

Ur Excavations, Volume 2: The Royal Cemetery - Text and Plates

by C. Leonard. Woolley (1880-1960)

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OF THE MUSEUM OF THE UNIVERSITY OF PENNSYLVANIA TO MESOPOTAMIA

UR EXCAVATIONS

VOLUME II

THE ROYAL CEMETERY

A REPORT ON THE PREDYNASTIC
AND SARGONID GRAVES EXCAVATED
BETWEEN 1926 AND 1931

By

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TEXT

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CHAPTER XII

MUSICAL INSTRUMENTS

A. HARPS

TWO harps were found, one, U. 10412, in the grave of Queen Shub-ad, the second, a very fragmentary example, in PG/1130. The characteristic of the harp is that its outline is triangular; the strings do not lie across the sound-box but rise from it to a projecting arm springing from one end of it; on this arm are the tuning-pins.¹

The manner of the discovery of Shub-ad's harp has been described on p. 74; we are here concerned rather with the object as restored. The cap of the upright and the six upper gold-headed nails had been removed before the nature of the discovery had been recognized, but the five lower nails, the gold band below them, and much of the bitumen 'shoe' were held together by the plaster of Paris poured into the hole in the ground which represented the upright, and this plaster has been kept untouched: consequently for this section there is no 'restoration' properly so called, and the intervals between the nails *in situ* in the plaster assure the position of those which had to be replaced; the interval between the top nail and the cap is arbitrary but unimportant. The rectangular outline of the sound-box is sufficiently guaranteed by the mosaic border, much of which was intact (*v.* Pls. 38 *a* and *b*); I imagined at first that the raking line of the front seen in the photographs was original, but this proved not to be the case—the top corner of the border on the left side of the instrument gave a true right angle (Pl. 108 *a*), and the slope was evidently due to the sagging of the decayed wood under the weight of the head. Part of the border had fallen to pieces and had to be replaced, and this proved a difficulty; it was composed of bits of shell cut in strips and inlaid with red paste and lapis-lazuli; the strips might be of any length between 0.01 m. and 0.06 m., and some of them were not straight but curved. These curved strips suggested, inevitably, a dip in the top of the sound-box such as there is in the lyres, but (*a*) the complete top border of mosaic has no such dip, (*b*) the curved pieces would in no wise combine to make such a curve as would be required, (*c*) they came from different parts of the border and seemed to be interspersed with straight pieces, and (*d*) a dip in the top of the sound-box was wholly inconsistent with the character of a harp. I found that the curves were not so pronounced as to show much if the pieces were merely fitted together in a straight line, and I came to the conclusion that the original maker used up some stock material which had perhaps been designed for the more common instrument, the lyre. To some extent this apparently rash conclusion may be borne out by the calf's head which decorates the sound-box; in the lyres the head springs from the

¹ I quote here, as I shall do constantly in the course of this and the following section, from an illuminating article on 'The Sumerian Harp of Ur',

published by Canon F. W. Galpin in *Music and Letters*, vol. x, no. 2, April 1929.

front of the sound-box masking its junction with the front upright and is obviously in place; in fact the sound-box itself is a highly stylized—one might say 'cubist'—rendering of the animal's body, but here the head, whose position is correct beyond any doubt, for it was found attached to the border (v. Pl. 108 a), springs awkwardly from the top of the box and seems an excrescence not at all germane to the design: again it seems as if the maker were using stock material.

The shape of the shell plaques which decorate the front proves that the sound-box was wider at the top than at the bottom, the sides not being parallel. As the 'shoe' is wider than the lower plaques Galpin suggests that in the other direction also the sides were not parallel and that the sound-box was wider at the end from which the upright springs than at the front; for this he quotes a modern instrument from the Kamerun with rectangular sound-box with raked body and splayed sides; this cannot be proved, but in the remains as found there is nothing against it.

The bitumen of the 'shoe' is hollow, i.e. it surrounded a wooden upright which must have been fastened by a tenon to the lower part of the body: the curve by which it broadened out to meet that body and the line of its juncture are given by a narrow band of silver and lapis inlay which emphasized its contours, but of the lower part of the body nothing was found except a quantity of grey chloride, mostly in the form of powder, which represented a thin sheet of silver, and a number of minute silver nails whereby that sheet had been fixed to a wooden core; what the shape of that core had been there was nothing to show. In the restoration here illustrated I did not attempt to embody any theory; the simplest kind of stand consistent with the shape of the 'shoe' and the dimensions of the sound-box was provided and covered with silver so as to hint at the colour-scheme rather than the form of the original. In the article from which I have freely quoted Galpin suggests a boat-shaped body which is certainly more graceful and not unlikely.

