# Woodworkers Guild

of

**Southwestern Michigan** – http://www.woodguild.org **March 2015**

**Next Meeting**

**Location**

**March 10th, 2015 7:00pm**

**Al Collison's Shop at**
**10292 Douglas Ave.**

Take Douglas North to Cooper, it is 2 ½ miles North of Cooper, on the right (East) side. Or you can take 131 to D ave East to Douglas and turn left, (North). Al will have an orange cone and flashing light out to get your attention.

Agenda: How to build a log cabin.
Presented by Peter Carroll

The February meeting was held at Al Collison's shop in Cooper. President Bill Crown opened the meeting with a welcome to our guests and members. About 40 people were in attendance. There were several items for show and tell along with typical guild banter. One of our guests volunteers at the Airzoo wood shop and mentioned a "Makers Guild" in Kalamazoo. The Makers Guild is open to people of several talents and skills at a cost of $50/month. Membership would provide access to a host of wood, metal, and electronic machinery.

Ralph Babcock presented his $8 cross-cut sled for a table saw. This lead to a discussion on appropriate sled runner material, quarter sawn runners being preferred because of its dimensional stability.

Ron Princing successfully unloaded old woodworking magazines freely to any and all takers.

Mike Cline was soliciting information from anyone that has experience building wood geared pendulum clocks.

George Armstrong received a small cut to his thumb from a hungry table saw blade. A reflex action to grab for a falling piece of wood triggered the incident. Fortunately the cut was small with minimal damage, considering other possible outcomes.

Don Smith had samples of acrylic pens he has been tuning. These particular pens were part of a "Funline" purchase from Penn State Industries that included 30 pen kits and acrylic blanks. Don is working with his 13 year-old home schooled grandson on an educational and money making venture. Don has turned 20 of the pens for this endeavor. His grandson is responsible for setting up marketing, sales and distribution of the pens via an ETSY web page.

Wolf Lugauer brought in samples of various tops turned on a lathe. One with U of M and Western insignia carved on the opposing sides.

Dennis Regan presented pictures of tables and a buffet he built for his living room. The project started off as a beautiful natural edge table that turned out to be too big for the area. So that table was relocated to a different room and Dennis set out to build tables that fit better within the space. The results speak for themselves. To allow for wood movement, Dennis used figure eight fasteners to secure the table tops to their bases.

It was mentioned that a new source for lumber can be found near the Rod and Gun club. The mill is operated by David Lewis and he can be reached at 217-9386.

The evening was turned over to the featured presenter; the guilds very own Neal Ferguson. Neal attended a week long finishing class at Marc Adam's School of Woodworking in Indiana. The class was taught by Mitch Kohanek. Neal started with a discussion on the differences between dyes and stains. Stains are made up of three components: the pigment, a binder to adhere the pigment to the wood and a solvent or carrier. The pigment is the solid material that settles to the bottom of the can, thus the need to stir stains. The binder material can be an oil, varnish, lacquer or synthetic resin. The solvent or carrier can be xylene or toluene. The pigments will set on top of the wood and settle or lodge into the pores of the wood. Dyes are molecules that dissolve in the solvent and never settle to the bottom of the container. Dyes penetrate the wood and equally color large and small pores, unlike the contrast from a stain. Dyes can be made from water – most light fast, easy to use and environmentally friendly. Oil dyes – mixed with mineral spirts or lacquer, not as color fast, may bleed through lacquer coats. Alcohol dyes – made for spraying, uses denatured alcohol, poisonous

or methanol, very toxic. Metalized dyes (Trans Tints) - made from metal, solvents are water to alcohol. NGR (Non Grain Raising) – stain classified as a dye according to Mitch.

