Frame and Panel Doors
Carving Furniture

The Old Saw

design objectives • at the lathe • nh furniture masters
barred owl • table saw maintenance • hand saws • router dado guide

Calendar

Apr 1  BIG
Apr 15  Guild Meeting
  Note — Meeting moved to Apr 15
  ... Brass Hardware — p3
  ... at Pinkerton Academy
May 6  Period Furniture
May 12-13 Turning Symposium
  ... at Pinkerton Academy — p3
Jun 3  BIG
Jun 17  Summer Trip
  ... Starrett/Nichols & Stone — p31
Jun 24-25 Canterbury
July 22  GSWT
Aug 5-13  Sunapee Fair

Ebonizing Wood

desk and photo by Terry Moore

Turning Symposium

vases and photo by Jacques Vesery

May 12-13, 2006
**president’s message** by Roger Myers

**Challenges**

How do you measure success? It’s an interesting question to think about, and the answers you come up with may be surprising. Success in your personal life and your business or career generally has a direct relationship to the goals you have established. Sometimes these goals, and the resulting measures of success are obvious and we take them for granted… “I want my family to be safe and secure, to be happy and to be able to enjoy life.” And other times we make more of an effort to define them… “I want to have sales of xx dollars per year and be profitable in year three of my business.” You can then look at how things are going and relate to that some degree of success, or look at the results and try to address the obstacles that are preventing you from being more successful.

The Guild faces many of these same questions and I often mention looking at our mission statement to help us gauge our success as an organization. When it becomes really interesting is when success brings about new challenges. As in many businesses, managing growth can be a major issue.

The Guild is now well over 400 members, having experienced significant growth in recent years. The large membership is really due to two factors – we are attracting (without actively soliciting) many new members, and our membership renewal rate is stronger than ever. Both of these are strong indicators of success and are due to a number of factors including the quality of our meetings and events, our publication *The Old Saw*, and our member benefits.

It also results in many challenges that we must address. Meetings are larger and require larger shops – even our “specialty sub-groups” find themselves with large meeting attendance. A larger membership is also more diverse in interests and experience, and we find it more challenging to have topics that are a “hit” with every member. Our geographic spread continues to grow, also presenting challenges in organization.

When faced with these challenges, we could retreat from our own success and try to moderate or even scale back our growth, but then we would be failing at our fundamental mission. Instead, blessed with an enthusiastic and engaged membership, we have worked hard to find ways to meet these challenges head-on. The new members are the future of the Guild, and the diversity of interests makes for a healthy energetic community.

I appreciate the advice and support that all members have given the officers, steering committee, appointed positions, and volunteers of the Guild. We are not just growing in membership numbers, we are growing as an organization, bringing more to our members and our community each and every day!
announcements

April 15th, 2006

Horton Brasses
Guild Meeting at Pinkerton Academy

We will have as our guest presenter, Barbara Rockwell Horton, the President of Horton Brasses of Cromwell, CT. Barbara is the third generation owner of the company started in the early 1930s by her grandfather Frank A. Horton. Frank Horton was a tool and die maker whose wife Angelina, an antique dealer, had a need for authentic period brass hardware. Before long they were selling his efforts to antique dealers all along the east coast. The business continued until 1946 when Barbara’s father James Horton joined the company along with his wife Barbara Horton.

The product line is extensive including the William & Mary, Queen Anne, Chippendale, Sheraton, Empire and Hepplewhite period brasses for which they are well known. They also make a complete line of forged iron hardware, kitchen cabinet hardware, trunk hardware, and provide products in the Art Deco, Arts & Crafts, Victorian, Eastlake, and MacIntosh styles. Their catalog is currently about 75 pages and has a wide breadth of choices for almost any furniture maker.

Barbara will speak on various methods of manufacturing cabinet and furniture hardware. She will explain what the manufacturing process means when it comes time to make your choices. While Horton Brasses does its own foundry and casting work, cast hardware is not always the best choice for a specific piece of furniture. She will show you the finishes and other options available and how they could possibly impact your final finished result.

There will be samples on display and a limited number of the Horton Brass Catalogs available. There will also be a sign up to get on their mailing list. If time allows, Barbara will also talk about installation of hardware and answer questions from the audience.

The meeting is from 10 am – 3 pm with the lecture beginning at 1 pm. Pinkerton Academy is located in Derry, NH. Directions can be found at www.pinkertonacademy.net.
**Q** SAW BLADES — When buying a table saw blade, what is the best number of teeth to buy? Is more better? — Kenneth Chase

Steve Olesin replies: For a short answer, my personal choice is fewer teeth on a really high quality blade that is kept sharp.

For a better answer, maybe we can recast the question to read - “What are the tradeoffs in selecting blades for the table saw.”

First, the table saw throat plate must be replaced with a zero clearance plate to allow for greater surface support of the wood being cut. This reduces underside chipping. Next, the fence must to aligned parallel to the to blade. Finally to cut cleanly, a blade must have minimal runout (wobble) plus all the teeth must be sharp and of the correct geometry.

Given an identical feed rate, the following is true. A greater number of teeth will take smaller cuts per tooth which could improve the finished surface. A greater number of teeth will reduce the maximum feed rate by reducing the chip carrying capacity of the gullets. Plus, increased tooth count increases friction and heat generation. Thick wood also increases the temperature of the cut surfaces. The density of the woods being cut effects the amount of distortion around the cut, which translates into the fuzziness of the cut surface. Softer woods benefit from a higher tooth count because each tooth takes a smaller bite. This distorts the wood less thus leaving a smoother cut surface. Cutting cherry with a high tooth count blade may result in enough heat build-up to discolor the wood.

Rip cutting tooth profiles are square to the blade to create the effect of many chisels taking small chips out of the wood. Rip blades cut cleanest when cutting along the grain.

A cross cut tooth has alternate pointed edges to allow it to slice across the wood grain versus chopping it. Cross cut blades are the preferred blade on a chop saw or a production table saw that is set up for only cross cutting. It is generally a mistake to install one as the only blade on a tablesaw that is used for a variety of work.

A combination blade is just that – a combination of both profiles. Not great for either job but when sharp, we don't tend to notice. Here the choice of tooth count comes back to the types of wood being worked. Thick hardwoods do better with a lower tooth count. Thin hardwoods and most softwoods or composite materials cut cleaner with a higher tooth count. This is because the chips being taken out of the wood structure are smaller.

If we vary the feed rate, we can get the best of all worlds by using a low tooth count blade. It allows the fastest feed rate but when cutting soft, thin stock, reduced feed rate increases the cuts per inch and effectively make the blade cut like it has more teeth.

**Q** SHAKER JOINTS — By what methods did the Shakers fasten drawers together. If a box joint or dovetail was used, would they glue it or nail it or what other method did they use to secure the drawer parts? I have glued several of mine and now am wondering if they are authentic. — R. Bradley

David Lamb replies: There were nineteen Shaker communities throughout eastern America. Within those communities, there were three or four “families” or groups of buildings and inhabitants. Each family had a wood shop or mill or several. Within those groups were several people capable of producing furniture. By this nature, there are several ways that the Shakers built drawers.

The most common was half-blind dovetails in the front and through dovetails at the back, and glued. It is not uncommon to see rabbeted, glued and nailed construction. There was alot of variation in the dovetail layout. The only sense of consistency was mostly confined within the individual community where traditions could be passed on from one to another.

There are several great books that cover this subject. Two are by Tim Reiman and Jean Burks.

