

THE GOTHIC HARP

FORERUNNER OF THE MODERN GUITAR?

By Shaun Newman, with photographs by Andrew McNinch



I made my first Gothic harp for my daughter, who was fascinated by its beautiful outline and enchanting sound. At the start of the project I knew little of this instrument, also called the 'Renaissance' harp, but the more I learnt the more intrigued I became by its ancient history, its development and its links with instruments of today.

Originally, the soundbox for one of these harps would have been hollowed out from a small tree trunk, the other two sides of the triangular frame would have been of solid wood, and the instrument

would have been strung with gut – simple but practical. Played throughout Europe from the 12th century onwards, and for several hundred years, these harps must once have been commonplace; certainly no pictured group of angels was complete without at least one, and clear images of them can be seen in the paintings by, for example, Hieronymus Bosch – specifically the right wing of the Garden of Earthly Delights triptych painted between 1503 and 1504. Sadly no original, playable instruments survive – but thankfully we do have the pictures

of the angels and the paintings of Bosch!

However, the origins of this harp are much earlier than the 12th century. In both Mesopotamia and Egypt, instruments recognisable as harps can be seen on stone relief sculptures, wall paintings and papyrus fragments from as long ago as 2500 BC. In the region of Sumer in ancient Babylonia there are records of possibly the first stringed instruments anywhere in the world, and they divide into two broad categories – 'harps' and 'lyres'. Lyres tended to differ from harps in having two pillars, one on each side, with the strings running vertically between them attached to a crossbar. Harps usually had a soundbox and single pillar with the strings at an angle. The most outstanding example of the harp has become known as 'Queen Shub-Ad's Harp', which has a rectangular wooden soundbox decorated with gold and inlaid with mosaic of red stone, white shell and lapis lazuli. By the time it was evacuated from the Royal Cemetery in the Sumerian city of Ur, all the wooden portions had decayed, but the soundbox was so perfectly impressed in the surrounding earth (the surviving gold decorations and inlays were embedded in what would have been their original positions) that a

restoration of the instrument could be undertaken. A major feature of this harp, obvious in the picture, was the clear definition of the two main components, the soundbox and neck, just as in the modern guitar.

The advanced design of Queen Shub-Ad's Harp can only mean that more primitive harps predated it – and it is again in ancient stoneworks that evidence of simple bow-shaped instruments is found. These instruments, it is thought, may simply have developed from the twang of a hunting bow – certainly remains of a bow-like harp with four strings have been found in the ruins of Ur. In any case, music historians assume that the vertical neck found on, for example, Queen Shub-Ad's Harp gave way to the horizontal neck on later instruments, making such a harp perhaps the earliest known direct ancestor of the guitar.

What is clear from archive writings, paintings and sculptures is that the increasing complexity of the music being played probably accounted for the change in the position of the neck. As musicians of the ancient world plucked the open strings of their instruments, they must have become aware of harmonics and overtones. As these became more commonly used, a desire for wider tonal variety and for greater facility in performance may have encouraged musicians to experiment by stopping the strings against a neck. There is clear evidence that some lyres were made with a neck in the centre of the traditional two pillars with stops. Naturally, the more horizontal the neck the easier it would be to stop the strings. As stopping became accepted, the number of playable





The 19th-century 'gentleman's lathe' used to turn the bridge pins. The lathe is driven by leg power!



A suitable drawing is vital for this project.



Shaping the ends of the string bar.



