SEPTEMBER MEETING

Thursday September 5th – 6:00pm at David Thompson's shop. Please do not arrive before 5:45pm. If you didn't get the directions in the meeting notice, email me for them: michael@elementalforge.com

I'm caught up in end-of-Summer stuff and won't make the meeting – Mike Johnston will be wrangling the meeting and taking notes for the next newsletter. Thanks Mike!

Bring your show-n-tell!

Request from the Thompsons:
“Please drive very slowly down our lane. The maintenance is all ours. Thanks.”

NOTES AND REMINDERS

Check out the “Classes for Knifemaking, etc.” section at the end of the newsletter for offerings around the region. Let me know if there's more that I should add to this list.

David Thompson – has coke and coal for sale (near Jerry's in Eugene, OR) – Talk to him at one of our meetings or call 541 688-2348.

AUGUST MEETING

TRYSTAN was first up (check out the chain mail shirt he made).

“I've always wanted to make my own sword... I've made a couple but something usually happens half way through the process... this one turned out pretty well...”

Frank Bobbio helped him with getting the guard soldered on. At the hammer-in Trystan got some mentoring on engraving and inlay – and used that knowledge to inlay copper in the guard and handle.

The blade is 5160 that he ground on a 2”x72” grinder he built from a treadmill. Trystan noted that the 3hp motor on the treadmill is not sealed, and you need to blow the dust out occasionally to keep it going.
He uses skateboard wheels on his grinder – which wear out after a while. He has found that using 500°F silicone lubricant keeps them going longer. Folks suggested getting bearings from McGuire Bearing Company in west Eugene – or from a water pump.

A couple of folks recommended 2”x72” grinders from Origin Blade Maker aka Oregon Blade Maker if you can pony up for it.

In response to a question Trystan said he took the blade up to 600 grit Trizact belt on the grinder, then back to 400 grit sandpaper.

The pommel-piece is a sphere of rainbow obsidian Trystan saw at a rock shop in Salem – which inspired him for this sword design.

“How did you heat treat the blade?” someone asked. Trystan took the ammo-can-forg that he started out with – put it end-to-end with his new ribbon burner forge and that gave him a long enough chamber to heat the blade to critical and quench in oil.

Martin Brandt came forward next – with a work-in-process blade. “This one's been here before... it's a san mai blade with chainsaw Damascus on the outside and a piece of Wayne's Black Diamond file scraps in the middle…” He's re-ground it to eliminate a flaw.

Frank then brought out a couple of venturi burners (no fan involved). One is a T-Rex that Frank bought from me years ago – the other is his copy of it.

Martin noted that the rhombic grind on this puukko is common in some areas of Scandinavia.

Frank Bobbio was up next, and started out with a handsome hunter: ATS-34 with Paul Bos heat treating. Silver guard and pommel, turquoise and stag handle.

This is one of Frank's early knives – from 1991 or 1992.

Martin tried out Frank's process for setting a ferric chloride etch by boiling – seemed to work well, though since all of the steels are high carbon it produced a low contrast etch.

It was noted that boiling water (212°F) would not be hot enough to change the tempering of the steel.

Martin remembers that Wayne would torch the tip of his blades to peacock blue – so that they would pass his “concrete drop test”... if you drop the knife tip first onto concrete from about 4' will the tip break or chip – or be just fine?

Frank then brought out a couple of venturi burners like this – with and without tapers.
Frank went into details on the construction of this burner. And there was quite a discussion on burner design pros and cons.

Lynn Moore had a couple of things for us: first was a new work knife that he forged at last year's hammer-in. The steel is the bearing race from the rear end of his pickup that needed new bearings. The handle is walnut burl and ebony joined in a V with a stainless spacer. The stainless does not touch the steel of the blade, and there are no pins in the handle because Lynn (being an electrician) wanted the handle to be insulated from the blade.

In response to a question about doing the V layup Lynn explained that he rough cut the blocks with a bandsaw, then used a speed square (45° angle) on his grinder to clean up the cuts. “It came out just perfect” and he did not need to do any further tweaking for a snug fit - “I was surprised!”

