

## Stone Turning by Robin Goodman



### 1. Soapstone bowls

The Stone Age began about 2.6 million years ago, the date of the [earliest evidence of humans using stone tools](#), and lasted until around 5,000 years ago when the Bronze Age began and humans began making tools and weapons of metal. Early stone carvers created impressive and long lasting monuments around the world such as the Pyramids in Egypt and medieval cathedrals and churches in Europe. I was impressed by the Inca stonework workmanship in Cusco, Peru; **photo 2** shows a wall including a 12 angled stone block with perfect tight dry joints that even a knife will not penetrate. Just outside the city are the large impressive walls of Sacsayhuaman (pronounced sexy human!), where massive boulders up to at least 100 tons have been carved to fit tight in a similar manner; all achieved without modern equipment and tools.



### 2. Inca workmanship

Some of the earliest examples of turning stone on a lathe are in Cairo museum, where there are bowls that were found in the Step Pyramid at Saqqarra – constructed about 4,700 years ago. These show the unmistakable tool marks of lathe manufacture for stone bowls and vases. In the 1890's the English Egyptologist Flinders Petrie wrote that 'the lathe appears to have been as familiar an instrument in the fourth dynasty, as it is in the modern workshop'.

As with many others in the coronavirus lockdown, I had a major sort out of my workshop garage. The expression "Leave no stone unturned", which may have originated with the Greek playwright Euripides over 2000 years ago, suddenly came to mind, when I found I still had 3 pieces of unturned stone! I like to try turning alternative materials to wood and a few years ago acquired pieces of soapstone and alabaster. I turned most of the pieces back then, but now was the time to make something from the final three stone blanks.



### 3. Coaster

The **Cornish soapstone** was bought from stone supplier Nigel Owen in Northamptonshire and was sourced from the Launceston Polyphant quarry, which is the only UK quarry to provide soapstone. Soapstone and alabaster are [metamorphic rocks](#) that are composed primarily of [talc](#), with varying amounts of [chlorite](#), [pyroxenes](#), micas, carbonates and other [minerals](#). They are amongst the softest rocks and carve relatively easily, so can also be turned. This English impermeable soapstone is a green grey colour, which darkens markedly when water or a finish is applied. The attractive fleck appearance looks as if the stone is comprised of very small tiny fragments, less

than 4mm across, of varying colour all stuck together, see coaster **photo 3**. Very different in colour and texture



**4. Kenyan Soapstone**

are 2 Kenyan soapstone items, **photo 4, below**, acquired nearly 50 years ago.

Unlike wood there is no grain direction. The stone density is about 3½ times that of a typical hardwood, so even when cut down to a 150mm diameter bowl blank, it weighs over 3 kg.

Before starting to turn stone for the first time, I sought information about turning it, since the material was not cheap and I wanted to save time and minimise mistakes and maybe breakages. Few UK woodturners turn stone, but it seems more popular in the USA. They seem to use alabaster predominantly, rather than soapstone. Max Krimmel has some stone turning information on his website and Steve Finch has produced a DVD called 'stone turning'. This provided some useful information and tips, such as the preferred method of using a glue chuck to support the piece that also minimises stone wastage. A dark wooden rim or base is often added.

Carbide cutting tools are ideal for removing stone relatively quickly, but ordinary gouges and scrapers also work satisfactorily with light cuts. It was useful to have one gouge in tougher M42 steel, which lasts much longer before re-sharpening than ordinary HSS. Whatever tool is used the 'shavings' are always in the form of a fine powder, **photo 5**. Although this dust created by cutting and sanding is much denser than for wood, it can still circulate around in the air and a respirator is recommended together with a suitable extractor.



**5. Shavings as a powder**

Drilling the stone with Forstner bits works well, **photo 6**, and a band-saw is ideal for trimming blanks. Sanding the stone is more efficient when done dry. Wet sanding avoids the dust, but the abrasive blocks up very quickly with the powder slurry and needs frequent washing out, also you need frequently to rinse the slurry off the turned piece. I usually started with 120 grit and worked up through the grades, finishing with orange Nyweb, approx 1000 grit. Various different finishes can be used, but I used a finishing oil and or microcrystalline wax.



**6. Drilling soapstone**

For work holding, a glue chuck is recommended as one of the best methods and epoxy glue is ideal to attach to the stone blank. The glue chuck can be fixed to a face plate, especially for larger pieces, but I used a dovetail, **photo 7, (next page)** in chuck jaws, as none of my blanks were much heavier than about 3 kgs. This photo also shows how much darker the stone appears when finishings have been applied. Pin jaws in a pre drilled hole can be used in expansion mode



11. Hollow form with wood rim

I had blanks suitable for two stone **hollow forms**. Procedure for hollowing was the same as if they had been of wood. Segmented African Blackwood rims were constructed and glued to the top rim of both pieces; the shorter one of height 80mm is shown in **photo 11**.

The word **Alabaster** is derived from the Greek word alabastros meaning perfume vase. It is a soft fine-grained sedimentary gypsum rock, generally white or delicately shaded and translucent. It is porous, so should only be used indoors and not for anything to hold liquids. It is usually a little harder than soapstone and for thousands of years it has been used for vessels, statuary, carvings, and other ornaments. In powdered form it is still used for making plaster.



12. reinforced for hollowing

I had only one piece of alabaster and used it to make a hollow form. After shaping the outside, while supported by a glue chuck, I made a 12 segment wooden ring to glue to the top of the vessel. In matching African Blackwood I also made a base. There were some veins in the material that seemed as though they could be



13. Finish shaping of the base



14 Alabaster Piece

The finished piece, **photo 14**, shows how white the alabaster is. Its translucent property is illustrated in **photo 15**, by placing a coloured LED inside.

As an alternative to wood, both soapstone and alabaster are suitable for turning pieces for practical use or purely as decoration. As detailed above, normal woodturning techniques and tools can be used, although ordinary HSS tools need frequent sharpening and the resulting powder generated can be tedious to deal with. Suitable stone availability is very limited in the UK and the cost can be high. Even so, for something different, it is well worth a try.



15 Showing translucence