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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 Trough: 583-2683. Each have years of experience and knowledge.

June Meeting Highlights

Ronnie and Sandy Kramer were our hosts this month at their very nice shop. We had a few guests including Dr. Lee Norris from Houston, Mark Unerwood and Russ Connely.

Jeff Cormier started off the discussion on safety with a reminder that this time of year we've got lots of heat. Whether you are in your shop or the yard, you should always be aware of the dangers of dehydration and heat exhaustion. Don't hydrate with so-called energy drinks or even high electrolyte drinks (e.g., Gatoraide) but plain old water. Heat is blamed for more than 90 deaths across the country just since June 1st and sadly, there will be more.

Jeff's jig of the month were a couple of cutoff sleds for table saws. Jeff said it was old and simple and particularly useful for repeated precise cuts. Ronnie Kramer also showed his sled that included a very nice handle that keeps your hands well away from the blade.



Ray Kebodeaux started off Show & Tell with a nice folding stool made of cypress, finished in poly from a plan he watched on Youtube.com. Stephen Thomas brought us some of his wonderful segmented bowls and a tall lidded vessel that was air-brushed to perfection.

Pie Sonnier delivered a 1940 Ford Coup which he said contained an 85 Hp motor that ran well while J.W. Anderson presented one of his great cutting boards of sycamore. J.W. Also had an old Craftsman plane as well as and suggested that for small items, an emory board does very well for small spaces.

Ronnie Kramer has done a nice lidded box from pallet wood and purple heart. Mr. Thibodeaux did a tissue box from Baltic plywood with a sliding top plus a nice image scrolled that is reversible - very clever, Eltee.

Sandy Kramer is some religious figures of sycamore, cedar and oak. Our great member Jack Stegall did some redwood crosses plus one of spatted elm plus a picture of a box done with a scroll saw.

Then we got to Mr. Gary Rock, who's work just

typically gets better every time we get a chance to see this. Gary has clearly gone well beyond the typical amateur woodworker in his designs, thoughts and creativity. He has certainly become a master of his domain in terms of turning in our area. Thank you Gary for what you do. You always make us proud regarding your careful and fine work. Besides a cotton wood vessel, Gary also did a Russian olive piece and couple of wine glass turnings that had acrylic turnings plus aluminum.

Walt Crawford just blew us away with a Windsor chair. This was one that he recently built and Walt has structure about 20 of these chairs. So think this though: Windsor chair is constructed such that if you assemble the bare chair without glueing it up, you can have a chair that you can sit in. In other words, if the construction of it is correct, you may not even have to glue this construction up. We were all most impressed.

Sandy Kramer did some crosses of cypress and cedar plus a wonderful "wormy" oak table with a scroll work insert. Jack Stegall brought some crosses in redwood and



spalted elm plus a photo of a box recently made. John Shipman also brought photos of some window casings he has been working on. And Ted Garner discussed a Willard Baxter Thread Master that is designed for use with a lathe. From looking at the product online, there seems to be several models and accessories and are highly rated.

Comming Up . . . Saturday, July 14 at 9:00 A.M. at the great shop of Tom Bergstedt. Be there!

Classic Design of Windsor Chairs

Walt Crawford's recent Show and Tell at the last meeting was so impressive for several reasons. First, the Windsor is a classic design that has come down to woodworkers over some 400 years. It is a design that dates from at least the 16th century. The first Windsors were of the comb-back variety and by the 18th century steam-bending was being used to produce the characteristic "bow" of the Windsor chair.

American Windsors made in the 18th century generally contain three different species of wood. Pine, bass or tulip poplar are common for the seat. Porous hardwoods such as Maple are stiff and make crisp turnings and were used for the undercarriage. Other species such as oak, ash, and hickory all rive (split) and steam bend nicely. These woods are also straight grained and flexible and thus work well for slender parts such as the spindles.

The seat of a Windsor chair is the essential part as it provides stability to both the upper and lower portions. The thickness of the seat allows the legs to be anchored securely into their respective tapered sockets, providing the undercarriage with strength and stability. This was apparent with Walt's chair.