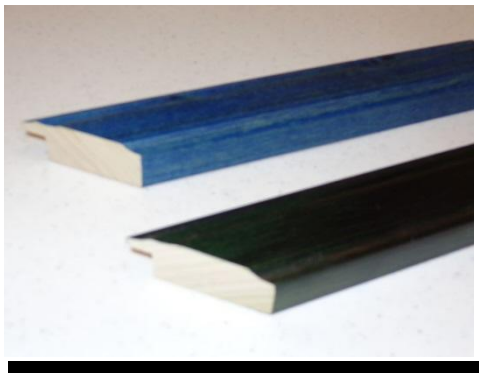
Neal went on to explain how a color wheel uses the three rings of tint, shade and tone to steer one to a desired color or shade. From there a recipe is developed and tested. One would keep track of the recipe formula and try on test pieces. A single board can have several recipes applied in small sections. With finish applied it is possible to reach a desired color or match to an existing shade. He provided a handout of recipes comprised of yellow, black and red tin in various batches.

Neal and a team of volunteers, Al Collison (especially), Ralph Babcock, Ron Princing, and Eric Hansen had devised a plan earlier in the week so each member could test the red, black and yellow dye recipes on veneer strips. Members were issued a disposable apron, gloves and at least three veneer samples to work with. Al's work benches had trays of the numbered dye recipes. Members could apply dye to the strips in numerical order to see how slight recipe changes can impact the color. A little bit of dye goes a long way, so at each station the first applicator was used to apply the dye, while the second was to soak up the excess. Paper towels were used to help dry out the second applicator. Members were encouraged to take their dyed samples home and apply a top coat of choice to view the final color. Yellow, black, red and blue dyes from Trans Tint were donated to the guild from Trans Tint via Gary Foote at Woodcraft. Gary Foote also donated the veneer. The blue stain was never opened. It was noted that the left over stain is available for guild members to experiment with.










Thanks to Neal and the volunteers (Al, Ron, Ralph and Eric) for setting up the hands on experience.

## Guild Officers

| | |
|---|---|
| President - Bill Crown | 375-1594 |
| Vice President - Al Collison | 685-8428 |
| Treasurer - Mike Cline | 685-0535 |
| Newsletter Ed. - Scott McDavid | 544-2177 |
| Secretary - Douglas Lynes | 324-1449 |
| Photographer – Gary Doyle | 273-8035 |

**Woodworkers Guild of S.W. Michigan**

**7572 S. 10th St**

**Kalamazoo MI 49009**

## COLORING WOOD

*Stain vs. dye*

A) Stain
   1. If you use the word "stain" as a noun, stains have pigment[1] and dyes do not.
   2. Three components of stain:
      a) Pigment
         1) Solid materials that you can identify because they settle to the bottom of the can.
      b) Binder
         1) The material that adheres the pigment to the wood.
         2) Oil, Varnish, lacquer and synthetic resins are the basic binders used.
      c) Solvent or Carrier
         1) Xylene, toluene are used in lacquer stains.
   3. The more pigment in the stain the more contrast there will be in an uneven grained wood. Pigment is a solid material and more of it lodges in the large pores of the wood.
   4. Stains sit on the wood and do not penetrate into the wood very far.

B) Dyes
   1. Dyes are molecules and will dissolve in the proper solvent and never settle to the bottom of the container.
   2. Dyes penetrate into the wood and change the entire cell wall.
   3. Large and small pores will be nearly the same color when dyed, much different than the color contrast that stains do to wood.
   4. Dying the wood and then staining the wood is a very common practice.
   5. Types of dyes:
      a. Water base dyes
         1) Most lightfast
         2) Easiest to use
         3) Environmentally friendly – not-toxic
      b. Oil dyes
         1) Mixed with mineral spirits or lacquer thinner
         2) Not as lightfast as water base
         3) May bleed through lacquer coatings
      c. Alcohol dyes
         1) Made for spraying, can modified with a retarder for hand application.
         2) De-natured alcohol (ethanol that has been poisoned) or methanol (very toxic)
         3) Lightfast properties vary
      d. Metalized dyes (Transtints)
         1) Made from metal
         2) Solvents will vary from water to alcohol
      e. NGR (Non Grain Raising) Stains (Mitch classifies as a dye), many times they are metalized dyes.

---

[1] Pigment: a dry insoluble substance, usually pulverized, that when suspended in a liquid vehicle becomes a paint, ink, etc.-The Random House College Dictionary.

