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Barry Humphus, Editor, Bubba Ceramic
George Kuffel, John Marcon, Chuck Middleton

Mentoring Program - If you have a project, a problem in any woodworking area, these members have volunteered to help. Give them a call. Jeff Cormier: 582-3278; George Kuffel: 478-2707; John Marcon: 478-0646; Chuck Middleton: 625-3134; Gary Rock: 433-1679; Eltee Thibodeaux: 436-1997; Dick Trouth: 583-2683. Each has years of experience and knowledge.

January Meeting Highlights

George Kuffel was our host this month at the last minute and we thank him for the use of his shop on such short notice. We were to have our meeting at Mr. Thibodeaux's shop, but as it is unheated and the temp was going to be in the twenties, it was best to meet in a heated place.

The other sub this month was for newly elected President Dick Trouth, who was under the weather, so former President Gary Rock graciously stepped up to run the meeting.

Gary started us off with a discussion on drill press safety. You sometimes think of a drill press being rather benign, but they are powerful tools that can throw a heavy object across your shop and at you, if used improperly.

First of all, you should do a risk assessment before using any power tool. A two foot perimeter around the drill press should be kept clear of people, debris and sawdust that impair traction or footing to avoid slips and falls. Safety glasses with side shields or a face shield should be worn and you should remove loose fitting clothing and jewelry. Do not wear gloves or anything that would allow a hand, fingers or clothing to be wrapped around the revolving bit. Most importantly, give the work your undivided attention.

Some operating rules to follow include making adjustments with the power off, not exceeding the recommended speeds for the type and size of drill bit being used or composition of the stock being drilled, use a clamp or vise to securely fasten the stock to the drill press table and never attempt to handhold stock while drilling. Long stock should be drilled with the excess to the left of the drill press. If the stock rotates it will hit the post, not your ribs.

At www.kcwoodworkersguild.org, under the safety section, you'll find lots of other good advice on tool safety. A couple of members also suggested good solutions to keep track of your chuck key (now where did I put mine last time?).

We had three guests this month: Rudy Saucier, Rocky Schexneider and Frank McDonald. Rocy & Frank joined.

Jim Couvillion brought his 378th rocking horse to Show and Tell. This one was not quite complete as his wife had not painted the eyes as yet. Mr. Thibodeaux brought a neat little folding stool and Pie Sonnier did not bring a car.

We were all shocked of course. What he did bring though, was a neat little doll bed that will go to a grandchild.

J. W. Anderson loves making interesting furniture, especially for outdoors.

This great looking table had a twist, was made of cypress and he even used square cut nails to make it resemble the original he saw. Gary Rock brought a lovely little bowl of spalted cotten wood, finished with the Beal buffing technique.

Chris Smith showed us some photos of a dresser, vanity and casework that he recently completed for a home owner. It was made of beach and chestnut. He also had other images of some of the custom moldings and frames he made for the same client. Chris also discussed the use of woodworking tools he used to do the granite counter top for the vanity. Nancy Kuffel was the beneficiary of some of Chris' work. He made a 4-H sign for the Blue Bird Trail with his CNC router system. I think we all need one of those!

Coming Up . . . Saturday, February 13, 9:00 a.m. at the shop of one of our founding members, Jim Couvillion. We've not met there before, but it's big and has lots of stuff.



Wet and Wild Wood

Wood remains dimensionally stable if its moisture content is above the fiber saturation point (FSP). The FSP is the condition where the wood's cell walls are completely wet, but the cavities within the cell walls are dry. If the wood loses moisture from the cell walls, it shrinks. If the cell walls gain moisture, the wood swells.

What shrinkage does to wood is what woodworkers call the change in shape of a piece of wood: warp. And it takes several common forms, all of which distort the wood. A board has cup when it is no longer flat from edge to edge. Cup always occurs in the opposite direction of a flatsawn board's annual growth rings. Something to remember.

Bow, as its name implies, describes the lengthwise curvature of a board -- end to end along its face.

When a board has crook, all the curvature runs from end to end along its edge.

Twist means that all of a board's corners won't lie equally flat.