The next pass-around was a work-in-process. The blade is from the circular saw blade that Dennis Ellingsen supplied the group with. Stock removal for distal taper and profiling. The handle wood was a bit of a mystery – probably from Wayne Goddard.

“One of the things when you make a knife like this – you want to get the front of the handle finished first – and you want to get the blade [where it meets the handle] finished – before you glue it – so you're not trying to [do finish] work on that area once you've got it glued together because if you work on one you're going to mess up the other! So you want to get as close to 100% there as you can [before gluing up].” Lynn noted that he cleans up any excess glue in the bolster area with acetone and Q-tips.

There was discussion about etching a full tang knife after assembly. If you were to etch before assembly any etching on the tang of a full tang knife would be sanded off in the final shaping of the handle after glue-up. One person noted that it can be done by careful masking of the wood with fingernail polish. I'd assume you'd want to use clear polish in case some got into pores in the wood. Finishing wax might work also. Also some synthetic handle materials can be immersed in etchant without damaging them.

Lynn's third pass-around was another work-in-process from saw blade. It's been profiled, tapered, beveled, and heat treated.

Lynn's next sharing was one of six or seven of his early knives from 2002 with blades out of ATS-34 stainless. He made this one for his dad and got it back from them when visiting recently.

He also got back a railroad spike knife (photo on next page). Lynn noted that he's been playing around with the belt attachment on sheaths so that they rest on the belt at an angle.
Another knife he got back is a trailing tip style that Lynn no longer favors. He made this knife with his dad when they visited him in 2004. Maple handle. Brass pins.

His last pass-around was one of Wayne's knives that Lynn purchased. “They called it an ulu” but possibly it was inspired by a leatherwork head knife or skiving knife – or a lead knife used for cutting leading in stained glass.

Paul Haines was up next with a couple of new knives. Both in cable Damascus. The first one was his first time using elk antler.

The other one is a neck knife – Paul's version of a D.H. Russell bird & trout pattern:

Next up, Lynn helped this fellow at the hammer-in forge a blade from a tine off something like a spring-tooth harrow. This is his third knife – destined to be a camp knife.

The hidden tang on this respectable sized knife started a spirited discussion about the durability of a glued hidden tang versus through-tang construction. Martin Brandt talked about historical saexes almost exclusively having hidden tangs – and a lot of the parangs of Indonesia are hidden tang, out in the jungle where you don't want your blade flying off the handle.

Steve Goddard came to the front and presented me with a couple of bars of 5160 in thanks for the work I do for the club – Thanks Steve!

His first pass-around was a
camp knife in 5160 with sambar stag handle and mosaic pins. The butt cap is a piece of mokume gane that Wayne made at Gene Martin's place on a 5160 Club trip some years ago. Steve doesn't usually work with antler, and he noted that with antler scales you want to sand the inside down to the desired handle thickness before you glue it up so that you don't have to sand into the bark when shaping the handle. On the other hand, if you have to grind off some of the bark for whatever reason, you can jig the surface and dab it with potassium permanganate “and you'll never even know... it goes on purple and then dries brown.”

Next Steve passed around another good sized blade with multi-wood handle, fitted with 45° chevrons. Copper guard.

There followed a lively discussion of soldering techniques for guards and bolsters and the importance of (1) using a good flux and (2) neutralizing the flux afterward. Boiling in water and baking soda or spraying/wiping with a 1:3 solution of ammonia and water. Some folks use a trisodium phosphate (TSP) solution.

Our next presenter, **Adam** shared his first knife – which he completed shortly before our hammer-in. “This was a heck of a battle... I love it, I don't want to sell it, but it's already spoken for.” He started with O-1 steel but had some failures with that – this blade is 5160 type steel – from a '90s Jeep leaf spring.

Next he passed around knife number 3. A work-in-process Gurkha style knife. He noted that he's tested his heat treat by breaking off a bit to see the grain structure and it looks good!