Dave Emerson replies: Shakers did use nailed construction for drawers in built-in cabinets and would have for basic utility pieces if the worker didn't know how to dovetail. Dovetailing was used in furniture and would always be appropriate, glued, of course.

I have never seen a Shaker drawer with a box joint, which would only have been used for work that wasn't expected to have a long life. Their seed boxes had box joints, but I don't know if they made them themselves or bought them. I suspect the latter.

Al Breed replies: Although I am not very familiar with Shaker pieces, I find that in early work, dovetails are glued the great majority of the time. The nails present are usually evidence of later repairs when the drawer became loose.

Shakers did good work in general, so I suspect that they glued the drawers, even though a good dovetail will hold together without glue for quite a long time. Glue definitely extends the life of joints.

Modern cabinetmakers who tell you that the old workers didn't use glue or nails are generally unfamiliar with period work. I have seen big nails hammered into knee blocks of chairs to hold them onto the legs and rails of period chairs, and these were definitely done by the original maker. I suspect that sometimes the nails were used to hold the piece on until the glue set up as well as being a good physical attachment.

One should also keep in mind that their wood was air dried, or even green, and would not be as likely to split as the cooked material we use today.
Ebonizing Wood

There are many different ways to ebonize wood, and I will elaborate on the three that I am familiar with.

Vinegar and Steel Wool

Begin by soaking a pad of steel wool in a jar of vinegar until most of the steel wool has been dissolved by the vinegar. The liquid must then be strained through a fine filter to remove as much of the steel wool residue as possible. This mixture is now ready to be brushed on the wood to be ebonized. Woods with tannic acid such as oak and cherry will darken and keep darkening by repeated applications. The dissolved steel wool chemically reacts with the tannic acid content and darkens the wood.

Unfortunately, tiny particles of the steel wool make it through the filters and can be a problem when finishing. This solution does not work very well on woods without tannic acid. Maple tends to turn blue and looks nothing like any ebony I’ve ever seen.

Ammonia Fuming

A similar chemical reaction can be achieved by placing the wood (either a small part such as a leg, or a completely finished piece) in a clear plastic tent. This tent can be constructed from furring strips with construction grade poly sheet stapled and duct taped to the strips. The wood is then placed inside the tent along with a pan of strong ammonia. Protective glasses are a must along with rubber gloves and a chemical respirator.

Leave the wood or finished piece of furniture in the tent until it reaches the desired shade. Again this only works with wood containing a high content of tannic acid. This is a very dangerous method and will kill all the bugs in your shop! Always be sure of the location of the family cat.

Aniline Dye

This is by far the easiest method of ebonizing wood. It does not rely on tannic acid content so you can achieve good results with any wood species. There are a number of dyes from which to choose and all produce good results. You can buy dye that is soluble in either alcohol, or water. The best ebony black that I have used comes from Constantine and is sold pre-mixed as part of their “non-grain raising stain” line.

Whichever you choose, whether powder or premix, be sure it is “Ebony Black”, this will be true black. Avoid “Nigrosine Black”. This tends to be a shade of blue/black.

Matching Madagascar Ebony

The two most popular species of ebony are Gaboon, which is dead black, and Madagascar, which has a variegated pattern of chocolate brown with black streaks. To “grain” or “ebonize” this kind of ebony is a simple process. First, the background wood needs to be walnut. Then using the same black ebony dye from Constantine and a cheap brush with the bristles cut into a zigzag pattern, make random black streaks with the grain. Finally, using the same brand of dye, but in the brown mahogany color, wipe the entire piece with this dye. The results are not by any means perfect, but if you are dying some small pieces of solid to match some Madagascar veneer, the results are quite convincing. This is my secret, so don’t spread it around too much.

Tips & Techniques by Terry Moore

Checking a Drill Press Table – Most drill press tables don’t have an accurate means of squaring them to the spindle. Using a square is prone to error because of the short length of drill and the geometry of the chuck.

Here’s a technique made from a simple jig – a piece of ¼” scrap about four inches long. Drill a hole through the face near each end and attach a 2” machine screw through each hole, pointing in opposite directions. Secure them with nuts so they are roughly parallel. To set the table, tighten one of the screws in the chuck. Then raise the drill press table until the screw sticking down from the jig just touches the table surface near the front. Rotate the chuck by hand to the side and adjust the table angle. For best results, test several points on the table.
A
fter more than four decades of woodturning, it is difficult for me to remember how I first learned. I do remember seventh grade shop classes and also my father showing me the little bit he knew. Mainly, learning was by trial and error. As years went by, I got better at it, partly because I was exposed to some good books such as the classic by Frank Pain, *The Practical Woodturner*, but it became clear to me that woodturning was an obscure specialty. Many of the tools I saw in old books were not available.

Today woodturning is no longer obscure. The woodturning renaissance has had 30 years to mature—we have the American Association of Woodturners and hundreds of books and instructional videos. As a result, no one has to learn by trial and error in isolation as I did when I was a kid starting out in 1960. Nonetheless, in this article, I will attempt to help beginners not by giving simply a set of “tips”, but a list of items which fall into one or more of the following categories:

• Things I did incorrectly at first, and later had to “unlearn.”
• Things I should have learned sooner rather than later.
• Things I had to figure out on my own, because they were not in any books I had seen.

While I will jump around to many different topics, these represent some of the high points in my odyssey of discovery.

1 **CUTTING VS SCRAPING** – I wish my seventh grade shop teacher had said to me, “I’m teaching you the scraping method because you’re a beginner, but someday when you get serious about woodturning you’ll learn the cutting method.” If he had done so, I would have realized from the start that he was sending me down the wrong path.

Twenty years later, I found myself teaching shop, and I quickly discovered that you never learn something so well as when you must teach it. I developed this educational philosophy – don’t teach beginners the wrong way just because you think it might be easier for them to grasp. This does the students a great disservice and insults their intelligence. Show students the right way from the beginning, and be honest about the commitment required.

It’s easy to criticize my shop teacher now, but I don’t think he was purposely keeping anything from me. Rather I suspect he was not in possession of that information. In those days, industrial arts textbooks described mostly the use of scrapers. Gouges were used only for roughing out spindles. Many of these textbooks were written by authors whose expertise was mainly in metalwork and pattern making.

2 **A LATHE IS NOT A VISE** – I once read in what I thought was a reputable magazine that the wood should be placed between centers and the tailstock tightened as hard as possible! Yikes! Excessive force from the tailstock causes a multitude of problems – premature wear on the headstock bearings, premature wear on the tailstock centerbearings, and most important, vibration of the workpiece. It took me a long time to realize that excessive force between centers was a major contributor to workpiece vibration of long thin spindles. A well tuned drive center with sharp spurs (as sharp as a chisel) and a center point that is just the right length
amazed me. If you attended the lecture by Michael Dunbar last September, you may remember he said the same thing about draw knives, scorpions, etc. Any tool which is guided by riding the bevel should not be hollow ground.

9 THE JOY OF WOODTURNING IS DIRECTLY PROPORTIONAL TO THE MASS OF YOUR LATHE – This is not to say that I don’t like mini-lathes, I do. Any lathe that is built with all its parts in proportion with each other will function well on work pieces that are also in proportion to its size.

Back in the 70’s, I was fortunate to get a used Blount lathe (made in Milford, NH) which weighs about 500 pounds. My experience with that lathe resulted in a great leap forward. In particular I think having a well designed tool rest on a 300 pound cast iron bed made me realize how turning should feel. Now I have three lathes at 50, 500, and 5,000 pounds, and the Blount holds the middle ground.