Although not a distortion like any form of warp, checking refers to small splits along the grain. You'll most often see checks in the ends of boards, but they can occur on surfaces, too. That's because as wood dries, it loses moisture along its length about 10 times faster than across its width. So end grain dries more rapidly and shrinks faster, causing these small ruptures.

Unlike a dissolving sugar cube, a block of wood doesn't behave the same in all directions as it shrinks. As shown in the illustration, wood shrinks most in the direction of the annual growth rings (tangentially). It shrinks about half that much across the growth rings (radially). And shrinkage with the grain (longitudinal) is minimal. The result: Combined radial and tangential shrinkage distorts the shape of any piece of wood because of the difference in the two shrinkage rates and the way the annual rings curve. A number of variables affect how and to what degree wood shrinks, but in general, the denser the wood, the more it shrinks.

To limit the defects caused by natural shrinkage of green wood, lumber producers preshrink it by carefully supervised seasoning and kiln-drying. They, and you, would rather have the wood shrink before it is made into a piece of furniture.

Woodworkers apply finishes to wood because -- despite the drying -- wood will both take on and lose moisture. There isn't a finish, though, that completely blocks moisture from re-entering things made of wood. As you can see in the chart, above, finishes only slow the process.

You can't change wood's tendency to shrink and swell; only plan for it. Design with dimensional change in

mind. Use wood dried to the average moisture content it will see in use -- 8 percent indoors and 12-15 percent outdoors. Finally, apply the most moisture-resistant finish you can that's consistent with the piece's intended use, and coat all surfaces.

Laboratory tests show finish effectiveness in keeping moisture out *

FINISH TYPE	NO. OF COATS	% MOISTURE EFFECTIVENESS		
		1 day	7 days	14 days
Tung Oil	2	46	2	0
Lacquer	2	70	22	8
Shellac	2	84	43	20
Spar Varnish	2	80	36	15
Urethan Varnish	2	83	43	23
Gloss Enamel Paint	2	91	64	43
Polyurethane Varnish	2	90	66	46
Two-Part Epoxy	2	98	93	88

* Testing by the U.S. Forest Products Laboratory in Madison, Wisconsin, compared the moisture-excluding effectiveness of different types of finishes. Tests were conducted on dry Ponderosa pine boards that were coated, then exposed to the moisture vapor of 90 percent humidity at 80° F for from 1-14 days. The results listed here show how only the most common woodworking finishes of the many tested performed.

Take wood movement into account Experience taught woodworkers of old how to deal with wood's dimensional changes due to moisture. The answer was joinery that allowed for seasonal wood movement. And despite today's super-strong glues and moisture-fighting finishes, that's still the answer.

Frame-and-panel construction for cabinet and doors, wall panels, and sections of furniture, for instance, didn't come about by accident. Joiners, as woodworkers were called centuries ago, figured out that a rectangular panel could be maintained in position with a solidly secured frame of wood. However, the panel must not be glued or nailed in place in the frame. Instead, it has to "float" in grooves, free to shrink and swell with changes in atmospheric moisture.

Today, some professional woodworkers talk about "nickel and dime reveals" on flush-fitting cabinet doors and drawers. These refer to the space you should leave between the wood that you expect will shrink or swell -- the doors or drawers -- and the carcass or frame of the piece. "If you build in winter, make the reveal the thickness of a nickel," they say. That leaves room for the wood to swell when the humidity goes up. On the other hand, "Build in summer, use a dime," means that you're allowing for the shrinkage that will come in winter. *Wood Magazine, edited by Barry Humphus*

Keep This Newsletter Coming

To keep this newsletter coming to you, pay your dues this month. Send your \$20 check to Joe Comeaux, 1675 Campfire Rd., Lake Charles, LA 70611 - or just catch him at a meeting.

Matching Wood Grain

There are a lot of woodworkers who have a good handle on the mechanical part of their craft. They build projects that are square and sturdy, with parts that fit precisely.

Yet, many woodworkers overlook the more subtle art of matching grain direction and color. As a result, their well-machined and finely fastened projects fall short in the appearance department.