Walt's was an unfinished and not glued piece, yet he discribed it and then sat in it, not being glued up at all. This says a lot about the basic design of the jointery.

Few pieces of furniture get more abuse than a chair. That's because chairs have to solve two contradictory problems; they must be light enough to be mobile but strong enough to hold the shifting weight of its occupant. Light joints, big loads and constant movement add up to a lot of wear and tear on chair joints. Its no wonder chairs are the most common repair item brought into one's shop. Chances are, if you are a woodworker, you've been asked to fix loose joints on a chair.

I think back about the first few chairs I tried to repair at our beach house in Galveston. I thought loose joints just needed a big dose of woodworkers PVA glue and a little creative clamping. The chair seemed good and strong when I was done but within a few months, the joints had become loose again. Some research and some lessons from an online restorer taught me that this approach, though well intentioned, was completely wrong.

Chairs built before 1950 were put together with hot hide glue. The beauty of hide glue is that it is completely reversible. This allows you to reactivate the glue with a little warm water making repairs very simple. PVA glue just messes things up. This has been pointed out a few times from my

god-daughter, the chief document conservator for the State of Texas. PVA glue is great for assembling cabinets but never chairs nor books, she says and she is the expert.

Both PVA glue and hide glue work by soaking into the wood fiber. The problem with using PVA glue to fix hide glue joints assembled is that the cured hide glue acts as a sealer and keeps the new glue from properly penetrating the wood fibers. Walt mentioned this and he is correct.

The water in PVA glue will help reactivate the hide glue and possibly allow for some wood fiber saturation, but the joint will not have the strong glue bond it needs to withstand your Uncle shifting around in his chair at Thanksgiving. Worst of all, PVA glue is not particularly reversible, making chair repair work much more difficult. So hot hide glue is the best you can do regarding both Windsors or other chairs you build.

The legs of Windsors are splayed at angles fore-and-aft (rake) as well as side-to-side (splay) to provide actual and visual support of the person sitting. Early chairs made in America usually have stretchers connecting the front and back legs and a cross stretcher connecting the two side stretchers, creating what is known as an "H" stretcher assembly.

A common misconception about the Windsor assembly is that the stretchers hold the legs together in order to keep them from pulling apart. In the traditional Windsor design, the wedged tenon joint which joins each leg to the seat is strong enough in itself to prevent the legs from creeping outward. The stretcher system actually pushes the legs apart to retain the necessary tension which reduces slack.

"Through-holed and wedged" is one of the primary means of joining Windsor chair parts are a cylindrical or slightly tapered hole that is bored in the first piece, the matching cylindrical or tapered end of the second piece is inserted in the hole as a round tenon, and a wedge is driven into the end of this tenon, flaring it tight in the hole.

The excess portion of the wedge is then cut flush with the surface. This supplies a mechanical hold that will prevail when the glue fails. In general, early Windsor chair joints are held together mechanically, making glue a redundant detail in their assembly. That is why Walt could sit in his un-glued chair without any problem and why he has built some 20 of them over the years.

So we encourage you to follow Walt's example and make some beautiful Windsor chairs - perhaps a group of six to go around your dining table. Get busy and consult Walt if you may. *Barry Hmphus.*

Top Woods to Turn

In a reader's poll, *Wood Magazine* asked its readership what were the best woods to turn. They came up with some surprising answers.

Figured maple. There are several types of figured maple including curl, fiddleback, spalted, tiger, birds-eye, and more. If you can't find any in locally, try online searches or visit a Rockler store.

Walnut turns best at a lathe speed of 800-1,000 rpm, and requires sharp tools. Bowl turners know that walnut's pronounced end grain in the bottom of a bowl tears easily and produces a surface that can be difficult to sand. The best finish for walnut is a clear one. Several coats of Danish oil provide clarity and will not darken as much as many other finishes do on this wood.