Whether you are learning from books, magazines (like this one), videos, classes, or symposium demonstrations, be thankful that today there are so many resources and such a tremendous body of knowledge on woodturning to carry you on your own personal odyssey of discovery.

3 THE WOODTURNER’S BEST FRIEND – Paraffin wax, sold at grocery stores for canning, makes an excellent lubricant for your tool rest. Break each bar up into small pieces so you have one within easy reach around your lathe. Use paraffin on the tool rest every five or ten minutes. Use it on the lathe bed too. Everything will go better. Paraffin is much more convenient than paste wax from a can.

4 YOU DON’T NEED MANY CHISELS – I wasted a lot of time and money buying chisels I didn’t need. As time went on, I realized that there are only about five chisels for spindle turning, and another five (bowl gouges and scrapers) for cross-grain work, that I really need. The chisels I no longer use are mainly the large ones. Refer to my article in the June, 2005 issue of The Old Saw for suggestions on the essential chisels.

5 YOU WON’T GET FAR WITHOUT A STEADY REST – Frank Pain’s book introduced me to the technique of using my hand to steady the work and reduce vibration. As an unexpected benefit, I also learned that touching the work with my fingers can tell me things about the quality of the surface which my eyes alone could not detect. But for a long time, the flexibility of spindles was a limiting factor in my furniture designs. While I consider use of the hand to steady the work an essential skill, it will only go so far. Once I got a good mechanical steady rest, I could cut as deeply as I wanted, and my turnings instantly improved.

6 SHARP TOOLS PLUS GOOD TECHNIQUE EQUALS LESS SANDING – In my early years, I thought that it didn’t matter much how you got the shape, because in the end you could sand the work into submission. The lesson, which came gradually, is that less sanding is better for many reasons – sanding is boring, sanding dust is horrific and sandpaper cost money. But most important, the work looks better with a minimum of sanding because the surfaces are true and the details are crisp.

7 YOUR LATHE NEEDS SPEED CONTROL – Years ago, most lathes had step pulleys with four speeds – fast, faster and two more even higher speeds which were so ridiculously fast that no one ever used them. So essentially we had two-speed lathes and used the low speed for bowls and the second speed for spindles. Today, lathes with step pulleys have five or six speeds, but the problem has not changed. The lowest speed is not low enough and the high speeds are still ridiculous. In general, all these lathes would be better if the speeds were cut in half. Variable speed mechanisms are a great improvement, but variable speed motors with two or three speed ranges are ideal.

8 FLAT GRIND – One day I discovered that chisels ground with a flat bevel work better than those that are hollow ground. I quickly re-ground all my cutting tools to the new flat grind, and I have never looked back. It’s hard to describe the feeling of that day. Without buying anything new or investing additional years of practice, I had suddenly made great progress in my ability, and I was seeing results that amazed me. If you attended the lecture by Michael Dunbar last September, you may remember he said the same thing about draw knives, scorpions, etc. Any tool which is guided by riding the bevel should not be hollow ground.

Drawings & photos by Jon Siegel
Carving Furniture

We can, of course, get designs from anywhere. We can create new designs from our own imagination or by observing the world around us. For period furniture, we will likely use the furniture of the past to guide us; viewing it up close, if possible, either from private collections we may have access to, or by going to museums. The exhibition of the work of John and Thomas Seymour at the Peabody Essex Museum that many of us in the Guild saw last year was a wonderful chance to view work of the Federal period. We have viewed earlier work at the Wadsworth Atheneum, Woodman Institute, Shelburne Museum and Historic Deerfield. I have also been to Winterthur and Colonial Williamsburg which have wonderful collections. There are local museums such as the Currier Museum of Art which have smaller collections but often have unique pieces available.

The problem this presents, however, is how to translate what we have observed to our own work. We most often are not able to take pictures or measurements at the museums as they jealously guard their collections, although we in the Guild have had exceptional access on occasion. Thus books and magazine articles are for most of us the only practical resource. I make two categories for these resources; those that are meant for the furniture maker and those that are intended as historical records such as books representing a museum’s collection. If you have one of the former, you may be given the design patterns and you are all set assuming the quality and authenticity of the design is sufficient. Note that many are not. If you have the latter, you still have some work to do.

Fortunately, these days, technology is on our side. With a computer, flatbed scanner, a printer and some photo processing software such as Adobe Photoshop, we can copy pictures and scale portions of them up to actual size to use as patterns. With scaling, noise reduction and sharpening functions in the software, we can make even small halftone prints from a book legible enough to use as full-size patterns. The investment in dollars and time spent learning how to be effective in using the software is non-trivial. If you have already made the investment for other reasons however, I can testify that this is an effective way of getting the design you need. If you are unable to use this technique, you could hire or ask someone who can. Otherwise, about all I can suggest is to make multiple enlargements on a copier or to get out a magnifying glass and make a drawing by hand. For many designs, especially those with simple details, drawing by hand is certainly viable.

Lastly, full-sized three-dimensional carving patterns are available for purchase. These are not geared to a specific furniture design but are useful in more general applications, especially architectural. One source would be the many moldings and carvings from sources such as Rockler or even Home Depot. Some of these are cast from various resins while others are actually carved or pressed in wood. While these are not likely of good enough quality to use directly for furniture, they may give some inspiration to adapt for your carving.

One source that I have found helpful is the European trained woodcarver Nora Hall (www.norahall.com) who sells plaster-like casts of some of her work as well as drawn patterns. There are also many carving books available that include designs.

Types of Carving – There are several basic types or styles of carving. Chip carving is one of the oldest and simplest...
forms and requires only one knife for almost everything you will want to do. It often is very geometric in nature. Complex patterns are made by removing dozens of triangular chips from the surface of the wood. It does not have to be geometric, however, as shown by the carving on a quilt rack I made some years ago. The idea was from a Rick Butz carving book and represents a sheaf of wheat. Incised carving is similar, where the design is carved into the surface of the wood without significant modeling in the third dimension. The carving is essentially flat, sort of like carving the outline of the design into the wood.

Relief carving is where the background is lowered below the surface so the design appears raised. The relief may be shallow “low relief”, or deeper “high relief” for increased depth of the design features, sometimes approaching a sculptural quality.

A relief carving may be carved into the surface of the furniture (example, a knee design on a cabriole leg) or could be carved into a separate piece that is glued onto the surface. This makes sense when the carving is a small proportion of the overall piece and too much of the background would otherwise need to be removed. Shells applied to a table or highboy apron would fit in this category.

Other types of carving include a below surface carving called sunken relief (example, an inverse or concave shell) and intaglio carving where the form is sunk into the wood rather than raised from it, such as a butter mold would require.

Sculpture is where the item carved is complete in all three dimensions. Examples in furniture are finials at the top of clocks or highboys, or drops hanging down from the aprons of tables or lowboys.

The Carving Environment – A safe, comfortable, well-lit work environment is essential for doing your best work. The bench area needs to be kept uncluttered so the carving tools are not dulled by striking each other or other woodworking tools. The carving tools should be laid out systematically in order of the tools sweep and width and within easy reach. As you finish using one tool, put it back in its proper location so you can find it quickly the next time you need it. Arrange the tools with the sharp end toward you so you can see the shape and size of the tool easily.

Good lighting is absolutely essential. In addition to overhead lighting, I use a gooseneck lamp to give a glancing light across the work which helps greatly to show the shadows and facets in the work as I am carving. It is important, as well, to move the lighting as you carve to see how light from different directions affects what you can see. Whenever I am carving small details, I use a magnifying visor so I can see well.