The calf's head was not ill preserved; the beard, composed of a mosaic of lapis-lazuli set against a silver background, was bent but not broken, and the pieces of lapis, though some had started from their bedding, were not out of place; they had to be removed in order and relaid after the silver had been annealed and straightened. The gold mask, of thin metal which had been hammered over a wooden core, was slightly crushed and had to be heated and pushed out from the inside, and for this purpose the pieces of lapis adhering to it had to be temporarily removed, as had the shell and lapis eyes, but here too it was merely a question of replacing exactly what had been found in position. The hair of the head, on the other hand, did present difficulties; most of the small pieces of lapis of which it is composed had with the decay of the wooden core fallen through the hole in the top of the gold head and were found mixed up with the wood dust inside it, while some were separated altogether from the head and only a few were found still in place, adhering to the edges of the gold. In the reconstruction the top of the skull appears too flat; I found that the lapis mosaic was not sufficient to cover the larger area involved by raising the crown and was therefore obliged to keep it flat even

while feeling that the result was not altogether satisfactory. The double band of mosaic in lapis, shell, and red limestone forming the collar was in fair condition and required only a little repair; below it were some larger and shapeless pieces of lapis and shell which were more or less in position but gave no very definite design; these were simply kept *in situ*, loosely spaced against the bitumen background. The wood of the sound-box was left in its natural state. In the field I thought that at one point I could distinguish inside the area limited by the mosaic a surface of black paint relieved by a narrow red line close to the border and parallel to it, but the line was not too distinct and the film left by decayed wood is so often black that the identification of that colour as paint is by no means reliable; no account of this therefore was taken in the restoration.

Of the second harp very little was left, but enough to show that it had been of the same general type as that of Shub-ad. Really all that was found was the silver cap of the upright, shaped like the gold cap of Shub-ad's harp, and the row of fifteen copper nails and part of the 'shoe' with a band of silver binding above it; these gave for the upright a total length of 0.97 m. (v. Fig. 43, p. 167): there was but little mosaic border to the sound-box, and that all broken up, and no animal's head—the latter fact perhaps supporting my theory that the head is not an essential part of the harp and was only added to that of Shub-ad because the maker had the head by him and, influenced by the analogy of the lyre, wanted to make a particularly splendid instrument. This second harp was in any case a much simpler, not to say cheaper, thing.

In all essentials, except the lower part of the body, the restoration of Shub-ad's harp may be taken as correct. As the oldest example of a harp yet known it is of great interest, not least so because it is of an extremely advanced type. Galpin suggests that the sound-box and the lower part of the body were all one, made from a single piece of wood hollowed out within; this seems to me unlikely on account of the shape and size (it would have been far easier to build it out of boards) and in view of its marked differentiation into two parts by the border of the sound-box, which appears to make of that an independent entity, and the silver plating of the base; the latter might well have been solid, to give stability to the instrument while it was being played; judging from its size it was not held but rested on the ground. He also postulates sound-holes in the top of the sound-box, necessary too to permit of the knotting of the strings, and makes the point that the nails were not really keys as I had previously described them, i.e. were not tuning-pegs to which the strings were fastened, but rather guides or spacers for the strings, which would be wound round them and also round the upright to the tension required, the nail not turning but being fixed in the wood: in this he seems to me undoubtedly right.

On one of the cylinder seals of Queen Shub-ad, No. 18, Pl. 193, is represented a bow-shaped harp of an entirely different sort; it is a four-stringed instrument closely representing the Egyptian type. Nothing corresponding to this has been found in the tombs, but the representation is most interesting as adding to the range of musical instruments known to the early Sumerians.

B. LYRES

The lyre is defined as having a somewhat small and shallow body or sound-box from each end of which rises a post or arm joined together again at the top by a cross-bar. The strings are usually attached to the bottom of the body and pass across the table or front of the sound-box over a shallow bridge to the cross-bar, where they are tuned: in more developed examples they are fixed to a bridge bar on the table. The general outline of the whole instrument is rectangular.

To this definition correspond most of the stringed instruments found at Ur, viz. the 'gold lyre', Pl. 114, the 'silver lyre', Pl. 111, the 'boat lyre', Pl. 112, the 'plaster lyre', Pl. 118, and a number of incomplete instruments, e.g. that from the grave PG/789, Pls. 106, 107, whose character is clear, and others represented only by the animals' heads and shell plaques from their sound-boxes. The type is illustrated not only by these material examples but by engravings on shell, Pl. 91 and Pl. 105, and by cylinder seals, Pl. 193, No. 21, and Pl. 194, No. 22; later examples are figured, e.g. on a limestone relief of the Gudea period from Tello.¹

I shall first describe the several instruments as preserved to-day in the Museums.

The Gold Lyre, U. 12353, from PG/1237. Pls. 76, 104, 113-15, 117.

As can be seen from the photographs of the lyre *in situ* it was extremely well preserved in spite of the total disappearance of the wood forming its body. The sound-box was defined by a broad border of mosaic in shell, lapis-lazuli, and red paste (or limestone; it was reduced to powder) of which the component parts lay in the soil in such good order that the whole could be removed in one nearly intact piece by the help of waxed cloth (Pl. 113 b). The shell plaques on the front of the sound-box were undisturbed, the massive gold head was slightly dented on one side and one horn was bent, but it was still attached to the body of the instrument. The uprights were entirely sheathed with bands of mosaic in shell, lapis, and red limestone separated by bands of sheet gold, the top metal band being carried round the cross-bar; these uprights were rectangular in section and with the decay of the wood and the pressure of the earth the skin of gold and mosaic had been flattened and distorted, but the metal preserved none the less the sharp lines of its original corners. Measurements could be taken with the utmost precision. The decoration was lifted in long strips (though a certain number of the tesserae, especially of those on the under side, were out of place and had to be collected separately) and new wooden uprights were made to measure; on them the mosaic was replaced, for the most part without separating the tesserae of each band from one another. Half of the cross-bar was represented by a tube of much-decayed silver; this was in position, held by the gold top band of the front upright, and had on its under side two gilt knobs; at the back end there was no sign of metal in the soil nor in the gold ring of the back upright: bad