Cherry. Although oil finishes and clear lacquers or varnishes work equally well on cherry, you'll get a smoother finish on this fine-grained wood if you thin the first coat to act as a sealer. Then, sand with 400-grit or 0000 steel wool after it's dry and recoat. The sharply defined sapwood is yellowish or pale yellowish-white, often with a purplish tinge. The heartwood color ranges from rose to dark-brown with darker purple-black lines. The darker streaks impart an attractive figure to the timber.

Boxelder. Sometimes a boxelder tree contains wood that carries raspberry-colored streaks and flecks, a property that woodturners find especially appealing for bright bowls, slender goblets, and attractive platters. The red streaks are composed of a pigment from a fungus (*Fusarium negundi*).

Rosewood. Under the best growing conditions, the trees are reported to reach heights of about 100 feet (30 m). They produce straight clear trunks that are 35 to 50 feet (10 to 15 m) long, with average diameters of up to 30 inches (75 cm), but may occasionally reach 60 inches (150 cm). It's one of my favorites as well because of the smell of roses when turning.

Pacific Madrone. Madrone (*Arbutus menziesii*) is sometimes called madrona or madrono, and scientifically is always preceded by the word Pacific. That's because there's a Texas version of the species, and a Mexican one, too. But most of the madrone you see as woodworking stock and veneer comes from a range that extends from southern British Columbia down to California's central coast. In that coastal band, you can find madrone everywhere there's a forest, and in nearly any size. In rugged mountain terrain madrone may only reach shrub size.

Red elm. Elm claims about 20 species in the temperate regions of the world. The most well known include the stately American elm (*Ulmus Americana*) and the slip-

pery elm (*Ulmus rubra*) of the United States, and the English elm (*Ulmus procera*) in Europe and Great Britain. In the forest, elm often grows 140' tall. But open-grown elms rarely reach that height. Instead, they form a spreading, umbrella-like crown valued for shade.

Spalted maple. Spalting is a figure pattern caused by fungus growing in trees and logs. It produces mostly black streaks (but they can also be orange, yellow or even green or blue) usually growing with the grain and can result in a beautiful marbling. Some species are more prone to spalting such as maple, birch and beech, while others such as walnut rarely spalt. The fungus enters the tree through an injury and starts to spread. The trick is to get dense spalting before the lumber turns to punk. It is not uncommon to find a log with spalting penetrating the end grain for a short distance but this can be little more than a distraction.

Osage orange. Wherever Osage orange grew, it had many a use. At one time, a Plains Indian brave would gladly trade a horse and blanket for a bow made of the wood. The reputation of such bows spread widely from the land of their makers—the Osage Indians of Arkansas and Missouri. Bows of this hard, strong wood even were found by explorers in use as far north as Montana. That's why in many parts of the nation the wood carries the name bois d'arc, French for wood of the bow. Americanized, the term becomes bowdark.

Sycamore (quartersawn). In species such as sycamore the face of the quartersawn lumber will display a prominent ray fleck on its face. These rays are part of the cell structure of the growing tree that radiate outward from the pith of the log to the sapwood. When the log is sawn with the annual rings perpendicular these rays are bisected and show up on the face of each piece of quartersawn lumber as a shiny band. When sawn, each log reveals its own unique figured pattern of ray flecks. This is only visible in those species that have these rays in the cellular structure.

Pear. Light in orange color, with occasional pinkish colored streaks, Bradford pear is an extremely hard and dense wood, but turns easily. It sands well and will take on a high polish. Usually available in very limited quantities, as the tree is an ornamental found most often in urban landscapes.

Padauk grows in tropical climates, although the geography changes from rain forest to dry, nearly treeless plains with each species. You'll find padauk in India, Indochina, the South Pacific, West Africa, and even southern Florida. Padauk's coarse-grained heartwood varies in color from a lustrous purple-red to orange-red. With age and exposure to sunlight, it turns deep maroon. Quartersawn wood features a pronounced ribbon stripe. *Wood Magazine*.