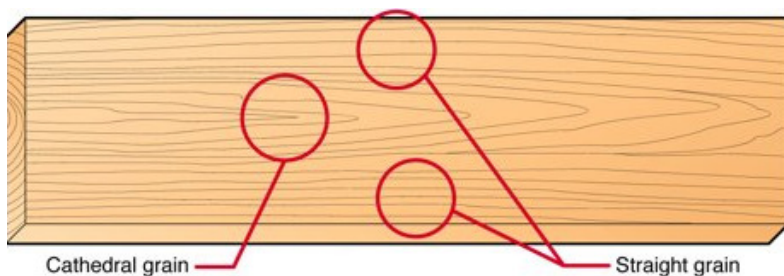
First single out one board for small projects. When selecting stock for a small project, say a keepsake box or picture frame, try to use wood from the same board. Although grain and color can vary even in a single board, with careful selection you should be able to cut parts that match closely.

For large work, choose compatible stock. For larger projects, try to use boards cut from the same log. And that's possible if you have your own tree custom sawn (talk to Steve McCorquodale for this). Because most of us have to buy wood from a lumberyard or home center, here's how to go about finding matching boards at these outlets. It takes a little time, but pays off in good-looking projects.

Second, cull the boards that are free of warp and have as few defects as possible. Then, stand them up side-by-side, and take a step back. Next, reshuffle their order for best color match.

Finally, select the boards with similar color that have grain that you can envision being matched as you build the project.

Grain refers to the pattern of lines on the surface of a board produced by the orientation of the wood's annual growth rings. ILook for boards with grain lines spaced equally



apart and oriented in the same direction.

Go straight when looking at grain pattern. For most project parts, especially those cut from oak, ash, or hickory, try your best to use straight-grained boards. That's because wavy grain can give a project, particularly a tall one like a CD cabinet, an unbalanced feeling. Wavy grain can create an optical illusion where a perfectly constructed piece of furniture appears out of square or plumb.

To get straight-grained pieces for projects, choose

the widest boards available. Why? Most boards you find at the lumber yard or home center these days are flatsawn at the mill, meaning they typically have cathedral-grain figure toward their center, and straight-grain figure toward their edges as shown in the illustration below left. In general, wide flatsawn boards yield a higher percentage of straight-grained stock than narrow boards.

Save cathedral-grain stock for hidden parts. After reading this, you may be wondering what to do with the left-over cathedral-grained stock. Cathedral-grained stock goes into parts that aren't visible, such as internal components.

Certain woods, such as cherry, walnut, and maple, don't have a lot of straight grain. Much of their beauty comes from wavy-figured grain patterns. Think about 'bird's eye maple.' That's why mills saw these species to yield as many wavy-grained boards as possible.

When working with these woods, use chalk to mark the location of project parts on the boards. Orient the chalk marks for the best grain match. Doing this, the pieces often come out of the stock at an angle to the board edges. Cut out these marked pieces with a handheld circular saw or jigsaw, then joint one edge. The remaining material goes for parts that aren't conspicuous in the finished project.

Cut your drawer fronts from a large glue-up. There are a number of differences between the architectural-grade projects you find in woodworking magazines and the factory-grade furniture you find in stores. (For example, Chris Smith recently sold a large pile of lumber to Rockler that would be considered architectural-grade, that is, matching grain that was cut from single logs. And that may be a good reason to talk to Chris before you make your next purchase of stock for a project or just have your logs milled by someone like Steve McCorquodale). On the same furniture piece made in a factory, the grain of one drawer likely won't match the one adjoining it, and a single drawer may have both cathedral- and straight-grain.

To make a series of matching drawer fronts, glue and clamp matching pieces in an oversized panel. Its length (measured with the grain) should be 1" longer than the length of the drawers to allow for trimming. The width of the panel (across its grain) should equal the combined widths of the drawers, plus 1/8" for each saw kerf, plus 1" for trimming. Then crosscut this large panel into drawer fronts.

This procedure not only makes for great-looking drawer fronts, but you can economize by using narrow pieces (that might otherwise end up as scrap) to make the panel. *From Wood Magazine, edited by Barry Humphus.*