¹ de Sarzec, *Découvertes en Chaldée*, 1893, Pl. 23.

as was the condition of the silver tube it was still possible to preserve it, and that it should have run on for the entire length of the cross-bar and the back part of it have perished so completely as to leave no trace at all is inconceivable; it follows necessarily that this end of the cross-bar was of plain wood. While, then, all the woodwork is modern, it is an exact reproduction of the original, guaranteed by the decoration; of the latter a few loose fragments have been replaced perhaps not precisely in their original company, but most of it is intact and there has been no possibility of error affecting the design. The only omission is that the instrument is not provided with legs. Of such no trace whatever survived, and they must therefore have been of wood unadorned, but the analogy of U. 12354 and of the drawings of lyres on the shell figures, Pls. 91 and 105, are sufficient evidence that legs did exist, though as I was anxious to avoid anything in the reconstruction for which there was not material evidence in the object itself they have not been replaced.

As to the stringing of the instrument, it will be noticed that in the mosaic of the bottom border, immediately under the middle of the curved hollow in the top of the sound-box, the pattern is interrupted; there is an actual blank, i.e. a hole in the wood, and above it seven red and eight white vertical bars. It was originally suggested to me that there was here a pedal to muffle the notes by pressing on the sound-box, but it is, I think, clear that here the strings were fixed, probably tied to a piece of wood which was passed through the slit and kept in place by tension against the inner face of the box; a bridge, loose or fixed, was against the middle of the table, and from it the strings were carried up and fastened to the wooden part of the cross-bar; the bridge can be seen on the lyre on the shell plaque, Pl. 105, and in the lyre on the 'Standard', Pl. 91, all the strings are attached to the back part of the cross-bar. It is perhaps not too fanciful to suggest that here the white vertical bars correspond to the strings and that there were eight of them, as on the donkey's lyre, see below, p. 280.

The Silver Lyre, U. 12354, from PG/1237. Pls. 75, 76, 104, III.

The instrument was made of wood which had been entirely covered with thin sheet silver attached by small silver nails; down the front of the sound-box was a series of three shell plaques of which the lowest one was imperfect, attached to the front of the sound-box was a silver cow's head with inlaid eyes of shell and lapis, and round the edges of the sound-box ran a narrow border of shell and lapis strip inlay. As can be seen from the photographs on Pls. 75 and 76, the instrument as it lay in the ground appeared to be in good condition and the most accurate measurements of it could be taken. Its removal and restoration, however, presented serious problems. The metal sheath, reduced to silver chloride, was in brittle fragments or in powder, and the two sides of the body and the casing of the rectangular uprights had been crushed flat together. By the liberal use of wax and waxed cloth it was possible to lift it, but in this condition it could be neither kept nor exhibited. In the laboratory therefore the uprights were detached from the body and, since it was impossible to straighten the bent and twisted metal, they were left

virtually in their condition as found, but wooden rods were inserted in them and in the cross-bar and fixed together, and boiling wax was then poured round the rods until the mis-shapen tubes were filled; this was partly for strength, partly to prevent the further decay of the metal through exposure to the atmosphere. The two sides of the sound-box were then separated and strengthened from the inside (again waxed muslin was the only practicable medium) and a new wooden body was made to measure, the uprights fixed to it, and the silver casing replaced; the process entailed no disturbance of the shell plaques or of the head and very little reconstruction of the mosaic border, the position of which was in any case fixed by the groove left for it in the silver plate. The crushing of the instrument in the earth and the cutting of it open did result in the destruction of almost all the silver along the top and back edge of the sound-box; also the rejoining of the uprights to the body left a clumsy effect, principally because the silver along the top of the sound-box to which that of the uprights was attached had been bent out of the flat and with the distorted metal a clean joint was impossible. Some fragments of silver projecting under the back corner seemed to be the casing of a foot of the sound-box, and this was accordingly restored, with a front foot to match; that there were legs is, I think, certain; their original length must remain conjectural, but in this case they were made to the length of the silver plating that survived. The silver tubes (originally silver-plated rods) which were found attached by the corrosion of the metal to the cross-bar were not removed by us but preserved in their positions. The front end of the cross-bar is decorated with a shell roundel having a flower-rosette inlaid with red and blue.