In my view, it is very important that the work be clamped securely, both for safety and for carving efficiently. I have watched both novice and experienced professional carvers hold down a carving in one hand while they carve with the other. This is obviously dangerous as eventually you will cut yourself when the gouge slips in the work. This is the first and maybe most important thing I teach students. You should almost never have the cutting edge of the tool aimed at your body, especially using only one hand which prevents good control. It is also inefficient because you cannot provide the full force and leverage to the work unless it is well clamped. You should use both hands on the tool, the upper hand to provide the force and the lower hand to provide direction, stability and restraint.

Carving takes a long time and it is easy to strain your back if you are bending over a low bench. The height of most woodworking benches is too low for carving so some means of raising the work to a comfortable height is necessary. I have built a carving bench that raises the work to near elbow height and provides a flexible means of clamping the work. It is held with bench dogs on the surface of my work bench when needed. The top of the carving bench has an array of holes that accepts the Veritas bench pups and Wonder Pup for clamping the work.

Examples of chip carving (left) and low relief carving (right)
CARVING FURNITURE – continued

The Tools – It is said in many carving books that one should not buy sets of carving tools, but instead, should buy individual tools as each job requires. I disagree to some extent as you can definitely save money in buying a set. As long as you pick the set wisely, knowing the type and size work that you are likely to do, you will need all the tools in a typical set and many more. Experienced professional carvers will eventually acquire hundreds of tools, with each size and shape made to efficiently accomplish a specific task. I started with a set of twelve tools and now have more than thirty, and wish I had more. Although certain tools are much more heavily used than others, I don’t know of any that I have not used or would want to part with.

As far as brands go, you generally get what you pay for. Most of my tools are the Pfeil brand of Swiss carving tools from Woodcraft, with the rest being Dastr, which Nora Hall uses. Nora also used Stubbai tools in the class I took and I think they are also of fine quality. I don’t have experience with other brands but I am sure there are many others that are also quality tools. Obviously the quality of steel is of primary importance here but the fineness of the shape. To some extent, the surface treatment is also of interest although you will generally be providing your own surface at the cutting edge as you shape and sharpen the tools for your own needs. I like tools with hex or octagonal handles as opposed to round handles as they stay in position on the bench better without rolling around.

For a mallet, I like the brass mallet that sits in the palm of your hand better than the traditional round wood carver’s mallet. I got mine from Lee Valley at a good price. I find it to be a very natural way to strike the gouge and easy to control since the heavy part is close to your hand rather than at the end of a handle.

Sharpening – Sharpening is a compromise between sharpness through an acute sharpening angle and durability of the edge from a more obtuse sharpening angle. For many woodworking tools such as bench chisels and plane blades, a sharpening angle of 25-30 degrees is preferred. This is not the only criteria however. The position of the tool relative to the work is also of importance and in carving this is a primary consideration. In most cases, 25-30 degrees is too large an angle for carving, as the tool would be tilted too vertical. For better tool presentation, the force when carving should be more in-line with the direction the tool will take through the wood.

Leonard Lee, in his book on sharpening, recommends 15 degrees, with a 10 degree bevel on the inside of the tool’s flute. This makes the edge more durable while providing a low angle of over. It is important also to hone with a firm material to prevent rounding.

This is especially true with buffing wheels. A soft buffing wheel should not be used on a carving gouge as it is certain to round over the edge and spoil the tool’s use. I use a hard felt buffing wheel that I keep shaped as flat as possible for all straight tools. For carving gouges I use a medium felt wheel which, over time, has become shaped with a concave surface in the center for the outside bevel of gouges. The edges are slightly rounded over as I use it to hone the inside of the flute of shallow gouges.

Sharpening and honing the inside of the flute can be a difficult problem for tools with a small flute. Carving slipstones can help to shape the inside of many tools. I have both waterstones and oilstones and find both effective. The waterstones cut quicker and are of fine grit but they are soft and it is easy to damage their shape. I mostly use the oilstones even though I don’t have any really good ones. After sharpening with the stone, I hone the inside using various techniques depending on the shape and size of the tool.

For shallow larger gouges, I usually use the buffing wheel mentioned above. I have geared down the speed with pulleys so the speed is about 1750 rpm. I think this helps avoid overheating the tool.

For small gouges and those with steep curves, one of the really effective techniques is to use the tool to make a wood honing guide. Cut the tools shape into a piece of wood with the flute down, rub a honing compound onto the wood, clamp the wood down or hold it in a vise, and hone the tool by stropping it on the wood pulling it along at the proper angle over the pattern. Only a few strokes are needed to hone the tool really well. This is very effective for V-tools which are really hard to sharpen at the inside point with slipstones.

The bevel of a carving gouge should not be hollow ground as shaped by a round wheel grinder but should rather be convex in profile. It is more akin to the shape of an axe in profile than a bench chisel. This allows the cutting edge to be supported directly by the
bevel as it scoops out material from a concave surface and, because the bevel is rounded, there are no hard edges to mar the cut surface. I also polish the bevel to a mirror finish with the buffing wheel to make it absolutely smooth and friction free. Besides, they look nice that way. The shaft of the tool should also have all sharp edges eased to make it easier on your hands over a long carving session. Just be careful not to destroy the tools shape for use when the tool has become shorter.

Carving gouges and V-tools should generally be sharpened straight across so the outside of the cutting edge cuts the surface of the work before the center of the tool exits. This prevents tearing out the surface since it is cut cleanly before material in the center is removed. If the gouge were fingernail shaped like a spindle gouge used for woodturning, the center of the tool would be lifting out the wood, tearing up the surface. When cutting, as always, we must think of cutting downhill with the grain.

Laying Out the Work – One of the first criteria for laying out the pattern on the wood is to determine which direction the grain should go. If there were no other issues, we would normally look at the pattern and align the grain with the longest and thinnest parts of the design. This makes the carving more durable as there will be less possibility of chipout from small short-grain features. Another important criterion however, for applied carvings, is that the grain should be aligned with the grain direction of the backing piece to which it will be glued. Fortunately, in many cases the design features will already align with the background. A long design will likely be placed along the length rather than the width of a background. Examples would be a pattern placed horizontally across a table apron or vertically up a leg or stile. When it does not, you will have to make your own decision, taking account of both issues.

To transfer the design to the wood, I usually draw the details freehand since it is more difficult to hold the pattern on the wood. On flat work, I hold the pattern at one end of the work with masking tape, forming a hinge so I can lift and replace the pattern to see where I have missed any of the tracing.

The Carving Process – The sequence usually followed in carving is outlining, setting in, grounding, and modeling.

To outline the pattern, use a V-tool and trace outside the lines staying a short distance away from the line. One side of the V-tool will be cutting in the correct grain direction and the other side will be cutting against the grain. Make sure that the correct grain direction is followed on the side that is closest to the pattern so the part of the carving that remains will not have any torn grain. The depth of the outline should be just shy of the depth of the final background and must be uniform.

When setting in, choose the largest tools that match the contours of the pattern and remove the remaining material accurately from the pattern lines up to the V-cut outline. This makes for a smoother outline and is also more efficient than using a small tool to repetitively nip along the outline. The tools are held fairly vertical, taking account of the bevel for concave areas and the inside of the flute for convex areas. You can tap lightly with the mallet as needed or apply hand pressure, again making the depth uniform.