“This one is my first hidden tang construction, and I'm in love with this one... this was a huge challenge too.” Not quite finished on sanding and handle finish. 5160 blade, lacquered stabilized redwood burl. There was some discussion about various finishes, about home stabilizing, and about extending a handle with casting resin. Erik Land – a cabinet maker – cautioned that lacquer has some long term issues with being in contact with skin oils. Extra thin superglue was suggested for a top coat.

The next one to the front stated “I have a one brick forge in my shop – to make hooks and such... but I do make knives – I use a sander!” And proceeded to pull out a wooden knife and spoon. “I make these for the grandkids and the great-grandkids...”

He makes wooden forks as well as the knife and fork – and bowls etc. He shared some photos of a
granddaughter reacting to getting her wooden set:

He went on to say that he had attended the hammer-in “and watching Marty teaching and Lynn teaching! Do more of it! Teach these young fellows!”

And lastly, **Erik Land** plopped down a small box of giveaways: some buffing wheels, a chunk of sheer blade and a chunk of mystery material that nobody could really figure out what it was.

… and we broke up into informal conversations and wandered into the night...

Have fun and work safe -

Your Scribe ~ Michael Kemp

A couple of notes from Mike Johnston – first,

How to fit up a stacked handle without damaging the heat blued finish on the steel guard? Make a sacrificial guard with the same dimensions as the steel guard! Micarta in this case. It fits tight to the tang but only took about 30 minutes to make. That’s a lot easier than refinishing the heat blued steel guard and I can take the stacked handle pieces apart as needed to fit them.

And second, anybody want big chunks of steel or railroad spikes? There’s piles available at:

Swift & McCormick metal processors inc
3192 NE Sedgwick
Terrebonne, Oregon
541 548 4448
Everything is $.30 per pound. Large structural square tube, heavy plate, round stock and some smaller pieces of interstate railroad track (biggest stuff). You can walk around in the yard and pick out what you want (can't do that most places) if it's too big they can torch cut it for you (might charge a little extra).

**OR**

**OREGON KNIFE COLLECTORS ASSOCIATION (OKCA)**

The OKCA hosts monthly dinner meetings where you are guaranteed to see treasures from the wide world of “things that go cut!” OKCA also puts on a small show in December and the big knife show in April – if you haven't seen it you've been missing something special!

http://www.oregonknifeclub.org/index.html

Go to the “Knewslleter” link and scan a recent newsletter for a membership form and contact info.

**FORUMS**

Bladesmith's Forum aka Don Fogg Forum
http://www.bladesmithsforum.com/

Knifedogs Forum (USA Knifemaker)
https://knifedogs.com/

American Bladesmith Society
http://www.americanbladesmith.com/ipboard/

Usual Suspects Network
http://www.usualsuspect.net/forums/forum.php

Blade Forums
http://www.bladeforums.com/

Hype-Free Blades
http://www.hypefreeblades.com/forum

Peter Newman of Bent River Forge/Farrier Supplies has a closed Facebook group: Blacksmiths of Oregon
https://www.facebook.com/groups/blacksmithsoforegon

**REFERENCES**

Wayne Goddard's books are available at Amazon:
http://www.amazon.com/Wayne-Goddard/e/B001JS9M10
And you can email the Goddards directly for his DVD at Sg2goddard@comcast.net

**WEBSITE LINKS**

**5160 Club**

5160 Club Newsletters are archived at:
http://www.elementalforge.com/5160Club/

Hint: to Google the archive for a specific knife style or presenter name, use a search like this:
sami site:http://www.elementalforge.com/5160Club
or this:
ron lake site:http://www.elementalforge.com/5160Club
Most of the companies in the “Knife Maker General” links (below) have a section for how-to books and DVDs.