The lower border of mosaic is continuous and shows no such aperture for the attachment of the strings as there is in the 'gold lyre', nor is there any hole in the silver plate of the table; on the other hand, on the right-hand table there are, starting from the bottom just above the border and immediately below the curve in the top of the sound-box, a number of white lines which diverge as they rise and can be traced for about half-way up the table. The silver plate generally preserves very clearly the impression of the matting with which it had been in contact in the grave, but between the point where the diverging lines break off and the upper mosaic border the mat-impression fails, as if something had here kept matting and silver apart. The white lines, of which eight can be distinguished, with more possible, must represent the strings, and it looks as if they had passed under the edge of the sound-box and been attached to its base; then they were taken across a bridge which for reasons of resonance must have been of wood and would have itself perished and, since it would have been loose, could scarcely have left any mark on the metal, but its presence is implied by the absence of the mat-impression. At any rate the position of the strings is assured by the lines of their decay and the method of stringing at the base of the instrument is in all likelihood correctly explained. But the cross-bar is most instructive. Against it there lie eleven short, slender, silver-plated rods, and approximately corresponding to them there are on the silver of the bar bands of black stain which when the

object first came to light showed in places the texture of a woven fabric of a rather coarse sort, like canvas; the bands, though not so distinct as at first (it was difficult to preserve them throughout the process of waxing and cleaning), are still quite visible. Now the rods appear on both the lyres on Pls. 91 and 105 as well as on that on the gold cylinder seal, Pl. 193, No. 21, and the seal, Pl. 194, No. 22; and on the donkey's lyre the strings seem to end at the top in something much broader and of a different texture. It would seem that the string was attached not directly to the cross-bar but to a canvas loop which passed round the cross-bar, and through this loop was put a rod which served for the fine tuning.¹ Here again we have an eleven-stringed instrument, and it would be interesting to know whether by the tension (instead of by the length) of the strings it would compass the same scale as the harp of Shub-ad: the lyre figured on the 'Standard' also has eleven strings.

The Boat Lyre, U. 12355, from PG/1237. Pls. 75, 76, 112.

As the photographs show, this is an entirely different instrument from the last, but in spite of its fanciful shape it does essentially conform to the definition of the lyre. The body is boat-shaped and on it stands an antlered stag supporting the front upright; the back upright is made by the high curved bow (?) of the boat; the whole thing was made of wood and covered with thin sheet silver (the junction of two sheets of metal can clearly be seen at the start of the curve of the bow, where they have sprung apart), including the figure of the stag, even the horns of which are of metal laid over wood in contrast to the animal heads on the other lyres, which are cast.² Only the long-stemmed water-plants, the crook in which supports the front feet of the stag, are different; they are of wrought copper. The problem of preserving this object was the same as in the case of the silver lyre U. 12354, and was met in the same way, i.e. wooden rods and wax were inserted in the uprights and the two sides of the sound-box were separated and relaid over a wooden model; the stag had to be treated in like fashion, and one side of his body was cut away, mounted on waxed muslin, and replaced after the body had been strengthened from the inside. The effect of crushing is even more disastrous here than in the case of the silver lyre, for here it is not merely a form of geometrical design but an example of sculpture in the round that has suffered; but though the stag is only a ghost of its former self no one can fail to be struck by the beauty of the composition and the excellence of what can be gathered as to the execution; as a work of art this is greatly superior to the conventional lyres, although their better condition or richer ornament may make them more striking. Owing to the flattening of the whole instrument there is no means of telling what was the original width of the boat-shaped sound-box, but this is scarcely essential to the understanding of the lyre as

¹ 'The method of fine tuning these lyres is very interesting, as it is also found on many of the lyres of Greece and Rome. After the string is drawn over the top bar at the approximate pitch the end is twisted over a small rod of wood; by pressing down the end of the rod the pitch is slightly raised; by

pressing it up, it is flattened. This device is still used on the Abyssinian lyre.' Galpin, loc. cit., p. 109.

² Except the heads of the twin stags, U. 12356, Pl. 113 a; but these do not necessarily come from a lyre.

such; otherwise it is well preserved, nor has there been anything in the work of restoration to interfere with or modify its details.¹

On the right-hand side of the lyre, directly below the hind feet of the stag and 0.03 m. above the bottom edge of the table, there is a rectangular slit cut horizontally through the metal casing; it measures 0.058 m. in length by 0.007 m. At a point on the silver plate 0.045 m. below this and almost exactly alined with it there is a second slit 0.065 m. long and decreasing in width from 0.02 m. at one end to 0.014 m. at the other; it is in that part of the plate which though now flattened out originally covered the (probably rounded) base of the instrument, and it is possible that it is accidental, due to the cracking and breaking away of a piece of the crushed metal. The upper slit is certainly original and gives the attachment of the strings to the table just as does the gap in the mosaic border of the 'gold' lyre. On the back half of the silver-plated cross-bar there are black marks resulting from the decay of the canvas loops at the ends of the strings which went round the bar; they are not so distinct as in the case of the 'silver' lyre, and the tuning-rods are missing, presumably because they were of plain wood, so that the exact number of the strings cannot be ascertained, though there may have been eleven. Since the strings were fastened at the back end of the cross-bar above and at the front end of the sound-box below they ran at a slope which was only partly corrected by the angle which the cross-bar makes with the uprights; both in the matter of its stringing and in its outline the instrument is rather a compromise between the harp and the lyre.

The Plaster Lyre, U. 12351, from PG/1151, Pls. 118-19.