If you try to set in without outlining first, the tool will act as a wedge, potentially splitting away thinner parts of the design. This is known as “stop cuts” and is to be avoided if one wants to avoid the wrath of Nora Hall. By outlining first with the V-tool, the thinnest and weakest parts of the material will be split away between the tool and the outlined V-groove and not toward the part of the design that is to remain.

Grounding removes all the material of the background. Again, use the largest tool that will fit on the work and be careful of the grain direction of the surface. I usually use #3 gouges for most of the grounding. In small areas, I use bent tools, or fishtail shaped gouges. Blend all of the background together so the depth is consistent and the surface is smooth and clean. To save time on flat work, I will sometimes do much of the grounding with a small router (laminate trimmer) with a small diameter bit where needed. I always follow that with hand tools, however, so the entire surface is hand carved and smooth.

Where the previous efforts are somewhat mechanical, modeling is the fun part of the carving. This is where the creativity and skill of the carver affects the final outcome. The overall form of the surface should be carved first with the relative heights of the high and low areas created. Lines and surfaces should be flowing, smooth and clean, without any torn grain. Any texture in the design should be consistent. Edges are rounded over where desired and any undercutting can be done. Lastly, the final details can be carved.

If you have done all of this well, no sanding or scraping will be needed to clean up the carving.

Quality – It is sometimes said that with hand crafted work, one should not hide the mark of the hand; that, for example, the tool marks should show in the work and not be sanded away. I do believe in texture where it is meant to be a feature of the design and I certainly am not in favor of wiping out fine detail by turning it into mush with sandpaper. I am not advocating that all surfaces must be absolutely smooth and blemish free. However, I do think that much of this “hand-crafted” attitude is a cop out for not doing the best work.

I have examined pieces of the finest work in museums, as close up as I have been allowed, and much of that work is flawless. You would be hard pressed to tell whether the work was done by hand or by a magical laser-guided carving machine. I do not believe that in the seventeenth and eighteenth centuries, when this work was created for the richest and most demanding patrons, they were at all interested in seeing tool marks or in having it be obvious that the piece was made by hand. I find it interesting that the front of a piece that shows could be essentially perfect and yet the back boards of a cabinet could be rough-sawn or at most roughly planed. These furniture makers were businessmen and would do what is needed to satisfy their customers, while being efficient and cost effective at the same time.■
Frame and panel doors are used extensively in furniture and also in building construction, cabinets and built-ins. This is a traditional construction technique designed to accommodate wood movement.

The essential parts of the frame and panel door are illustrated in Fig 1. The frame is made from vertical members called stiles – the horizontal members are called rails. If the door is tall, there will sometimes be a central horizontal member called the mid or lock rail. The bottom rail is usually a little wider than the top or mid rail for esthetic reasons. If the door is wide, it will also have a vertical central member called a mid stile. These all work together to keep the door rigid and square and keep the width of the panels to a manageable size. Large doors make use of various combinations of all of these components to make the door both visually appealing and strong.

This style of solid wood door construction evolved because of the dimensional changes of wood with the rise and fall of humidity in the surrounding environment. The largest change in the size of a board occurs cross grain in the width. The wider the board the larger the dimensional change. It can be significant.

The widest boards are the panels and they float between the rails and stiles allowing for expansion and contraction. The total width of the door is dictated by the much smaller change in the width of the narrower stiles.

There are many ways to capture a panel within the door frame. Nine of the most common of these methods along with different panel styles are illustrated in Fig 2.

Select your hardware before starting your project. The size of the door and how it fits in the opening is dictated by the type of hardware you select in addition to the style of door.

Step 1 – Frame Stock Prep

The type of construction I will detail here is called cope and stick. For added strength in our door frame, we will use loose or floating tenons to join the rails and stiles. The wood for our door should be face and edge jointed, planed to thickness and ripped to width on the table saw.

Cut the stock to the proper length. However, cut the left and right stiles about an inch oversized to provide for the horns. The horns provide added strength when we cut our mortises and prevent the mortises from blowing out the end of the stock. The horns are trimmed off after the frame is glued up.

When sizing your stock, it is helpful to make the door about \( \frac{1}{4} \)“ bigger in height and width than the opening to allow you to trim for a precision fit.

If you were using traditional mortise and tenon construction, you would also include the tenon length when cutting the rails to length. The rails and stiles should be marked and labeled so that we can maintain the proper orientation in later assembly.
Step 2 – Mortises
Now that our stock is square and cut to length, it is time to cut the mortises. There are several ways to make them – by hand with mallet and mortise chisel, with a hollow chisel mortiser, by drilling and paring the sides square, with a horizontal borer or with a jig and router.

As we are using loose tenons, we will cut the mortises with the horizontal borer. The first step is to bore both of the ends of the mortise to full depth. These are connected with a series of holes also bored to full depth. The stock is then moved back and forth to clear the mortise – Fig 3.

If we were using a router and jig, we would start the same way. Then the mortise is cleared by routing back and forth increasing the depth on each pass in increments no more than the diameter of the router bit until the max depth is reached.

Step 3 – Loose Tenon Stock
The loose tenons are made with the same type of wood as the rails and stiles. This is for stability – Fig 4.

Cut strips of 3/8˝ stock followed by a pair of shallow grooves cut on a table saw along the length on each side. The grooves allow excess glue and air to escape from the joint when assembling while maintaining a good fit. The edges can be rounded to match the mortise with a router or shaper or can be pared to round after they are cut to length.

Continued on Page 14
Step 4 – Cope and Stick

Next, we create the cope and stick; that is, shape the edges of the rails and stiles plus the mating ends of the rails. We also provide grooves for the panel at the same time. There are three methods – plow and molding planes, a router table or a shaper.

On the shaper, use a power feeder for safety. There are cutters that use a bearing and others that use a blade for all the surfaces. The type without the bearing gives a final chance to square up your edge.

Do the stiles and inside edges of the rails first. Start by making a very light climb cut against the grain to make sure you have clean crisp edges. The rest of the cut is made with the grain to the required depth. Be careful in your setup to make sure the groove is properly located to capture the panel at the proper depth.

To set the cutter up for the end grain cut on the rails, use a piece of the stile stock you just shaped to ensure they will mate in the same plane. Make a sled to maintain precise alignment when making this cut – Fig 5.

Step 5 – Cut Tenon Stock to Length

Cut the tenon stock to length. Measure for the required tenon length from the mortise bottom to the low point on the stile, and from the mortise bottom to the high point on the rail.

Step 6 – Panels

Preparing the panels depends on the wood you are using. Wood movement is not an issue if the panels are plywood. You just cut it to size. With solid wood panels, you need to shorten each dimension 1/8” to allow for seasonal wood movement.

Raising a panel can be done by hand using a panel plane. Or you can make a bevel cut on the table saw with the panel held vertical against the fence and the blade set to the desired angle. Or you can use panel raising cutters on the shaper or the router table.

A simple approach is to use the table saw with a dado blade to cut a rabbet on all four edges. Then bring the rabbet to size with a rabbet plane. Sometimes a bead is cut on the vertical edge along the rabbet to keep your eye from noticing the changing width of the rabbet with wood movement. It is a good idea to sand and finish the panel at this point. If you do, you won’t have a line of unfinished wood appearing with seasonal changes.

Step 7 – Glue-up

Before assembling and gluing the door, it is a good idea to sand all the shaped edges on the rails and stiles. Spread the glue evenly on the inside edges of all the mortises. Do the same for the slip tenons keeping the glue layer as thin as possible to minimize squeeze out. You also want to spread a thin layer of glue on the edges of the coped moldings where the rails and stiles come together. Be sure to keep the glue back from the area where the panel groove is. You want the panel to float freely in the grooves.