Verhoeven's Metallurgy For Bladesmiths PDF – this is a very deep dive, not an introduction. I no longer see the original free PDF – but here's the updated book on Amazon:

ZKnives – Knife steel composition/comparison/etc.
http://zknives.com/knives/steels

Kevin Cashen's Bladesmithing Info
http://www.cashenblades.com/info.html

Knife Steel Nerds – a metallurgist's blog on the technical details of steel
https://knifesteelnerds.com

Tempil Basic Guide to Ferrous Metallurgy
http://es.tempil.com/assets/5/31/Basic_guide_to_ferrous_metallurgy_(2).pdf


My own “Knife Info” has musings and cheat sheet charts – plus Oregon and Eugene knife laws:
http://elementalforge.com/tips_notes/

**Classes for Knife Making, Etc.**

Erik Olson is teaching intro to forged knives in Eugene. I don't have a business contact but his personal Facebook page is:
https://www.facebook.com/erik.olson.77715

Farrier Supplies aka Bent River Forge offers intro and advanced blacksmithing classes – and supplies.
26729 99W, Monroe, Oregon
Coal, coke, forges, parts, tools, classes...
https://www.facebook.com/FarrierSuppliesOR
(541) 847-5854

Gene Martin offers personal instruction at his shop south of Grants Pass for a daily rate.
http://www.customknife.com/

Bear Iron in Cottage Grove offers blacksmith classes through Lane Community College.
https://www.beablacksmith.com/sign-up

Michael and Gabriel Bell of Dragonfly Forge offer an ongoing series of small group classes in Japanese style sword forging and fittings. Located on the southern Oregon Coast.
http://dragonflyforge.com/

Murray Carter offers small group classes in a variety of subjects, primarily focused on traditional Japanese cutlery. Located in Hillsboro, Oregon.
http://www.cartercutlery.com/bladesmithing-courses/

White Hart Forge offers intro to blacksmithing classes plus some advanced classes and some intro to knife making classes. Oak Grove, Oregon (just south of Portland). https://whitehartforge.com/classes/

Blacksmithing and some bladesmithing workshops are hosted regularly by the Northwest Blacksmith Association: http://blacksmith.org/

David Lisch is an ABS Master Smith who teaches classes in Washington.
http://www.davidlish.com/

The ABS (American Bladesmith Society) offers classes in Washington, Arkansas and elsewhere – if you are up for traveling across the country to take classes, check out their “Schools” link:
http://www.americanbladesmith.com/

James Austin offers forging classes in Oakland, CA – axes, tongs, viking anvil, etc.:
http://forgedaxes.com/?page_id=148

Keep an eye out on California Blacksmith Association for workshops and events:
http://calsmith.org/CBA-Events

USA Knifemaker has a lot of fun & informative videos on their YouTube channel:
https://www.youtube.com/user/USAKnifemaker/videos
… and hey - “free” is a hard price to beat!
Nick Wheeler also has a good YouTube channel with a lot of how-to videos:
https://www.youtube.com/user/NickWheeler33/videos

**GENERAL TOOLS & SUPPLIES**

- Zoro
  https://www.zoro.com/
- MSC Direct
  http://www.mscdirect.com/
- McMaster-Carr
  http://www.mcmaster.com
- Grainger
  http://www.grainger.com
- Surplus Center
  http://www.surpluscenter.com/
- Victor Machinery Exchange
  http://www.victornet.com/
- Widget Supply - Dremel tools, needle files, craft knives, drill bits, etc – Albany, Oregon.
  https://widgetsupply.com

And of course there are the local hardware stores like Jerry's, and chains like Harbor Freight and Woodcraft.

**KNIFE MAKER GENERAL**

Knife kits, steel, tools, machines, supplies such as handle material, fasteners, belts, glues, finishes, etc.