The manner in which a plaster cast was made of this instrument, of which the woodwork had completely disappeared, has been described on p. 169; only the copper calf's head and shell plaque (which do not concern us here) are original, all the rest being the modern plaster; but as a mechanically faithful reproduction it is not less interesting than are those whose material has survived. In the photograph on Pl. 118 *a*, taken while the cast still rested in the ground against the cut face of the soil, the outline is less distinct because (*a*) large lumps of plaster remain at the tops of the uprights where it was poured in and the superfluous plaster congealed; (*b*) when the earth on the near side was cut away in order to expose the cast it was found that the plaster had not quite filled up the channel representing the cross-bar or the sound-box; consequently more plaster had to be applied from the face; this was trimmed off later, but no real cast was obtained of this side of either sound-box or cross-bar, though of the far side, seen in the lower photograph on the same plate, the impression was faithful; (*c*) the plaster reached and reproduced a piece of wood which stood against the lyre but had nothing to do with it, and this confuses the design.

Taking the better preserved side (Pl. 118 *b*), it will be seen that the uprights

¹ The photograph on Pl. 112 was taken immediately after the work of reconstruction; owing to the fragility of the object it has since been found advis-

able to frame it against a background of plaster into which it is partly sunk; only one side therefore is now visible.

are particularly slender; they are mortised into the sound-box presumably by tenons, and the lines of the joints are clearly visible. The sound-box has a flat top for about half its length which definitely overhangs the table, but this is less evident at the back where the strings were. The lower part of the sound-box has disappeared and the front half below the projecting rim is very rough—this seems to have nothing to do with the original but is due to the dry earth falling away from the face of the mould and leaving a depression which the plaster has reproduced in reverse. At the back end of the sound-box there is a raised ridge which may possibly be the bridge. When the soil between the uprights was cut back we were astonished to see very thin lines, none of them quite continuous but still recognizable, of very light white fibrous dust which were the remains of the actual strings; judging from the texture of the dust they had been of gut or sinew. There were ten of these. On the back half of the curved cross-bar there can be seen (in the lower photograph) ridges of plaster which preserve the impression left on the earth by the attachments of the strings; as they are much thicker than the strings they must have been in the nature of the canvas loops of which traces were found on the metal cross-bars of U. 12354 and 12355.

Other Lyres.

The royal grave PG/789 produced the lyre with the splendid blue-bearded bull's head, Pl. 107, and the remarkable series of shell plaques, Pl. 105. In the soil could be distinguished (Pl. 106) the impression of the sound-box and of the back upright, but there was nothing to throw further light on the character of the instrument; it had no mosaic or silver-work to define its frame. The lyre in PG/1332 which was decorated with the copper head and the shell plaques on Pl. 116 was in yet worse condition, and though the head and plaques retained their position in the soil and part of the outline of the sound-box could be traced, this was only sufficient to prove that the object had been a lyre and not something else. It is likely that all the other metal heads of animals found belonged to lyres with the exception of the two lionesses' heads found together against the wardrobe of Queen Shub-ad (U. 10465, Pl. 127 *a*) which may have been from a chair; where they were accompanied by shell plaques the identification is almost certain. These stray heads do not of course tell us anything more about the nature of the instruments, but their number does show that lyres were very common.

A few general points remain to be discussed. First as to the form of the instrument, the lyre carried by servants on the cylinder seal, Pl. 194, No. 22, has a sound-box which is definitely in the shape of a bull's body, legs and all, quite realistically treated; the donkey's lyre (Pl. 105) is more conventionalized but the bull's body is there and the animal is apparently represented as kneeling with its legs tucked beneath it; on the 'Standard' the legs are reduced to short pegs. The animal heads on the lyres, then, are not merely ornamental excrescences but are germane to the body of the sound-box which is in fact the body of the animal; it is highly conventionalized and, as has already been remarked, might stand as an example of cubist art, but the essentials of the

body, the shoulders and rump and the hollow of the back, are all retained, and the back upright might almost be a development of the tail; if the legs are added (which fail in most of our specimens, but accidentally) the figure as a piece of animal sculpture would be complete: the extent to which it is conventionalized is only a testimony to the strength and endurance of the tradition which prescribed this form. It can hardly have been merely by some artistic whim that the tradition started. Centuries later Gudea, dedicating to Nannar a harp (or lyre?) adorned with a golden head of a bull—and the 'bull of Heaven' is a synonym for the god—describes how the tone of the instrument is like the roaring of the bull:¹ the late text may explain the early custom; is not the lyre a sacred instrument, and as such may it not naturally take the form of the animal which symbolizes the god and is by preference sacrificed in his honour? Further, Gudea's great harp bears a bull's head and its tone is that of the bull's bellow—it is a deep-toned instrument. On our lyres we find the bearded bull, the cow, and the calf, and on an exceptional instrument the stag; do the tones here correspond to the typical voices of the different animals? Certainly the small and light 'plaster lyre', which has a calf's head, is not likely to have had the same tone as the great 'gold lyre' whereon is the head of a bearded bull; and the 'silver lyre', U. 12354, with its cow's head is different in size and might well be different in tone; if we have here bass, tenor, and alto harps, then we must allow for the possibility that Sumerian musicians possessed a knowledge of harmony very surprising at so early a date.