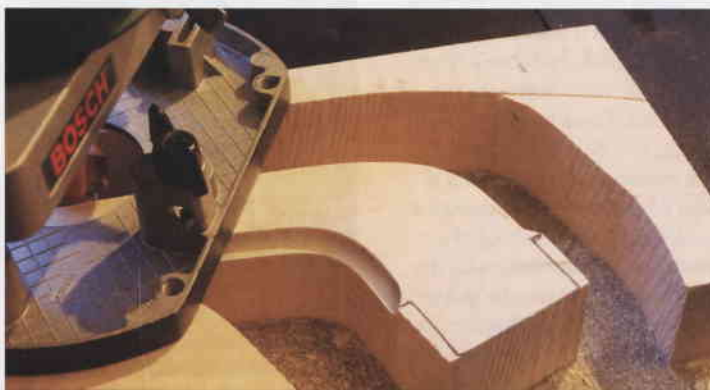
Between each half of the soundbox is a leaf of black maple veneer which gives a clean inlay line when the two halves are joined. Also, the inlay work on the back of the harp.



Routing out the hollow in the soundbox with a home-made Perspex base to allow a clear view of the process.



The tuning pins and tuning lever. Each pin has a 1:40 taper and is made from nickel silver.



A close-up view of the flutes in the pillar being routed. The offcuts from the sides of the pillar help to support the router and prevent it from rocking.

notes must have increased. At some point lowering the neck would have become more practical than further increasing the number of strings, a process which ultimately would have led to an instrument of unmanageable proportions. The only other option was beyond reach at the time, needing today's skilful engineering to add semitone levers to make the equivalent of a modern harp, which is capable of playing up to six and a half octaves.

The period between the fifth and seventh centuries saw many developments in the harp and in its sister instrument, the lyre. Influences included such unusual creations as the 'pluriarc', brought along trade routes from central and West Africa. The one pictured has

five necks, but they can have any number between three and nine. The pluriarc has a hollow body, each string has its own independent bow-like neck, and it is played with the instrument placed across the knees. However, it was the medieval harp, depicted in ninth- and tenth-century paintings and carvings, particularly in France, Ireland and Scotland, that became predominant. This harp was small, no taller than 30 inches, and placed on the knee between the player's arms, or perhaps with the base resting on, say, a box or small table. It would have had no more than 19 strings covering up to two and a half octaves. By the time of the Renaissance or Gothic harp, however, the instrument was

notably larger, maybe up to three feet six inches tall and with between 19 and 26 strings. Some had 'brays', which were small wooden pins fitted to the soundboard at an angle, causing the strings to make a highly distinctive buzzing sound that can still be heard on contemporary bray harps. Interestingly, some Irish Renaissance harps had adjustable brays made from hawthorns; in dance music they would be used against the strings, but when a more sombre tone was required they would be turned sideways to disengage them.

At some point during the evolution of the harp a means had to be found to attach the strings to the soundboard. Two solutions were found and remain in use up

to the present day. In the first, each string passed through an eyelet in the soundboard and was tied to a small dowel which held it in place. The second method, and the one I chose, was to pass a knotted string through its soundboard and then secure it with a tapered bridge pin, exactly as used in acoustic and some classical guitars today, except that the harp does not have a saddle bone for each one. I faced a considerable challenge when I chose to make the bridge pins from boxwood on a 19th-century 'gentleman's' treadle lathe. This machine was restored by a friend, who even managed to fit an engineer's compound slide onto the bed to allow the tapering of the pins. Each pin is individually reamed



into place to ensure a perfect fit in each hole and then numbered with a fine-tipped permanent marker to allow correct replacement if any came out. Trying to find the right holes for 26 slightly different pins might strain the patience of even an angel ... eternity notwithstanding! We can only imagine how such pins may have been made in Renaissance times.

I found hollowing out the soundbox to be another challenge. The box is of a solid plank of sycamore around 46 mm thick and 120 mm wide. This had to be sawn into two boards, each one 22 mm thick, which after hollowing out were jointed back together again like the two sides of a pea pod. I had the luxury of a power tool to fulfil this task, and while doing the work I could not help but feel a strong sense of admiration for the early builders and wonder at their skill as they would have undertaken this task entirely by hand. The outer shell of the soundbox is no thicker than 5 mm at any point, representing a monumental challenge for a manual craftsman.