When you assemble the door, be very careful not get any glue on the panel or surfaces of the rails and stiles. The door is clamped across each rail making sure the assembly remains flat.

Step 8 – Final Touchup

After the glue has dried and set, we need to trim the horns off of the ends of the stiles. This gives us one last chance to get the door frame square. Use a paring chisel to clean up any visible glue lines.

Our pine door example needs a light touch with a portable belt sander with a 120 grit belt to even out the door. If you have a wide drum sander, you could just run the door through. You would then have to hand sand the marks from cross grain sanding on the rails. You can also flatten the frame with a hand plane. Be careful of grain direction. Either way you have to do both sides (inside and out). Make sure there is no bowing on the edges of the stiles. If there is, you will have to plane this out either on the jointer or with a hand plane.

Well that’s it, your door is done and it’s ready for final fitting and hanging.
Design: The Four Objectives

When you design a piece of furniture, you have four primary objectives. You may not be consciously aware of them, but they are part of your decision-making process. The four goals are function, comfort, durability and appearance. Although these are somewhat obvious and all very fundamental to woodworking, they deserve to be explored from time to time.

Function
The first objective is axiomatic. The piece of furniture you are making has to do its intended job. Function implies a generally accepted definition of purpose. For example, a chair is a piece of furniture designed to be sat on and on which a person can sit. Therefore, if you are making a chair, it has to hold your backside off the ground. If it's a table, you have to be able to sit at it. And if it's a bed, you have to be able to lie in it. A lot of ink has been spilled in the art furniture debate – for example, is a chair that you can't sit in truly a chair? For most of us who accept function as an extension of purpose and definition, the point is moot. Calling something you cannot sit on a chair does not make it a chair.

Comfort
This objective is a corollary to the first. A piece of furniture not only has to do its intended job, it has to be comfortable and commodious. A rock will keep your backside off the ground, but a rock is not a chair because it is not comfortable or convenient. You must be able to sleep all night long in a bed, and a table must be the proper height and dimensions for its job. A coffee table's height makes it ideal for serving tea and coffee to guests, but makes it uncomfortable to use if you try to dine on it.

Durability
A piece of furniture has to be made well enough that it will hold up under its intended use. The life expectancies of different pieces vary and are linked to their particular functions. Adirondack chairs and picnic tables that are left outdoors are not expected to last as long as a chest of drawers or a lamp stand – pieces that you expect to leave to your great-grandchildren.

Durability is often confused with quality, but in reality quality requires successful accomplishment of all design objectives, including the next one, aesthetics. A strong but ugly or uncomfortable chair is not good quality.

Appearance
In the days of the craftshop, this objective is the one that separated the journeyman from the master. By virtue of his training, the journeyman knew how to accomplish the first three objectives. He knew how to make a piece of furniture that did its job, that was comfortable to use and sturdy enough to last.

However, only the master understood form well enough to produce the masterpiece. I define a masterpiece as a decorative object that not only incorporates the first three objectives of function, comfort, and durability, but is also able to transcend time and culture.

Imagine entering a museum and coming upon a Ming vase. You are struck by the vase and drawn to examine it. You first observe it in its entirety, standing back several paces to take in the overall statement. Next, you move in closer to examine the vase in greater detail, to appreciate the finer points and observe evidence of the craftsman's technique. The vase was made centuries before you were born and by someone living in a completely different culture. Yet it speaks to you, a viewer removed from the maker by all that time and space. It is a masterpiece.

We all want people to notice our woodworking and to appreciate the effort we invested in making it attractive. And we know intuitively that the things we make will survive us and be used by future generations. We want them to appreciate our work as well.

It is a common mistake to confuse the masterpiece with the fashionable. Both the fashionable piece and the masterpiece are appreciated in the maker's own time and culture. The appeal of the fashionable piece, however, is transitory. Trendy furniture soon looks dated.

The masterpiece’s transcendence is frequently not detectable to someone living in the time and place where it was made. This quality only emerges as the winds of time winnow out the merely fashionable. To observe this, look at some early issues of Fine Woodworking and notice the stack lamination and post modern furniture that was being made 25 years ago by some of the country's best known and most highly regarded woodworkers. Although the height of fashion then, today much of it looks dated. However, a Queen Anne highboy
The evening clouds are spitting enough that I have to clear my windshield periodically. I’m listening to Thelonious Monk work softly, up and down, through the simple melody that frames Misterioso. I’m thinking it was certainly worth making the trip from Portsmouth to talk with Terry Moore in person. The melody quiets into the background and Johnny Griffin blows soul through his tenor sax. He flies in and out of recognizable tunes. Monk seamlessly takes the lead, and then draws the quartet back into the synchronized tune. It’s one of my favorite tunes. In New York City in the 50s, a person might catch Monk on a Friday night then Diz and Bird on Saturday night. And maybe a young Miles Davis would stop through to blow a few tunes, if he was in the area. The bebop scene was deep with innovators, musicians that fed off each other and always kept things moving forward.

When Terry Moore applied for acceptance into The League of New Hampshire Craftsmen, he was required to present three pieces of his work before a jury. The jury interviewed him, and then asked that he leave the room while they examined his work. “It’s like standing naked before a doctor,” he told me. “I failed my first jury.” He started to laugh. “They said I was a schizophrenic woodworker.” With each of his pieces crafted in different styles, Terry used the next year to develop his sense of design. On his second attempt, he was accepted into the League. His piece was put into the fair. It sold on the first day. At a following fair he won best in show.

Like Terry, a number of other New Hampshire furniture makers were involved with the League. A fraternity began to form among them. And it was common for one to stop by another’s shop with questions about technique and design. It wasn’t long before there was talk about starting a guild in which to share information. In 1990, David Lamb, Jon Siegel, Jere Osgood and a number of other New Hampshire woodworkers gathered at John McAlevy’s shop. They and others such as Roy Noyes and Dave Emerson laid a foundation for the Guild of New Hampshire Woodworkers.

The Guild filled a need for New Hampshire’s furniture makers. They were able to learn from each other’s experiences, and feed off each other’s enthusiasm. The League was also filling a need by giving the craftsmen exposure at fairs and in the galleries. But the League was not well suited to promote the high end, often costly, art furniture New Hampshire craftsmen were capable of producing.

In 1993 Tony Hartigan, Vice President of Merrill Lynch, Concord, approached the President of the League at the annual fair. When he told her about his vision to promote New Hampshire’s high end furniture, she introduced him to the state’s top producers. David Lamb was one of the first to talk with Hartigan. “When someone talks about business and potential for growth and money making, craftsmen are going to listen,” he told me, thinking back on their first conversation. Tony’s big ideas and enthusiasm also caught the attention of five others. Terry Moore, Brian Braskie, Lenore Howe, Bill Thomas, and Jere Osgood were also aboard.

The group met monthly in order to develop their new organization. They chose the name New Hampshire Furniture Masters Association. However, they hesitated over the initial idea to open a gallery. Costs and the business of running the gallery led some to think
it would be too much to take on. At a meeting in April of 1994, Tony offered a creative solution. He proposed an annual auction, a black tie event, similar to those that sell the most sought after antiques. “It was a ground breaking decision and idea,” Terry told me. “We were nervous about it. There had never been an exhibit [of contemporary crafts] that was on display, and then all sold in one night.”

