

THE MOSTLY MONTHLY NEWSLETTER OF THE

# EUGENE 5160 CLUB ~ FEBRUARY 2013

The February Meeting will be Thursday ~ the 7<sup>th</sup> ~ at 6pm at the Woodcraft store in Delta Oaks Shopping Center just off Delta Hwy and Beltline Hwy in North Eugene.



## FEBRUARY MEETING

**WAYNE GODDARD** will come as **THE STAG DOCTOR** to share more techniques regarding antler handling techniques, handles & guards “And Other Strange Stuff. Many Secrets Will Be Given Away!” Wayne says he has some tips and techniques for handle materials and finishing that he has not shared with the group yet.

If you've been working on something – bring *your* show and tell.



## HAMMER-INS!

**LYNN MOORE** is hosting a **5160 Club hammer-in** at his place on February 16 – see directions attached to the email. Bring any portable forging equipment you want to haul – bring a lunch. Start time 9 A.M. and we'll go to 4 or 5 or whatever feels good. Lynn can be persuaded to do a demo on dovetail bolsters & pommels and we'll go from there.

These hammer-ins are an opportunity to observe folks work first-hand and maybe try a hand at it yourself. A good time will be had by all!

**NW BLACKSMITH ASSN** is starting a monthly hammer-in on the 4<sup>th</sup> Saturday of each month at the Longview Washington fairgrounds. From their note: (<http://blacksmith.org/forums/calendar.php>) – it looks like it is a “members” event.

Although they are a blacksmithing group they have been doing some knife forging recently at the annual conferences. Lynn has been a member for years, gets a lot out of it, and always comes back from their late Summer conference all charged up.

Dues are \$45/year and include a quarterly publication and a no-charge lending library. The August conference this year will be back at Mt. Hood. August 22-25. (I'm going to make a sincere effort to get there this year – now that I'm semi-retired.)



## JANUARY MEETING

**WAYNE GODDARD** started up the meeting by passing around a box of spare chunks of material from his shop – everybody got to pick out a piece they liked and pass the box – it went around a couple of times before it was played out.

As we milled around before the meeting, four of us had “finish-the-blade-blank” knives done and put our blades on the table at the front for folks to peruse.

From top to bottom the knives were made by:

- Martin Brandt
- Mike Johnston
- Michael Kemp
- Wayne Goddard
- Jim Jordan



The blade blanks we started with had a short, split tang – like a tuning fork. Some of us hid the tang, others let the tang show on the surface of the handle.

Martin Brandt came in later in the meeting – so his knife wasn't on the table when the winner was being chosen. It's a beautifully done handle in Sami style (not quite finished at the time of the meeting). It has a small bolster with birch wood and antler handle. The spacers are birch bark. Martin's answer to the “tuning fork tang” issue was to wrap the blade in wet paper towels – put that in a vice – use a torch to heat up the twin tang and then pinch the two branches of the tang together. He V'd the end and silver brazed in

an extra piece of steel to extend the tang so it could be a through-tang.

Mike Johnston's knife has filework along the spine, mokume gane guard from our workshop at Gene Martin's place which is silver soldered in place. The handle is cocobolo and stag crown with a six petaled flower carved into the end. Mike described the jigs he used to cut kerfs into the wood and antler – and the challenges he ran into during construction. He used a Dremel to carve the flower.

My contribution has a handle of three layers of kingwood – the middle layer “keyed” to fit between the forks of the tang and the three layers just glued together. I'm using this in the kitchen to see how well the wood treatment and glue stand up to repeated wet/dry use.

Wayne Goddard's took a different approach to the forked tang. If I understood right, he filled the gap between the forks with paper/epoxy and ground the whole thing thinner. I dare you to find any flaw with Wayne's ivory inlay.

Jim Jordan carved his matching handle and sheath out of ebony – a really masterful piece of work. The knife and sheath snap together in a satisfying fit that makes the whole piece look like one long wrap. Jim said he wanted it to look like a paracord wrap. He certainly succeeded.

Wayne then asked if there was any objection to declaring **MIKE JOHNSTON** the contest winner. There was a general murmur of approval – and it was so.