There is a surprising variety in the number of the strings. Of the harps, Shub-ad's has eleven strings, that from PG/1130 had apparently fifteen, that represented on the seal No. 18, Pl. 193, has only four. Of the lyres, the gold lyre probably had eight strings, the silver lyre had eleven, the boat lyre eleven(?), the plaster lyre ten (it is of course possible that one of the strings had altogether disappeared and that there were originally eleven), the donkey's lyre has eight, that on the 'Standard' eleven, that on the seal of Dumu-kisal (Pl. 194, No. 22) has five, that on the gold seal has six. It is of course quite possible that the artists who engraved the seals were not at pains to be meticulously accurate in detail; space was limited to accommodate the full number of strings and they were more concerned with representing an instrument as such than in imparting information to posterity: but the Egyptian analogy would go far to prove that the four-stringed harp at least is correctly drawn, and even if we eliminate as evidence the two lyres on the cylinder seals we are left with three types of harp and at least two types of lyre differing in the very important matter of the number of their strings. Can it be that the Greek 'modes' have a parallel if not a precedent in Sumer?

C. WIND INSTRUMENTS

In PG/333 there were found what seemed to be bars of silver wantonly twisted and bent. These were scientifically cleaned in the University Museum and proved to be of great interest. The apparently meaningless mass consists of silver tubing, with a total length of 0.408 m.; it is broken

¹ Thureau-Dangin, *S.A.K.I.*, pp. 120-1: Gudea, cylinder A, 28. 17.

into five pieces, but may originally have consisted of two parts each of an approximate length of 0.260 m. Along one side of each there are five (?) holes 0.006 m. in diameter placed at intervals of 0.025 m.; the last hole comes at 0.025 m. from the end of the tube, and the first at 0.14 m. from the unbroken end which may be the mouthpiece. At 0.07 m. from the (complete) end of one tube there is a double incised band, and a similar band on the second tube close to its broken end. U. 8605.

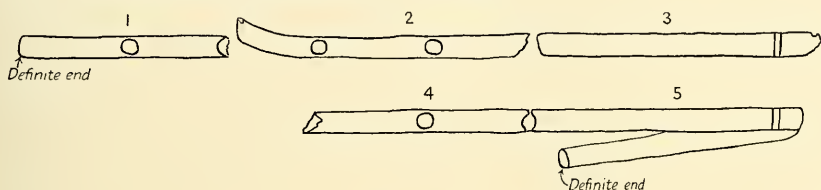


FIG. 68.

There can be no question but that we have here the remains of one of the double pipes figured on Sumerian carvings, e.g. to take a late instance, on the great stela of Ur-Nammu;¹ the slenderness of the pipe suggests that it is directly inspired by its original, the reed of the marshes; the intervals may help to throw light on Sumerian music as a whole.

D. OTHER INSTRUMENTS

I have sufficiently described elsewhere (p. 126 *et seq.*) the long copper cymbals found in the death-pit PG/1332; they were the only examples found in the Ur cemetery but were relatively common at Kish. Apart from these there are no objects of which we can say with assurance that they were musical instruments; nothing was found at all like the rectangular tabor played by the jackal on the shell engraving on Pl. 105, identified by Galpin with the modern Arab *Deff*, nor were there any signs of wind instruments, though we know that such were commonly in use. Two more or less precarious identifications may be put forward. In the grave of Mes-kalam-dug (PG/755) there were found against the coffin quantities of small objects, hollow cones made of sheet copper about 0.03 m. in diameter and 0.03 m. high; as they lay in the ground they formed an irregular or bent ellipse some 0.70 m. long, the majority on the circumference and a fair number strewn over the interior; they had been fixed on to wood, but I thought that in the decayed matter which covered the area I could perhaps detect also traces of leather. At the time my only explanation was that this may have been a shield something like those represented on the 'Stela of the Vultures' of Eannatum of Lagash, now in the Louvre, adorned with bosses in relief; the shields on the stela (which are rectangular, not round, as this would seem to have been) bear no such bosses, but there was an analogy for them in the spots on the cloaks of the infantry soldiers on the 'Standard' (Pl. 92). I would now suggest that the remains are those of a drum. On the great stela of Ur-Nammu found at Ur² and again on a stela of the time of Gudea from Lagash³ there are representations

¹ A. J. v, Pl. XLVII.

² A. J. v (Jan. 1925), Pl. XLVI.

³ Cros, *Nouvelles fouilles de Tello*.

of a great drum standing as high as a man, the rims of which are thickly studded with small knobs. If these are the heads of nails fastening the leather or parchment to the rim of the drum the analogy with Mes-kalam-dug's grave falls to the ground, for the copper cones were not nail-heads; but the parchment on a drum of this size cannot have been nailed, for if so fixed it could not possibly be kept in tune; the knobs must be something else and may be simply decorative, and in that case what we found might well be the remains of a great drum—which in the grave of a warrior would seem not out of place. In the same general connexion attention might be drawn to the 'offering-tables' in stone, metal, and clay which were common in the early graves, (e.g. cf. Pl. 180); these have been variously interpreted (*v.* p. 388) and may have served various uses, but some at least of them may have been drums of the 'tom-tom' type. In Iraq to-day the tom-tom is made of wood or terracotta and the shape approximates to that of the early 'offering-table'; sometimes there is a carinated rim and a string tied round this secures the skin, which can be tautened by pulling down the projecting corners, or the rim is plain and laces passed through the edges of the skin are carried down the outside of the bowl and fastened round the stem; amongst the 'offering-tables' both types are found. While therefore in the text of this book I have kept to the now generally recognized term for these objects, I do not exclude the possibility that some at least of them may have been musical instruments.