- Jantz Supply – Davis, OK
  http://www.knifemaking.com
- Texas Knifemakers Supply – Houston, TX
  http://www.texasknife.com
- USA Knife Maker's Supply – Mankato, MN
  http://www.usaknifemakers.com/

**KNIFE STEEL SOURCES**

- New Jersey Steel Baron
  http://newjerseysteelbaron.com/
- Kelly Cupples (High Temp Tools) – Alabama
  http://www.highemptools.com/steel.html
- Niagara Specialty Metals – New York
  http://www.nsm-ny.com (click Products/Knife Steels)
- SB Specialty Metals – New York & Texas
  http://shop.sbsm.com/
- Sandvic – stainless steels – Texas & Pennsylvania
- Pacific Machinery & Tool Steel – Portland, Oregon
  http://www.pmtsco.com/tool-die-steel.php
- Alpha Knife Supply – Cedar City, UT
  http://www.alphaknifesupply.com/

**KNIFEMAKER EQUIPMENT**

Beaumont (KMG) [Ohio] – the industry-benchmark
2x72 belt grinder
http://www.beaumontmetalworks.com/shop/

Travis Wuertz [Arizona] – premium versatile grinder
Pheer [Gresham, Oregon] – affordable grinder made in Oregon  
http://www.2x72beltgrinder.com

https://originblademaker.com

AMK [Ohio] – affordable grinder, quick-change between platen & contact wheel  
http://amktactical.com/

Northridge Tool [Ohio] – precision manufactured belt grinders  
http://www.northridgetool.com/

Coote [Port Ludlow, Washington] – affordable, simple grinder – you supply the motor  
http://www.cootebeltgrinder.com

Marinus Kuyl [Hillsboro, Oregon] – another affordable grinder made in Oregon – and parts – you provide the motor.  
https://originblademaker.com/

Grinder-In-A-Box – grinder kit, assembly required  
http://www.polarbearforge.com/grinder_kit_order.html

The “No Weld Grinder” plans can be purchased from  
http://usaknifemaker.com
either as a booklet or as a download – just use the search box to enter “no weld grinder”

Wayne Coe [Tennessee] – grinders, motors, VFDs…  
http://www.waynecoeartistblacksmith.com

Contact Rubber Corp – wheels etc.  
http://contactrubber.com/contact-wheels.asp

Sunray – drive wheels  
https://www.sunray-inc.com/products/wheels/

Anyang [Texas] – air hammers from 20# to 165#  
http://www.anyangusa.net/

Meyer Machine Tool [Ohio] – treadle hammer  
http://www.meyermachinetool.com/Blacksmith-div-.html

Spencer/Clontz tire hammer plans/workshops  
http://www.alaforge.org/Trading_Post.html

https://www.youtube.com/watch?v=uzruqYkKGNM

True Grit – under “All Products”/“Machines & Accessories”  
http://www.trugrit.com

**FORGE & REFRUCTORY**

Chile Forge  
San Marcos, Texas  
http://www.chileforge.com/

Mankel Forge – Muskegon, Michigan  
http://mankelforge.com/forges.html

Mathewson Metals – forges, burners, anvils…  
Tacoma Washington  
http://mathewsonmetals.com

Western Industrial Ceramics Inc.  
All things refractory – Tualatin, Oregon  
http://www.wicinc.com/

High Temp Tools (scroll down the page for the category buttons) Tuscaloosa, Alabama  
http://www.hightemptools.com/supplies-mainpage.html

High Temp Inc. for Kaowool, castable refractory, fire brick up to 2,600°F, etc. Portland, Oregon  
http://hightempinc.net/

Omega – thermocouples & measuring equipment  
Stamford, Connecticut  

Auber – more thermocouples and controllers, etc.  
Alpharetta, Georgia  
http://www.auberins.com

Hybridburners – home of the venturi T-Rex  
Smithville, Georgia  
http://www.hybridburners.com/
Pine Ridge Burners – for ribbon burners and all associated fittings, blowers, valves, etc.
Conway, Massachusetts
https://www.pineridgeburner.com

Zoeller Forge – low cost venturi & parts: Z Burners
Lanesville, Indiana
http://zoellerforge.com/

Here's the original article on making a ribbon burners that John Emmerling wrote back in 2005 for the NWBA Newsletter:
You can download the PDF from that site. John's article starts on page 11.

**HEAT TREAT SERVICES**

Here are some folks who provide heat treating services for blades. While all of these have been recommended by one reputable person or another I have not had experience with them. If you use one, let us know how it went!

