi refers to as plugs. These plugs are either long and pointed, short and blunt, or flattened, and there are also many different shapes of bells .....When I was in Hangchow I cast a bell for the Academy.....We calculated the pitch by making a mould to produce a huang chung tone but when it was finished it was a chia chung. We took another bell and found that the tone was changed as soon as its pointed plugs were polished. Then I understood the reason why the K'ao Kung Chi recorded the method of grinding jade chimes but said nothing of the method of grinding bells.

rows of small knobs. These are made to resemble the heads of nails driven into the frames which hold the lizard-skin taut over the ends of the drum. The decoration of this drum is in the same general style as that of Shang and Chou vessels. It must unquestionably be assigned to the Chou dynasty and taken as a clear proof that there were already drums made of bronze at that time. In the period of early China which may be called "the age of bronze vessels" the art of casting was already highly developed and there were reproductions in bronze of practically all articles made of other materials. For instance, sacrificial tables, chin, were originally made of wood, but we have the one cast in bronze which was formerly in the collection of Tuan Fang and now in the Metropolitan Museum. In the Hsin-chêng find there is a bronze lu. The decoration on the outside of this vessel shows that it was copied from one made of bamboo strips tied together with ropes. This vessel is now in the provincial museum at K'ai-fêng. Although in music there were the eight specific materials from which the different instruments were made, Hsüan Ho Po Ku T'u Lu illustrates four chimes, ch'ing, made of bronze instead of jade of which this musical instrument was usually made. Similarly in the Sumitomo collection we have the above-mentioned bronze drum although drums belong to the class of instruments usually made of leather. It is therefore quite possible that any musical instrument may have been reproduced in bronze. This is one reason for believing that these two bronze objects

they had been designed to serve the purpose of acting as covers for the ends of shafts. In my opinion they are both drums and I offer the following reasons for this classification.

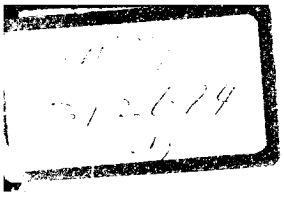
1. It is acknowledged that the drum is primarily an instrument made of leather for producing one of the eight sounds used in music[1] and that the earliest literary reference to drums made of bronze is found only in the biography of Ma Yüan in the History of the Later Han where it is said that "Ma Yüan was fond of riding and was an expert in selecting good horses. When he was in Chiaochih (Cochin-China) he obtained a bronze drum from Loyüeh and recast it in the shape of a horse." We have still many examples of these bronze war-drums. The decorations on them are very well-executed, but when compared with those found on ancient Chinese bronze vessels it is at once apparent that they are not parts of a common tradition. These war-drums have been rightly classed by critics as objects produced by aboriginal tribes in the southern part of China.

In the Sumitomo collection, however, there is a bronze drum, Fig. 130, called "A Drum with decoration of k'ueilung and a human face,"—height 2 ft. 6.7 in., length 2 ft. 1.5 in., diameter of the head of the drum 1 ft. 7.2 in. The body rests horizontally on four feet. On the top there are two birds. The surface of the drumheads looks like the skin of a lizard. Around the ends of the body are

1. The other seven sounds were those produced by silk, bamboo, metal, stone, wood, clay, and the gourd.

TWO BRONZE DRUMS

In 1929 there were found west of Fêng-hsiang, Shensi province, two tube-shaped bronze objects seven inches in diameter and (a) six and one third inches / (b) six inches in height. The surface of the tops is flat and the bottom open. The decoration on the bodies is that of coiled serpents and it is divided into two sections by a plain band around the center. There are also similar bands around the top and bottom of the bodies. In the center of the tops there is a small smooth circular surface. The rest of the top is divided into two sections and the decoration and bands are the same as on the bodies of the objects. The general appearance of the top resembles that of a jade disk with a central bore. In the plain bands which encircle the bodies there are two irregular holes which served as vents when the drums were cast each in two pieces. In the inner band on the top surface of (a) there are four slits, about half an inch in length and one-eighth of an inch wide, placed in pairs opposite to each other. Although these slits are not found on (b) there are cuts on the inside of the top surface but these cuts do not penetrate the casting. As a general rule tube-shaped bronze articles, such as the ends of lances or spears, were made to fit over wooden shafts, but these objects are so large that they could not have been intended for such a purpose. It is also to be observed that there are slits on the top of one and not on the other. This difference in the two objects would have been meaningless if



TWO BRONZE DRUMS

BY

JOHN C. FERGUSON

PEPING
1932