Wayne then brought out a knife he calls “Spacer-Man Bowie” due to the stacked handle construction.

Wayne claims he had no plan in mind when he started grabbing pieces out of his “Spacer Box” for the handle – it has bits of Ed Fowler sheep horn, ironwood, fossil ivory, and snakewood in it, topped with deer antler crown.

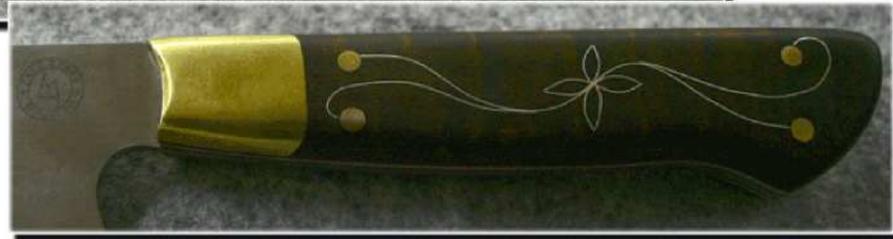
The handle is a partial tang that goes 2/3 of the way into the antler. Wayne said that on this size and style of handle: be sure the tang end is annealed, glue everything up, then use a really sharp drill to make a pin hole through the handle and tang.



**LYNN MOORE** shared a kitchen knife that shows the final silver wire inlay on the handle like he demoed for us a couple of meetings ago.

That's CPM 154 with bronze bolsters.

He noted that in drilling pin holes there are two things you have to get right. You have to be sure you are seeing what you need to see in order to get the hole precisely where it should be. And you need to keep control of the drill and material so it does not wander from where it should be. This leads into having well sharpened drill bits – learn how to re-sharpen them - - - and keep the knife under control or it will start spinning and you will regret it!



As for gluing up the handle parts – Wayne used a wooden vice to clamp the blade – got all the spacers and parts glued and stacked up – and used rubber bands from the vice to the butt of the handle to keep it all in place while the glue cured. Wayne said that over the years he came to this simple solution after trying all sorts of jigs, bolts, vices, and devices.

Wayne noted that he uses a light on the handle to keep it warm so the epoxy will cure properly. Wayne has had good experience with 5 minute epoxy “just read the instructions: mix at 70 to 80 degrees.”

Wayne also brought in an African knife from **BRUCE FRIED'S** collection which has two locking joints so it folds up into a short, handy size. I'm not sure what the intended use is but it reminds me of a sickle for reaping grain.

Lynn also passed around a few of Wayne's knives that he owns – this pretty little wire Damascus folder:



... this cable Damascus blacksmith's knife & dagger:



... and this EDC or hunter. I believe that is alloy banding on the blade – but I could be wrong:



Wayne was asked how he prepares cable for forge welding. He responded that he unbundles the cables down to the individual strands, cleans them, re-bundles them and uses an Oxy/Acetylene torch to weld the ends together. He heats up the reassembled cable and twists it up tight. He puts together multiple cables worth – up to thousands of strands – so that you have enough material for a knife without making the individual strands too thin – so it still has a pleasing pattern in the finished blade.

Mike Johnston passed around his first shot at claying a blade. This is an old file from a wrecking yard. Mike ground off all the teeth, forged it out, and used the Ray Richard method of claying. He used Mutual Material fire clay (like they use in building domestic fireplaces) – in a very thin layer. Ray likes it mixed like thick milk with some finely ground charcoal.



Mike applied a thin layer to the main part of the blade – leaving the edge without clay. Unlike the Japanese method, there was no thick clay layer.

The blade was hand sanded to 1500.

Mike noted that when Ray is using this method on 5160 he will do three thermal cycles on the 5160 (which should result in very fine grain size) before applying the clay and doing the final hardening quench. The thermal cycles are bringing 5160 up to non-magnetic, quenching just until the orange color has gone away and immediately reheating for the next thermal cycle.