There is a second possibility. The jackal on Pl. 105 is playing a sistrum. This, as Galpin points out, is not of the stirrup form common in ancient Egypt but a very early 'spur' form of which an example found at Assiut and dating to the Middle Kingdom is now in Berlin.¹ The picture is on so small a scale that its detail should not perhaps be unduly stressed, but it must be noticed that no cross-bars such as are characteristic of both types of sistrum in Egypt but only two uprights are represented. Undoubtedly the artist has had to suppress something, but one would expect him to emphasize the more obvious parts of the instrument, and if he had to choose between the bars and the small disk clappers strung on them (which are what these uprights must stand for if the sistrum is of normal type) to represent the bars and to omit the clappers. It seems to me therefore possible that we have here a representation of a sistrum with vertical instead of horizontal bars joined together at the top, presumably, by a wire, which would be played by an up-and-down instead of by a sideways movement.

That we have found actual remains of sistra is, I think, very likely. As the instrument would consist essentially of wood and copper wires with clappers on them, and as the wood would certainly have perished and the wires might well have done so too, only the parts of an instrument made of or decorated with some more durable material could be expected to survive, and identification is thereby the more hazardous. In one case there were found, loose in the earth and not definitely connected with any one grave, a handle consisting of alternate rings of shell and black shale strung on a copper rod (U. 8914) having a white steatite knob at one end, and at the other end traces of wood,

¹ Curt Sachs, *Die Musikinstrumente des alten Aegyptens*, Taf. IV. 51.

of no recognizable form, and with the wood ash thirteen shell disks, cone-shaped like spindle-whorls. In PG/800, the grave of Queen Shub-ad, there was a white shell handle-end, an almost flat roundel, and attached to it three rings, two of shell and one of shale, which had decorated a handle of which the main length must have been of plain wood; loose in the earth beyond it there were thirteen conical disks like spindle-whorls decorated with engraved concentric circles, U. 10881. In PG/449 (*v.* Pl. 221) there lay in the remains of a copper bowl two rods, originally of wood, on which were threaded rings of shell and steatite alternately, and at one end of each was a shell knob, mushroom-shaped, the convex top inlaid with a central dot of lapis-lazuli (Pl. 103, U. 8935); remains of a third rod with a similar top lay at right angles to and under the first; between the two best-preserved rods there lay six shell pieces shaped as figures of eight and pierced with two holes; five of them were in a pile with their flat sides together, one had fallen apart, and a seventh was found later at the end of one of the rods. In PG/250 a single figure-of-eight shell piece was found (this was a plundered grave).

In the first two cases the agreement is too close to be accidental; the decorated handles and the thirteen disks coming at the top of the handles, in one case in the remains of wood, must belong to similar objects; my first idea was that these might have been ritual flails, such as are represented on later terra-cottas, but for this there is no real evidence, and it cannot be shown that anything corresponding to the shell disks would be strung on a flail; but the disks are very much what, on Egyptian analogies, we should expect on a sistrum, and the decorated handle is also in keeping; for these two cases I have very little doubt that the sistrum is the right explanation. The more elaborate remains in PG/449 are less clear, and in any case must represent a somewhat different type of instrument. It is possible that the three decorated rods are the handle and the branches respectively of a 'horned type' sistrum, and the curious figure-of-eight pieces might be double clappers strung on two wires instead of having independent round clappers on each wire; but they are lighter than the cone-shaped clappers and less suited by their shape to be such because they would tend to bunch together, as they have done in the earth; on the whole the identification of the object as a sistrum is highly problematical.



a



b

PG/1237. TWO VIEWS OF LYRES IN POSITION

a. IN THE FOREGROUND THE RUINED FIGURES OF TWO STAGS, U. 12356

b. THE SILVER LYRE, U. 12355, AND THE RUINED FIGURES, U. 12356

v. p. 122 and Chap. XIII



a



b

PG/1237. TWO VIEWS OF THE LYRES, AS EXCAVATED, LYING IN POSITION
v. p. 122 and Chapter XII



U. 11164. THE 'STANDARD': THE 'PEACE' PANEL
 Scale c. $\frac{1}{2}$. v. pp. 61, 266 *et seq.*

M. LOUISE BARTON



c. 3. U. 10577. v. p. 69



c. 3. U. 10412. v. p. 249



c. 3. U. 12353. v. p. 252



c. 3. U. 12354. v. p. 253

ENGRAVED SHELL PLAQUES FROM THE SOUND-BOXES OF LYRES
v. p. 281



U. 10556

ENGRAVED SHELL PLAQUES
FROM THE LYRE IN PG/789

Scale c. $\frac{1}{4}$. v. p. 280



a. U. 10556. PG/789. THE LYRE *in situ*, SHOWING THE IMPRESSION IN THE SOIL OF THE SOUND-BOX AND
BACK UPRIGHT
v. p. 70



b. U. 10556. THE FRONT OF THE LYRE AS REMOVED, PREPARATORY TO CLEANING
v. p. 70



U. 10412. QUEEN SHUB-AD'S HARP (RESTORED)

Scale c. $\frac{1}{3}$ (ht. 1.07 m.)v. pp. 74, 249 *et seq.**M. Louise Baker pinx.*