Tony helped turn the craftsmen’s nervousness into excitement by putting the right people in place to facilitate the event. One of the first and most significant was John Frisbie of the New Hampshire Historical Society. John played an integral role in planning and publicizing the first auction. Terry admits, “He was really the brains behind the first-class exhibition.”

On June 29, 1996, after two years of organizing, the New Hampshire Furniture Masters had their first annual auction. 13 members sold 26 pieces for a total of $188,000. The Wall Street Journal featured an article on the auction and the makers.

The Masters continued to look for new avenues of growth.

In 2000, a conversation between Tony Hartigan and Judge Kathleen McGuire revealed a need for woodworking education at the Concord state prison. When Tony brought it to the groups attention, Terry Moore and Tom McLaughlin embraced the opportunity. They began to develop the Prison Outreach Program. For the past six years, along with guest presenters, they have given monthly demonstrations in Concord. They have also expanded to teach at the new prison in Berlin, NH. The fruits of their labor are tangible in the pieces inmates Eric Grant, Tim Eldridge, and others have produced. Select pieces have been donated to the State House in Concord. Others have gone to auction and raised money for charity.

Other opportunities also followed. The high quality work of the Furniture Masters generated requests for an apprenticeship. They developed a unique program that focused on giving the student intensive one-on-one training with the Masters. It was decided that the most effective way to achieve their goal was to bring the student into the Master’s world. They named their concept the Studio Based Learning Program. In 2004, Sean Connin from the Saranac Lake region of New York, became the first student. He has since worked alongside Jon Brooks, David Lamb and Jere Osgood. Andrea Young, the program’s second student, is beginning her studies in Jon Brooks’ studio. “Andy” lives in Amherst, NH and is a member of the Guild.

Last summer, the Furniture Masters celebrated their tenth year with an exhibit at the Currier Museum of Art in Manchester which included retrospective pieces as well as new works. The opening drew 600 visitors, which was the largest one-night attendance at an opening in the history of the Currier. In October, they held their auction at the Wentworth by the Sea Hotel. The organization’s chairman, Garrett Hack, reminisces in his opening of the auction’s catalogue. “If we have learned anything after ten years, it’s how to put on a party, with amazing food, good conversation, and a silent auction of smaller and less expensive pieces that is nearly as much fun as the main event.” The main event featured pieces by 19 masters, and three others from the Prison Outreach Program. Over six hundred people attended. A handful left with timeless pieces of art furniture.

As Misterioso winds down, Monk and his group play through the progression a final time. My recording is live from the Five Spot in New York City, 1958. So when the group has stopped, I can hear the people in the club. Some whistle, and some clap. They caught the original show.

In New Hampshire, 2006, we have David Lamb quietly creating his masterpieces in his Canterbury woodshop. If you would like to catch the show, his work, and the work of the other Masters, they will be displayed at the New Hampshire Historical Society’s Tuck library from July 13th through the 26th, and at the New Hampshire Institute of Art, Amherst Street Gallery from July 28th through August 26th. The 2006 auction will again be held at the Wentworth by the Sea Hotel on October 22nd. For tickets, catalogs, and information about the Masters and their organization, visit www.furnituremasters.org.
Barred Owl

Bill Schnute is a long time woodcarver specializing in free standing and wall mounted sculpture, doors, entry ways, gates, room dividers, mantles and signs. He operates Oak Leaves Studio in Wilton, NH just across the road from Frye’s Measure Mill.

Bill describes how he developed the last project he undertook before closing his 1,000 SF open (walk-in) studio in Carmel Valley, CA. He was located 12 miles inland from Carmel By The Sea. Coastal fog regularly soaks this area with moisture producing a unique bio-environment. However, his studio was located just back of the fog line in a consistently semi-arid place – 2” of rain per year – ideal for carving delicate features for his many customers.

This project was developed for a first time walk-in client from PA. The commissioned piece took four weeks of preparation and three to four more to carve and finish. His subject is a barred owl which is of the same species as the horned owl. Its habitat is to nest in a hollow tree trunk. Bill notes that it is not as noisy as the horned owl.

The Barred Owl sitting on a broken white oak tree was commissioned by an out of state customer just before closing my shop in California. It was a large piece at 85 lbs. – 54” tall, 36” at the widest points and 8½” thick.

Cherry wood was chosen because it would show nicely against the fireplace stone wall and the available overhead lighting would provide a suitable shadow line to highlight the carving. Walnut was considered but would not show well with the available light. White oak, although fitting for the theme, has a delicate ring porous structure and a pattern which can obscure carved details.

I like wood best with no finish, however, longevity precludes this option. I use a water thin two part epoxy for the first coat, using a heat gun to soak it into the wood. To avoid a built up plastic look, the next three coats are thin sprayed coats of satin polyurethane. Because carved wood is not sandable, the temperature and relative humidity must be carefully monitored and the difference between set time and cure time of the finishes can be played with to avoid intercoat separation.
When patterns are used for commissioned or "stock and trade work", a simple line drawing is made. Depending upon the thickness of the stock wood being used – two inches in this case – a topographical map of each layer is drawn. These layers can be plus or minus from the base layer. This pattern is a plus five. Stable blocks of wood can be glued up for high relief to full in-the-round carving in this manner.

Woodcarving is rarely considered art, presumably because you need to know where you will end up before you start. Mental activity has no visible motion, which helps explain why I am constantly asked what I do with my time. Deciding on the theme, mentally organizing how the piece will look and be made is all done before a pencil is picked up. I often say at the start of a pattern that "it is all over but the doing".

The layout and edge gluing of each layer allows precutting the shapes derived from the topo maps. Small ledges are left on rounded edges to allow for clamping. To facilitate surface planning before face glue-up, sections are limited to 18” by the size of my planer.

Face glue-up also involves joining 18” sections of layers at the same time. The number of layers to be clamped at one time is limited to the size of the project and the set time of the adhesive. Spreading this adhesive on the edge and faces of a number of boards creates a highly lubricated mass of wood moving in all directions when pressure is applied. A dry run to establish alignment and preset the clamps is highly recommended. I found it to be more effective to use as many clamps as possible with enough pressure to hold a well machined edge together rather than a few clamps and a heavy hand. The glue is spread on both sides of large areas with notched trowels or paint rollers.

This is the beginning of the end. A 125 pound block of cherry wood worth $1,500 is ready to carve.

I use heavy gouges to split off larger sections of wood and a series of pneumatic rotary hand tools to define the shape and form I want to achieve. Carvers often assume that mallet and gouges are the only acceptable tools for carving. Traditionally though, preparation and rough-out was done by unpaid labor. I call power tools my apprentices.

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The season is changing and so are the humidity and temperature levels. If you have a shop that is in an unheated or marginally heated area like an unfinished basement, garage or outbuilding, it is time to do a little preventative maintenance.

The shiny iron and steel surfaces of your tablesaw, jointer, planer and bandsaw are susceptible to rust as the temperature and relative humidity changes in spring and fall. A cold casting in a basement that varies in temperature with your arrival may feel the ill effects of your presence. Being a body made up of a large percentage water, you add humidity to the room. When the air is warm, this humidity is carried suspended in the air but when that air comes in contact with your cold equipment, dew may form on the rust-able surface.

There are plenty of products to protect your machinery, like T-9 or light machine oil, but I prefer paste wax. A can of Butcher’s Wax is always around in my shop for doing final buffing of my hand-rubbed finishes and it works extremely well to reduce friction on all sorts of machinery and handtool surfaces. But come the change of season, it is employed to coat and protect my investments.