Taken from "Hands on Finishing With Mitch Kohanek" presented at Marc Adams School of Wood Working

# FORMULAS

| BATCH 1 | | | |
|---|---|---|---|
| 20cc WATER | | | |
| YELLOW | BLACK | RED | BLUE |
| 12 | | | |
| 12 | | 4 | |
| 12 | 4 | 4 | |
| 12 | 4 | 4 | 8 |
| 12 | 4 | 8 | 8 |
| 12 | 8 | 8 | 8 |

| BATCH 2 | | |
|---|---|---|
| 20cc ALCOHOL | | |
| YELLOW | BLACK | RED |
| 12 | 4 | 4 |
| 12 | 6 | 4 |
| 12 | 6 | 6 |
| 12 | 8 | 6 |
| 12 | 8 | 8 |

| BATCH 3 | | | |
|---|---|---|---|
| 20cc ALCOHOL | | | |
| FORMUL | YELLOW | BLACK | RED |
| 1 | 12 | 4 | 4 |
| 2 | 12 | 5 | 4 |
| 3 | 12 | 6 | 4 |
| 4 | 12 | 6 | 5 |
| 5 | 12 | 7 | 5 |
| 6 | 12 | 8 | 6 |

| BATCH 4 | | | |
|---|---|---|---|
| 20cc ALCOHOL | | | |
| FORMULA | YELLOW | BLACK | RED |
| 7 | 12 | 8 | 4 |
| 8 | 12 | 8 | 6 |
| 9 | 12 | 8 | 8 |
| 10 | 12 | 8 | 10 |
| 11 | 12 | 8 | 12 |
| 12 | 12 | 8 | 14 |

| BATCH 5 | | | |
|---|---|---|---|
| 20cc ALCOHOL | | | |
| FORMUL | YELLOW | BLACK | RED |
| 13 | 12 | 4 | 8 |
| 14 | 12 | 6 | 8 |
| 15 | 12 | 8 | 8 |
| 16 | 12 | 10 | 8 |
| 17 | 12 | 12 | 8 |
| 18 | 12 | 14 | 8 |

20 cc alcohol

| | Batch 3 | | |
|---|---|---|---|
| | Yellow | Black | Red |
| 1 | 12 | 4 | 4 |
| 2 | 12 | 5 | 4 |
| 3 | 12 | 6 | 4 |
| 4 | 12 | 6 | 5 |
| 5 | 12 | 7 | 5 |
| 6 | 12 | 8 | 6 |

| | Batch 4 | | |
|---|---|---|---|
| | Yellow | Black | Red |
| 7 | 12 | 8 | 4 |
| 8 | 12 | 8 | 6 |
| 9 | 12 | 8 | 8 |
| 10 | 12 | 8 | 10 |
| 11 | 12 | 8 | 12 |
| 12 | 12 | 8 | 14 |

| | Batch 5 | | |
|---|---|---|---|
| | Yellow | Black | Red |
| 13 | 12 | 4 | 8 |
| 14 | 12 | 6 | 8 |
| 15 | 12 | 8 | 8 |
| 16 | 12 | 10 | 8 |
| 17 | 12 | 12 | 8 |
| 18 | 12 | 14 | 8 |

90 cc alcohol

| | Batch 3 | | |
|---|---|---|---|
| | Yellow | Black | Red |
| 1 | 3 | 1 | 1 |
| 2 | 3 | 1.25 | 1 |
| 3 | 3 | 1.5 | 1 |
| 4 | 3 | 1.5 | 1.25 |
| 5 | 3 | 1.75 | 1.25 |
| 6 | 3 | 2 | 1.5 |

| | Batch 4 | | |
|---|---|---|---|
| | Yellow | Black | Red |
| 7 | 3 | 2 | 1 |
| 8 | 3 | 2 | 1.5 |
| 9 | 3 | 2 | 2 |
| 10 | 3 | 2 | 2.5 |
| 11 | 3 | 2 | 3 |
| 12 | 3 | 2 | 3.5 |

| | Batch 5 | | |
|---|---|---|---|
| | Yellow | Black | Red |
| 13 | 3 | 1 | 2 |
| 14 | 3 | 1.5 | 2 |
| 15 | 3 | 2 | 2 |
| 16 | 3 | 2.5 | 2 |
| 17 | 3 | 3 | 2 |
| 18 | 3 | 3.5 | 2 |