As music composition became increasingly sophisticated, instrument makers had to devise a means to allow the playing of accidentals and semitones; the challenge became acute as polyphonic music became widespread and as pitch became standardised to A = 440. It is unclear how the Gothic harp would originally have been tuned, though it was almost certainly to some sort of diatonic scale, and very probably at pitch A = 415 or lower. A choice had to be made either to go with stopped strings, as of course became the case with the guitar, or to introduce a means of playing half notes. The modern solution for the harp is the semitone lever fitted to many, but not all,

of the strings just below the wrest pins in the headstock. These levers, when twisted, will shorten the string length and thereby raise the pitch by up to a semitone. They are quick to use and very reliable and act in a similar way to the first fret on a guitar. On the guitar, the player brings the string to the fret, while the semitone lever brings the 'fret' to the string. To my mind,



however, the elegant simplicity and sheer beauty of this Gothic harp, together with the quality of its sound, merited staying with the traditional approach to construction and tuning. I must add a word of caution here – the experience of tuning this harp for the first time is not for one of a nervous disposition, and there were moments when I literally held my breath. As the 26 strings are brought up to pitch, at least 800+ lb of tension is created, bowing the whole soundbox and twisting the frame most alarmingly. Fortunately, I was prewarned of this by a harpist friend who added, as an afterthought, 'Anyway, harps always sound at their very best just before they explode!'

An interesting development in the 18th and early-19th century was that of the 'harp guitar', also at times known as, or at least confused with,



the 'lyre guitar'. These creations with often interchangeable names were somehow a blend respectively of instrument with harp, allowing both stopped strings and open strings to be played. Hermann Hauser, who famously made a favourite classical guitar for Andrés Segovia, made a number of harp guitars, and several great players made them and other makers' instruments famous. Such players included Napoléon Coste, Boris Perott, Ivan Padovec and Luigi Mozzani and Mario Maccaferri. The latter learnt his trade from Mozzani and was well known not only for playing but for making, in conjunction with Selmer, his own very distinctive acoustic guitar used by many of the jazz greats including Django Reinhardt. As can be seen from the illustrations, the harp guitar even has the appearance at times of the lyre, and vice versa. Players of these instruments commend them for their versatility and portability, and having all of the advantages of the guitar and none of the disadvantages of the harp, particularly the larger ones. Luigi Mozzani gathered a team of master instrument builders around

him and in the early part of the 20th century formed an ensemble.

Any writing about ancient and even Renaissance instruments will be based on almost as much speculation as fact, because of the lack of documentary and at times physical evidence. Clearly, modern guitars and ancient harps have many differences – most obviously a straight neck and six strings as against many more strings and a curved neck – but common ground between the two is evident: both use strings stretched across a soundbox, both have tuners that rotate, and both can hold the lower end of the string in place with remarkably similar bridge pins. Another common feature is, of course, the plucking of the strings rather than bowing, and there is the beauty and fullness of sound that delight both the player and the listener. Finally, there is the growing body of evidence of the common ancestry dating back as far as Queen Shub-Ad which really is the strongest link between them.

Returning to my daughter's harp, the final challenge was to find a case. Most harp cases today are made from nylon, sometimes with a polystyrene interior, and are reasonably priced, but finding one that will fit well to a one-off design is difficult and they are not special. Custom-built hard cases are naturally very expensive, so I decided the best way forward was to make my own. The one pictured is made from 4 mm plywood with pine sides and ends. The lining is from ½" sheet foam rubber covered in polyester crushed velvet and held in place with heavy-duty carpet fitter's tape. A tuning lever is always needed and is conveniently stored inside the case, with two steel clips to prevent rattling. The outside of the case is hand-painted with extra-hard oil-based eggshell paint and decorated with home-made stencils cut with a scalpel from Perspex sheet. Although the materials are modern, I felt I was in some sense doing justice to the harp and nodding to the early makers in taking this approach to the case. I wonder whether they would have smiled at this work as I do when I think of theirs.

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