

BY ADAM CHERUBINI

Whetstone Sharpening

Part 1: No flat back.

I've tried most sharpening systems. I started with sandpaper and glass because it was cost-effective. It's still tough to beat. You don't have to worry about maintenance. If the paper rips or clogs, you throw it away. The surface you are working on is always flat. But at finer grits, the paper tears easily. I switched to Mylar-backed abrasives, and later the adhesive-backed films. These helped, but I was still unsatisfied.

So I tried waterstones. I liked the feel of the ceramic composite stones. But I could never get over the mess with soak-in-a-tub stones. And while ceramic composite stones solved that problem, I realize now that the way I sharpen simply isn't suited to sandpaper or waterstones.

My first serious introduction to natural whetstones came when I eschewed modern sharpening equipment about six years ago. As with many of my experiments, I was left with more questions than answers. But I learned some things I'd like to share with you:

Flat Backs Not Required

No tool needs a flat back to be sharp (think: carving tools). I suspect lots of 18th-century tools were knife-edged to some degree. I think it's worth reviewing this important issue.

The wood doesn't care if the back of your tool is flat. If you have a 30° bevel angle and a 5° back bevel, the wood sees a tool with a 35° angle.

What's important is that we control



Whetstones. I enjoy sharpening my tools with natural whetstones. Kept clean and used carefully, they can get your tools more than sharp enough. Better still, they are inexpensive and rarely need maintenance. If they are so great, why doesn't everyone use them?

the flatness of the back. The question is, how flat is flat enough? My guess is none of my "flat-backed" tools are out of flat by more than a degree or so. So I just don't think this is a big issue.

Because I use slow-wearing stones, I don't worry about flattening them. And if you think about it, flattening sharpening stones is a hassle. I'm not against it, mind you. I just wonder if we aren't getting dragged around by suppliers. We buy stones to flatten our tools and stones to flatten the stones that flatten our tools.

I asked Roy Underhill if he flattens his whetstones. Roy has found rocks in the woods to hone his tools so I know he's thought about it. He replied by pulling his chin into his neck and looked at me like I had three (bald) heads. I took that as a big, "No."

Grind Low, Hone High

Natural whetstones cut more slowly than other stones. Working broad faces (like a thick chisel or plane iron's bevel) takes a long time. This is likely where natural stones and even synthetic India stones got their bad reputation. What I do is grind a low angle, then hone up a few



Look closely. The secondary bevel on this chisel is difficult to see in this picture. Part of the reason for that is that honing freehand rounds the bevel slightly. This isn't a problem as long as the angle at the very tip doesn't get too high.



Always the same. I hold every tool the same way when I hone. I use my left forefinger to add pressure to the edge. The rubber mat on my bench keeps the stone from slipping.



Hone. I use my finest stone to remove the wire edge created by my coarser stones. No reason to scratch the back on a coarse stone. I just work the area adjacent to the edge. I prefer to hone front to back so I use the corners of the stone.



Polish. Fine scratches can be polished away using a leather strop charged with a polishing compound such as this chromium oxide.

degrees. So if I want a chisel to have a 30-degree bevel angle, I grind it at 20-25 degrees, then hone a secondary bevel on the Arkansas stones. Thus, I'm removing very little metal with my stones.

What I lose by doing this is the advantage of using the bevel's hollow grind to position the chisel at a certain angle on the stone. But in my shop, freehand honing is an absolute necessity. Many of my blades are curved (carving gouges) or "cambered."

Once divorced from the hollow grind, I skipped my electric grinder (yes, I have one) altogether. I find my DMT Dia-Sharp extra-coarse diamond plate works plenty fast. I also use it to clean up the surface of clogged stones.

Honing Freehand

I hold blades in my right hand with my left forefinger atop the blade. Most of the motion comes from my elbow. I keep my wrist tight or locked. I prefer to "skew" my blades, holding them at a slight angle with respect to the motion. This is what one must do to sharpen a 3" blade on a 2"-wide stone. Maybe that's why I do it. Most old stones are narrow. Despite the skew angle, I try to work the blades front to back as much as possible.

I start honing on a soft Arkansas Ouachita (sometimes spelled Washita) stone. A hard India stone is a poor but acceptable substitute. You could probably produce an acceptable edge on a good clean Ouachita stone.

I hone the bevel until I raise a wire edge across the entire width of the tool. I don't maintain the flatness of this stone. No need. I don't use it for backs of tools, only bevels. I wipe the stone clean and

dry with a paper towel after each use and store it in a wooden box.

I remove the wire edge by honing the flat side on my translucent Arkansas stone, then polish the bevel. My goal is to remove the wire edge and raise a new one on the fine stone. It can be difficult to detect a wire edge from a fine stone. I suspect this trips up many woodworkers who hone far beyond the initial wire. I think it's also true that some people stop before achieving the wire edge and fail to get their blades honed all the way to the cutting edge. My "paper test" (in the next issue) determines if you are getting the job done or not.

I use a fair amount of pressure when honing. I suspect that natural stones need higher pressure to cut quickly.

Similarly, because I'm working a small amount of metal (honing just a small portion of the bevel, for example), the contact pressure on the stone can be quite high. I believe this is why I tear paper and have found waterstones to not work well for me. These edge shapes just don't seem well suited to an abrasive with a soft matrix.

I finish my honing with a leather strop charged with chromium oxide. The strop polishes and smoothes the edge. I think it's an important step. Folks say that stropping "dubs" the edge. So does woodworking. When you are stropping the back, just don't lift the heel of the blade. The give of the leather is sufficient to work the entire surface.

Most people think natural whetstones are slower than waterstones and their derivatives like Shaptons. And if you sharpen the way most people sharpen, they are. These new uber stones are

designed for individuals who produce flat beveled edges and who work the backs of their blades at every honing.

I was told this was the only way to achieve a good edge. Now I know that's not true. Kitchen knives are good edges. Carving tools are superb edges. Typically, neither has any flat surfaces. If you put a round-edged tool on softer stone, you'll risk ruining the stone. So you either have to slow down, making the process more time consuming, or skip that edge shape altogether, which is my concern.

Though natural whetstones cut slower (by the way, we could say the same things for ceramic stones such as those from Spyderco), their hard-wearing surfaces allow us to hone other, possibly more traditional edge shapes. So when we think about comparing stones, we need to keep in mind the edge shapes for which these stones were optimized (and vice versa). **PWM**

Editor's note: In the next issue, Adam shares his "paper test," how to sharpen curves and how to grind.

After a year-long hiatus, Adam has returned as our regular Arts & Mysteries columnist.

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