What is an "Oilstone"?

The language surrounding so called oilstones is very misleading. First off, there's no such thing as an "oilstone." Long ago, these abrasive stones were simply called whetstones. "Whetting" was the period word for "sharpening" and it had nothing to do with applying liquid to a rock. Nor is oil required for their use. All "oilstones" can be used successfully with water (or soapy water). And oil, spit or water can be used interchangeably on all whetstones (including synthetic stones). So what is this thing we call an "oilstone?"

There are two basic types of sharpening stones: synthetic stones and naturally quarried stones. All sharpening stones – including waterstones – have more in common than they have differences. All are basically made of some sort of ceramic.

The ceramic grit in man-made waterstones, the white ceramic stones and Norton's "India" stones are all aluminum oxide, just like your grinding wheel. Of course, you know that each of these products cuts quite differently. The reason lies not with the actual ceramic cutting particle, but with the matrix that binds the crystals together.

Waterstones have soft clay-like binders which give up their particles, allowing them to roll over to expose new sharp facets and new crystals. India stones have harder matrices that make them to wear longer and cut more slowly.

Natural stones are typically some form of quartz (which is also a ceramic) such as Novaculite. Arguably the best source of these stones is the Ouachita Mountains in Arkansas. But Novaculite is found elsewhere, including in naturally occurring Japanese waterstones. Folks in the 18th century were getting Novaculite-rich stones from what is today Syria, Lebanon and Israel. These modern-day nations were then part of the Ottoman-Turkish Empire, which is where people in the Anglo-American 18th-century world got the term "Turkey Stone."

Oilstones. *The term for these stones is a misnomer – they can be lubricated with water, soapy water, spit and other fluids.*

There are a few other popular synthetic grits such as silicon carbide (a.k.a. carborundom), Norton's dark gray coarse stones, and zirconium oxide, which is often mixed with aluminum oxide and sold as "Norzon" for belt sander belts (a useful substitute for a diamond plate). These particles are so hard that their matrices typically can't hold them together well, so products made from these ceramics work quickly and quickly wear out.

It is the matrix – not the grit – that I think should be important to you; it should be the determining factor in your choice of stones. If you are working broad, flat surfaces, stones with a softer matrix will be better for you. If you are honing small tools, or small surfaces of large tools (such as curved edges), you'll probably do better with stones that have a harder matrix.

You should never "lubricate" your stones. Lubrication reduces friction and that reduces the cutting efficiency of your stone. "Cutting fluids," such as those used in machine shops, are used to carry away heat and swarf (little bits of metal). So maybe "cutting fluid" is a better term for the stuff we spritz on our stones. Here's how it works:

Stones, like your skin, are porous. Bits of swarf can get trapped in the pores of a stone, just like dirt gets trapped in the pores of your skin. As it builds up, the tool will begin to ride on the swarf instead of on the crystals. When that happens, we say our stone is "clogged." At that point, it will cut slowly.

What we need is a liquid with a low enough surface tension to get into the pores and lift out (through surface tension) the stuff we don't want there. Soap reduces the surface tension of water and allows it to flow into the pores of our skin. You can use soap (any kind will work) as a cutting fluid. I mix up dish detergent with water in a plant sprayer. The ratio of water to soap is determined by the porosity of the stones. (Technically, each different grit stone would be most efficient with a different fluid.

Oil has a low surface tension and makes an excellent cutting fluid. But there is no one best oil for all stones. Fine-grit stones have small pores and need lightweight oils. I find kerosene-based WD-40 makes an excellent cutting fluid on my finest stones (but I get the kind in pump bottles rather than the spray can, because it contains no fluorocarbons). Mineral oils, such as 3-In-One or Norton's specially formulated honing oil, work well on coarse synthetic stones. Mineral oil can be "cut" with Dextron III automatic transmission fluid to reduce its surface tension for finer stones. — AC