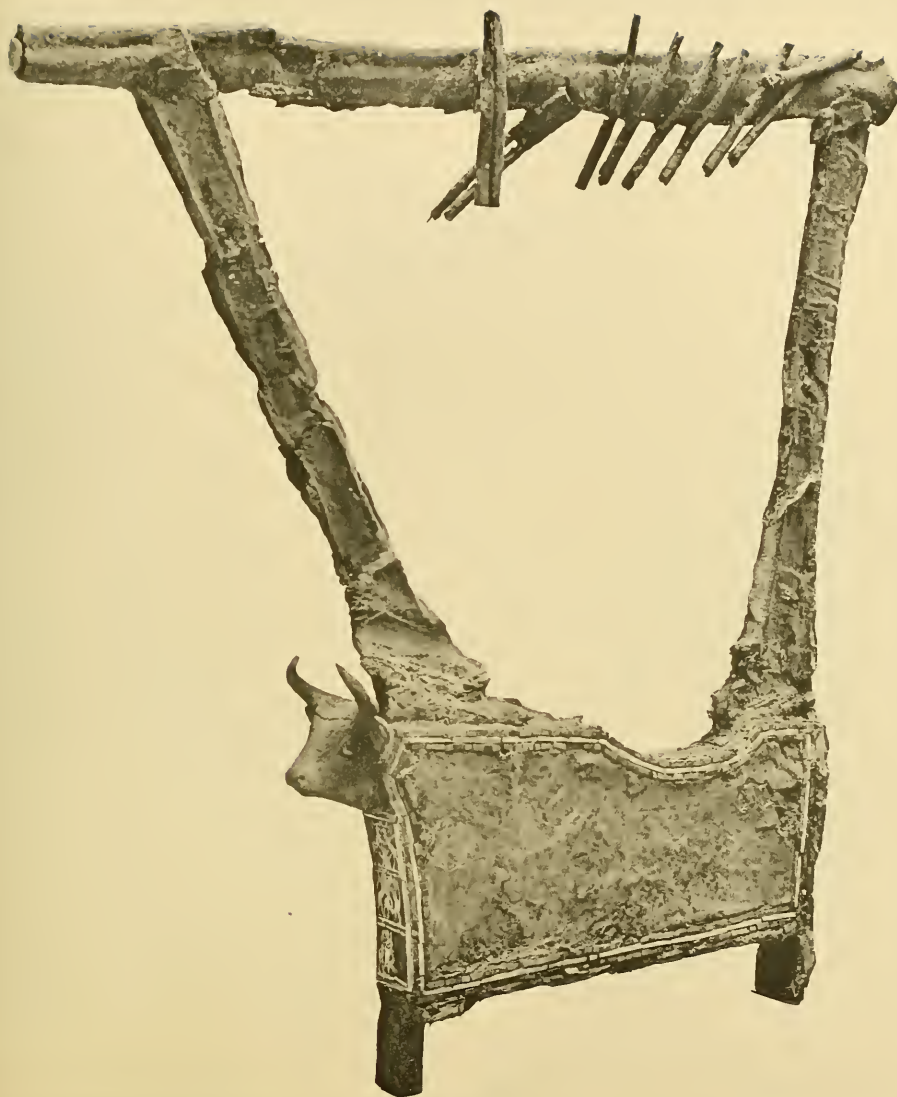


U. 10412. QUEEN SHUB-AD'S HARP. DETAIL OF SOUND-BOX

Scale c. $\frac{3}{4}$

v. pp. 74, 249 et seq.

M. Louise Baker pinx.



Scale c. $\frac{1}{3}$ (ht. 1.06 m.)

U. 12354. SILVER LYRE FROM THE GREAT DEATH-PIT, PG/1237

v. p. 253



Scale *c.* $\frac{1}{3}$ (ht. 1.16 m.)

U. 12355. SILVER LYRE FROM THE GREAT DEATH-PIT, PG/1237

v. p. 255



U. 12353. THE GOLD LYRE FROM THE GREAT DEATH-PIT, PG/1237

Scale *c.* $\frac{1}{10}$ (ht. 1.20 m.)

v. p. 252

M. Louise Baker pinx.



a



b

Scale c. $\frac{1}{10}$ (ht. 0.90 m.)

PG/1151

a. THE PLASTER CAST OF THE WOODEN LYRE U. 12351 *in situ* AFTER THE EARTH HAD BEEN CUT AWAY ON ONE SIDE. THE WHITE LINES OF THE STRINGS ARE CLEARLY VISIBLE. THE THIRD UPRIGHT WAS NOT ATTACHED TO THE LYRE

b. THE PLASTER CAST OF THE LYRE REMOVED FROM THE SOIL, SHOWING THE BETTER-PRESERVED FACE
v. p. 256