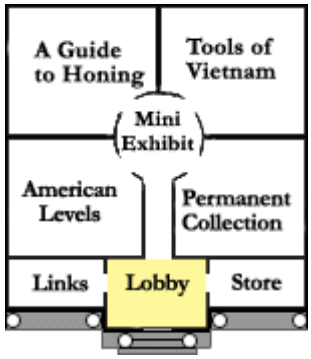
Museum of Woodworking Tools



A Guide to Honing and Sharpening

A Short History

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Over the centuries many technologies for sharpening have arisen. Geographic and economic considerations have always played a part in why some technologies are more popular than others. Until the 20th-century and the industrialization of tools and toolmaking materials, many different types of materials were used for sharpening. The 1850 edition of the classic *Turning and Mechanical Manipulation* by Charles Holtzapffel lists no less than 15 different types of "hone slates" in addition to the Turkish oilstones that were used in England. Most of the stones were regional favorites and available locally. The most famous of these were Charnley Forest Stones.

> "Charnley Forest stone is one of the best substitutes for the turkey oilstone, and much in request by joiners and others, for giving a fine edge to various tools and also penknives. It is hitherto been found only in Charnwood Forest, near Mount Sorrel, Leicestershire. The best Charnley Forest stone, is by some considered to come only from the Whittle Hill Quarry, the other stones for the neighborhood are pinny, or present hard places." (All citations are from Holzapffel.)

Other stones were known by local names such as: "Norway Ragstone", "Welsh oilstone", "Devonshire oilstone", "Cutlers' green hone". Today these stones have largely disappeared from the commercial market. Some tool dealers in England may have boxes of miscellaneous sharpening stones, but it's hard to identify positivelywhich is which.

In Holzapffel's 1850 edition, written before the American Civil War and just as the United States was beginning to industrialize at great pace, Arkansas stones are mentioned but given short shrift:

> "Arkansas Stone, from N. America is of unequal texture and cuts slowly."

By the 1894 edition, revised by Charles' son John Jacob, the entry on Arkansas stones was much expanded and its reputation promoted:

> "Arkansas oilstone, Novaculite, or nearly pure quartz, is founded in moderate quantities in the one American State only from which takes its name. The best quality which is rare, is pure milk white, with no perceptible grain, equally hard throughout, absolute homogeneous, and has a conchoidal fracture. Arkansas stones does not wear appreciably under the most vigorous usage with pointed or wide edged tools, it cuts far more slowly than turkey stone but its perfection and permanence of surface produces a keen and more uniformly perfect cutting edge, it is in every respect an admirable oilstone. A second quality from the

> same quarries appears slightly crystalline, is generally "off color" and sensibly less smooth when tested by the thumbnail drawn across it; this is said to be cut from mass closely surrounding a nucleus of the best and true Arkansas oilstone. Washita and some other comparatively course grain varieties are sometimes mistaken for inferior Arkansas oilstone, but are greatly inferior to in all respects. Turkey and Arkansas oilstones are both used with oil."

By the turn of the 20th century artificial oilstone's were just beginning to be made in quantity by companies such as Norton Abrasives et al. The most common of the American sharpening stones were Corborundum and India Stones. Neither stone is capable of being made in the fineness required for fine honing although artifical abrasives quickly replaced natural ones for most use in grinding wheels.

In Japan, as in the rest of Asia, water stones have always been more popular. A Japanese water stone is a natural stone consisting of microscopic particles of quartz suspended in a clay matrix. When sharpening, the clay slowly dissolves away exposing fresh quartz particles. The advantage of the system is that the quartz particles are always fresh and sharp, hence the stones cut faster. The disadvantage is that as the stone wears, it must be periodically flattened. We don't know if the Japnese preference for water stones arose simply because there were no equivalents to Arkansas stone in Japan. There are certainly no Arkansas type stones available in significant commercial quantity. However just as Arkansas stones are found in only a few places in the world, quality waterstones are even harder to find. Over the years the most famous mines in Japan have been exhausted and quality natural waterstones are now rare. However it has turned out to be possible to manufacture a extremely high-quality alternative to natural water stones, artificial water stones, which are now extremely popular for sharpening worldwide. Made from particles of aluminum oxide, artificial water stones have consistent grit and wear evenly. In addition they can be made in almost any size.