Sculpting Soft Stone Using Stone Age Incision, Abrasion and Drilling Techniques

By Storm

> Go inside a stone. That would be my way. Let someone else become a dove or gnash with a tiger's tooth. I am happy to be a stone. From the outside the stone is a riddle: no one knows how to answer it. Yet within, it must be cool and quiet, even though a child throws it in a river; the stone sinks, slow, unperturbed, where the fishes come to knock on it and listen. I have seen sparks fly out when two stones are rubbed, so perhaps it is not dark inside at all; perhaps there is a moon shining from somewhere, as though behind a hill—just enough light to make out the strange writings, the star charts on the inner walls.
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> Charles Simic (*Dismantling the Silence*)

Our relationship with rocks and minerals is quite fascinating. We can depend upon granite and limestone for housing, talc and pumice for beauty aids, clay and chalk for digestive aids, flint and chert for the procurement of fire and meat, and a wide variety of geologic products for entertainment and adornment. Archaeological finds suggest that we have been augmenting ourselves through jewelry for at least 100,000 years, with the advent of material symbolism in the form of *Nassarius* shell beads that have been found in Israel. One of the oldest stone pendants found to date was ground and incised about 26,000 years ago, using paleolithic technology during the Gravettian culture in what is now Romania.

One of the most satisfying pursuits I've ever engaged in consists of identifying potentially useful natural materials and transforming them into functional tools and attractive works of art. As I walk a beach or hike through the forest, my eyes scour the landscape in search of workable wood, bones and stones. Here in the northeastern corner of the San Gabriel Mountains of southern California, I am fortunate to encounter an extensive assemblage of attractive crystals (tourmaline, corundum, actinolite, biotite/muscovite/fuschite micas, epidote/zoisite, pyrite, rutile) and malleable rocks such as talc schist, chlorite schist, serpentinite and nephrite jade (living within 500 feet of the San Andreas Fault has its advantages...).

Upon locating a sizeable boulder of soft rock, such as talc-magnesite schist, I proceed to reduce the material to a manageable size by smashing it with another rock. But I prefer to let nature do as much of the work as possible, so I enjoy finding small cobbles that are ready to be carved and ground into pendants and containers using stone age tools. The incising tools that I use include shards of bone (the needle bones located in the ankles of deer work quite well), beaver and javelina teeth, bird beaks, stone flakes, hafted elk antler saws and stone knives. Cutting through talc schist, gypsum alabaster, and chlorite is quite easy using these tools, especially if the cutting edges are rough or toothed. Bone needs to be sharpened often, while flint, chert and basalt can score harder rocks without losing their edges.

When I'm crafting a larger item out of soft rock, such as a bowl, I find it faster to hollow out the interior if I use a bone or antler chisel. After scoring parallel grooves one-half inch apart across the surface of the area to be removed, I insert my chisel at a roughly 30-degree angle into the groove and tap the top of the bone with a stone (apply a layer of buckskin to the top of the chisel to avoid chipping it) or wooden hammer. This removes chunks of rock at a much more efficient rate than grinding alone accomplishes. Careful control of the chisel tip's impact on the margin of the future container must be maintained, or the lip of the bowl might be damaged beyond repair.

Incising isn't always necessary or more expedient: if the cobble is small enough, then grinding may be all that's required in order to shape the rock into your desired object. I use flat slabs of sandstone (quartzite works as well) to grind material that contains minerals softer than quartz. I've ground rocks using both a circular motion and a back-and-forth motion upon the grindstone, and have found that both methods work equally well in maintaining control over the shape of the final product.

Please take adequate safety precautions when creating rock dust, which could enter your lungs and cause health problems: Most people keep their grindstone wet. I always do my grinding outside to further minimize this concern.

After grinding a rock down to a suitable thickness for a pendant, I usually employ a quartz crystal-tipped hand drill to bore a hole for the necklace. This simple tool consists of a center-pointed quartz crystal that has been sunk and glued into the tip of a straight twig. Usually, the quartz crystals that I've found and used aren't long enough to fully penetrate the pendant. In order to complete this task, a thin, pointed sliver of bone or stone can be used to bore, by hand, through the rest of the pendant. I like to round off any sharp edges around the hole that the quartz drill leaves to lessen the chance of accidental chipping or breakage.

Decomposition of the local basement rock (muscovite schist) provides me with adequate polishing grit in the form of fine silt. I hand-polish stone pendants with this silt using a piece of soft buckskin, which can make quite a difference in the finished piece. The best natural grit I've used thus far is very fine black and white sand that I found in a wash near Barstow, CA.

Whether I'm making pendants, containers or fly-wheels for drilling and fire-making devices, I like to coat the finished articles with animal fat (mineral oil and beeswax works as well). Not only does this bring out the stunning colorations and patterns found in rocks, but it might preserve the structural integrity of the product and reduce the visual marring of incidental scratches.

Soft rocks such as Chlorite Schist can easily be split using a bone chisel

Stone flakes are useful in cutting talc schist into pendant blanks

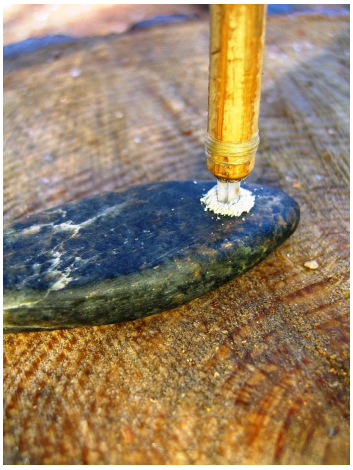
Bone and antler saws incise soft rocks quite easily

The splint bone of a deer easily grooves this rock in preparation for chiseling out unwanted material

After scoring grooves in the talc schist with a piece of bone, a bone chisel removes unwanted material

If the cobble is small enough, then grinding may be all that's required in order to shape the rock into your desired object.

Natural materials such as bone, stone, antler and teeth make great tools for carving and grinding



A quartz crystal can be used to drill through a stone pendant in order to attach a natural cordage necklace

Decomposition of the local Muscovite Schist provides me with adequate polishing grit in the form of fine silt




Coating stone pendants with animal fat or mineral oil reveals the stunning colorations and patterns of geological treasures


I hand-polish soft stone using silt and a piece of buckskin, which can make quite a difference in the finished piece

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