Paul Bos Heat Treating at Buck Knives. Paul Bos has retired and handed the torch to Paul Farner. Highly reputable. Post Falls, Idaho:
http://www.buckknives.com/about-knives/heat-treating/

Peters Heat Treating is another highly reputable operation. Meadville, Pennsylvania:
http://www.petersheatreat.com/?s=cutlery

Texas Knifemaker's Supply offers heat treat services. Houston, Texas:
http://www.texasknife.com/vcom/privacy.php#services

Tru-Grit provides heat treat services. Ontario, California: https://trugrit.com/index.php?main_page=index&cPath=34

K&G also provides heat treat services but I can't find a reference on their web site – you'll have to contact them for details. Lakeside, Arizona:
http://www.knifeandgun.com/default.asp

Byington Blades heat treat service is in Santa Clara, California: http://www.byingtonblades.com/
**WOOD & HANDLE MATERIAL**

Burl Source – handle blocks/scales – So. Oregon
http://www.burlsales.com/

Shelton Pacific – stabilized wood – Shelton, WA
http://stores.sheltonpacific.com/

Gilmer Wood – N.W. Portland
https://www.gilmerwood.com/

Bamboo Oasis – wide variety of bamboo – Beaverton, OR phone 503-703-1345
https://bamboooasis.com/

North Woods Figured Wood – Gaston, OR
http://www.nwfiguredwoods.com/

Atlas Billiard Supplies – Wheeling, IL – cue blanks of Micarta and exotic woods – with some sizes suitable for knife handles.
http://www.cuestik.com/

For Eugene area boards, planks, etc. there's:

Crosscut Hardwoods at 2344 W 7th, Eugene
http://www.crosscuteugene.com/

Tree Products Hardwoods at 150 Seneca, Eugene
http://treeproducshardwood.com/

and it doesn't hurt to check Mike's Bargain Center on Hwy 99 just south of Beltline, Eugene
https://www.facebook.com/MikesBargainCenter/

**WOOD STABILIZING**

K&G (Knife and Gun) – Lakeside, AZ
Good reputation with everybody.
http://www.kandgstabilizing.com

Gallery Hardwoods – Eugene, OR
http://www.galleryhardwoods.com/stabilized.htm

WSSI (Wood Stabilizing Specialists International, Inc.) – Ionia, IA – some folks have had issues with them, some folks are totally happy.
http://www.stabilizedwood.com/

Alpha Knife Supply – Cedar City, UT
http://www.alphaknifesupply.com/

Turn Tex Woodworks – San Marcos, TX
“Cactus Juice” and pressure chambers etc. for the do-it-yourself folks.
https://www.turntex.com

**OTHER GOODIES**

Grey Leather Company – Eugene – Hannah Morgan does custom leatherwork, including sheaths.
https://www.facebook.com/GreyLeatherCo/
https://www.etsy.com/shop/GreyLeatherCo

Sally Martin Mosaic Pins – So. Oregon

Oregon Leather – 810 Conger Eugene and 110 N.W. 2ND Portland
http://www.oregonleatherco.com/

Coyote Steel – wide variety of new steel, scrap, copper, brass, bronze – Garfield & Cross St. Eugene
http://www.coyotesteel.com

http://www.burchamsmetals.com

Cherry City Metals – Salem, Oregon – metal recycling and useful objects
http://www.cherrycitymetals.com/

Amtek – tool steel & cutting tools
http://www.amteksteel.com/index.html

Rio Grande – jewelry tools/supplies
http://www.riogrande.com

Otto Frei – jewelry tools/supplies
http://www.ottofrei.com

M3 Composite – space age mokume & other
http://www.m3composite.com/
Voodoo Resins – striking resin handle material
http://www.voodooresins.com/

The Engineering Toolbox (formula & info reference)
http://www.engineeringtoolbox.com

Valley Stainless (that does water-jet cutting) is one of Craig Morgan's customers. They told Craig “bring in a pattern” and they'd work with you on small batch cutting. They don't have a website yet. 29884 E Enid Rd, Eugene, Oregon 97402 (541) 686-4600.