Walter Hardcastle has been putting a forge together – and he and Dave Rider built these tongs from stock at Dave's shop:



Keith Johnson gave the group some pointers on presenting items to the club. The take-aways that I got were:

- Don't assume people are going to see what is laying on the table – either hold it up for all to see &/or pass it around. Start with the person at the front right side (as you are facing the group) so that we don't wind up with colliding pass-arounds.
- Take the time to let the group know what it is you are showing, and what it is composed of.
- Tell what you find important or interesting about the piece, and if possible how it was made.
- Share why you made the design, material and construction choices you made.

In short – Keith asked us all to be a little more aware about really sharing our work... not just flashing it by the group.

Scribe's note: I think it's a point well taken. We can keep our informal atmosphere and still improve our transfer of knowledge and experience. All the work that is shared at 5160 Club meetings is a big draw for me personally – and I want to thank folks past and future for making the leap to get up in front of a group and show your work. It takes a little courage because there might be some constructive criticism mixed in.

Martin Brandt gave info on his finish-the-blade-blank knife – and on Sami culture and knife making techniques. There is a Sami saying he shared that translates to English as “no knife, no life.” And for the native cultures of the cold North – that rings true!

Something Martin mentioned that I was not aware of is that one style of Sami sheath uses what is called half-tanned leather. This is leather where the outside of the leather is tanned but the core is still rawhide – and it can be wetted and shaped like other leather but when it dries it is as stiff as rawhide with a surface like top grain. So it tools nicely but hold its shape. Martin shared how this leather can be pressed into a receiving groove on a wood or antler section of sheath and when it dries it will not pop out of the groove – creating a solid bond between the leather and the wood or antler.

He also shared his trial-and-error getting birch bark to lay down flat so he could make spacers out of it. And carving the antler was a real challenge. The antler is both hard and has quite a grain to it – so it is very slow going and the fibers do not want to let go. After getting advice to use a broken needle file, he supplemented his X-ACTO knife with a V profiled needle file.

Dave Rider shared detail on making the pair of tongs with Walter Hardcastle. He upset the area that holds the rivet. The tongs are just mild steel and of course you can shape the gripping section to meet your needs. Dave mentioned using angle iron as an option for the grip area. Various ways were discussed for the process of shaping tongs. Dave felt that the two parts of these tongs weren't as symmetrical as he wanted but you could have fooled me.

There were the usual end-of-meeting far-ranging discussions.

Barges cement was discussed – Wayne and Mike Johnston both swore by the following procedure for permanent bonding with Barges: put a thin layer on both parts to be bound; let it dry; put a new wet layer and put the parts together under moderate pressure; let dry for several days (3) and it will be an extremely solid bond.

Barges makes a great flexible bond. I got introduced

to it when one of my cousins owned a shoe repair shop in Woodland, Washington.

A trick that I tried in my shop after the meeting was something cousin Jim taught me. If you coat your two parts and let Barges get tacky-dry it will create a decent bond that you can still pry apart. I used this to glue strips of sandpaper on a felt wheel on my Dremel so I could sand inside curves on the dagger I'm working on. Worked great. The sandpaper was secure at low Dremel speeds – but I could still peel it off once it was used up, glue another strip – let it get tacky – put it on the felt wheel and keep going.

Then once again we wandered into the night...



If anyone wants to toss in their 2 cents to the newsletter – with a special interest article or work-in-process – just email it to me and I'll include it.

As an aside – I've been somewhat confused about grain size reduction as it relates to thermal cycling, normalizing, and annealing.

After bantering with my betters on the Knife Dogs forum I'm settling into the idea that grain size is reduced as steel transitions to austenite (and the faster the transition is made, the greater the reduction). But if you overheat the steel grain size increases again. Then grain is reduced again as steel goes from austenite into ferrite (hypoeutectoid steel below 0.8% carbon) or cementite (hypereutectoid steel above 0.8% carbon). Again – the faster the transition the greater the size reduction.

So Ray Richard's thermal cyclings mentioned above would create a fine grained structure. As would normalizing and annealing – but these being slower, they would not create as dramatic a reduction.

I'm curious to hear 5160 Clubber's responses to this.

One of the Knife Dogs referred me to this large PDF: <http://www.feine-klingen.de/PDFs/verhoeven.pdf> Looks like I've got some more reading to do.

Your Scribe ~ ~ ~ Michael Kemp