The tablesaw top is the first to be treated by applying the paste wax with an abrasive pad like ScotchBrite or 240 sandpaper. The abrasive removes any surface rust that may be present and the wax creates an adequate barrier to air-born moisture. Rub it on thoroughly trying to coat every visible surface, then rub it off again with a clean dry rag or paper towel.

Doing the same to the interior of the machinery would be great, however there is a limit to my ambition. Nonetheless, I do clear out all traces of sawdust I can get at inside the tablesaw and check that the gears are clear of caked grease and sawdust. That sawdust is still wood – it inhales moisture which could be the catalyst to a rust spot. Removing the blade and lowering the arbor gives pretty good access to most of the interior. Reapply lubricant to the gears that raise and tilt the blade and the pinion track the arbor rides on. Dry lubricants attract less sawdust but may be rubbed off more quickly.

This bit of maintenance can consume an hour or two of your shop time if you have several stationary tools but you will find that they all seem to work more smoothly and cut more cleanly once this attention is given.

Don’t stop at the big stuff. Look over all the handtools to detect emerging rust. Give them all a wax buff for protection. Giving your chisels and planes a shiny smooth nearly-mirror finish while sharpening will also reduce the risk of rust. Moisture can penetrate into scratches and rough spots on the tool surface. The smoother the surface, the fewer places for this to occur and then occasional use is all that is needed to keep rust from forming.

The time and effort to glue up and precut each layer is recouped. Using air tools and occasionally a chainsaw, a few hours of work defines the shape and form of the finished piece. Most of the excess wood is on the floor. I layout and draw the pattern on the wood as I carve. I’ve learned to listen to the unconscious voice warning to stop removing material from an area because later this may be where the eyes are located.

After six weeks of carving, this piece is ready for finishing. All of my work is original and unique. Most is site specific. The lighting available or specified is duplicated in the studio so that the shadow line necessary to give depth and detail to the work can be seen. I design the installation hardware to set a piece such as this one away from the wall so it is self shadowed and appears framed.
In my last column I gave you a bit of insight into the wide variety of choices of hand planes available to the woodworker of today. I’d like to continue on the topic of tool availability and choice by talking about hand saws this time. What? You say you don’t use hand saws? If this is the case, you are probably avoiding them because of a bad experience with either a poor quality modern saw that had an uncomfortable handle, or one which wouldn’t cut well or cleanly because it was poorly sharpened at the factory. Ok, I’ll grant you that the offerings from Home Depot and many of the normal outlets are lousy and that using any hand saw takes practice, but your woodworking horizons will open greatly if you spend the time to research and look for good saws. Since my familiarity is with western style push cutting saws, I won’t cover the Japanese style saws. Someone else better qualified will have to write about them for you.

Like hand planes, we have a greater variety of choices now than we have had in over 40 years, and some of the modern makers are excellent. There are also a large number of old handsaws from 40-130 years old that you can buy inexpensively for $15 to $50 though they will need cleaning and sharpening. The question then becomes, “Why would I use a hand saw when I have a bandsaw, circular saw, jig saw, and a table saw?” I could go on forever about this, but I’ll spare you the full sermon. Let’s keep it simple and say that in many cases you can make a crosscut on a piece of stock with a hand saw before you could even make the setup on your tablesaw and that saves you both steps and time. On making dovetails, I’m not particularly fast, but I can complete a dovetailed drawer by hand before I can even review the directions, let alone set up, a router dovetail jig, and a backsaw is considerably less expensive than the jig and the special router bits. There is also the consideration of cutting complex joinery. With power tools, some setups require making complicated jigs and/or setups and can still border on being unsafe. For joinery use a pencil or marking knife to mark out the joinery lines, pick a dovetail, carcase, or tenon saw to cut to the line, and then trim if necessary with a shoulder plane. It’s faster, safer, and doesn’t require making test pieces to check the setup.

Ok, let’s assume I’ve convinced you that you would like to start using hand saws, so where do you begin? A nice versatile starting set would include a dovetail saw (filed rip since you are cutting with the grain), a tenon saw (filed rip to cut the cheeks), a carcase saw (crosscut), a 26” to 28” crosscut saw of 8-10 teeth per inch (tpi), and a 26” to 28” rip saw of 4-6 tpi. These five saws will be more than adequate to get you started and you can fill in the holes with additional saws later. Now comes the time for education. Two web sites offer great insight on saw history, choosing saws, sharpening saws, and saw anatomy – The Disstonian Institute and Vintage Saws. Both are listed in the references to the right and can offer far more detail than I can cover in this short article.

For sources of great saws, we’ll split things into two categories – backsaws (joinery saws), and stock preparation handsaws. All of the makers of old saws – Disston, Atkins, Wilkinson, Harvey Peace, etc – made backsaws and some are still available on the used market today at pretty decent prices. Excellent modern backsaws are available from Lie-Nielsen and Adria Tools. Less well known are the fantastic custom makers Leif Hansen and Mike Wenzloff. Both are quite price competitive. From the UK you can get the outstanding new PAX 1776 backsaws, though their other Flinn, Pax, and Garlick saws are of lesser quality and a bit clumsy. Tools for Working Wood in NYC also has a number of private label saws made

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the ultimate

Router Dado Guide

Use the jig just as you would any parallel bar dado jig. The biggest difference is it works. Every time. The dado is fit to the exact thickness of the material used to set the jig up... no test cuts, no tape shims, no rulers needed. No matter what the router make or model, no matter what the material being used, this jig accommodates them all.

Guide Parts

The dado guide consists of three main parts – base frame (1), width guide assembly (2), and reference bar (3). The base frame (1) modeled here using scrap materials has one T-bolt track running along the left guide bar, and two shorter tracks inset into the upper and lower arms.

The width guide assembly (2) is two parallel bars secured together with cross ties. In the gap between the two parallel bars, a reference bar (3) can be positioned independently of the width guide assembly.

An optional stop block assembly (4) was added for this jig to allow duplicating stopped dados for specialty designs and applications. It is useful for recessed shelves, or any application where stopped dados may be used.

Set Guide to Initial Position

The dado guide will accommodate any size router base. Place the left side of the router base plate snug against the base frame guide bar (1). Adjust the width guide assembly (2) snug against the right side of the router base plate and tighten the T-bolt handle.

Move the router to the far end of the base frame and do the same thing. At this point, double check to make sure the router is snug at both ends again.

Set Reference Bar

Use the router bit to set the width reference bar (3). Use a bit smaller than the dado you need to cut – in this case, a ½” straight cutting bit for a ¾” dado. Adjust both ends of the reference bar and tighten the T-bolt handles. The jig is now calibrated to the router and the cutting bit.
**Set Guide Assembly for Dado Width**

Once calibrated, simply take an off-cut from the stock that will be inserted into the dados. In this example, I had about an inch of sheet stock from the end of the plywood sheet I was using for shelving.

Loosen the T-bolt handles on the width guide assembly (2) and move it to the right. This allows the sample material to slide between the reference bar (3) and the right bar of the width guide assembly (2). Move the width guide assembly (2) snug against the sample piece as shown, and tighten the T-bolt handles. The dado guide is now set to cut a dado the exact width needed for the material being used.

**Clamp Guide to Work Piece**

Well, I thought about putting a couple toggle clamps on the bottom front frame but never got around to spending the money on them. Instead, I keep reaching for the nearest bar clamp and it seems to work pretty well.

**Hand Saws** – continued

under their Gramercy brand. I would personally stay away from the Crown and some of the cheap German saws. They are incorrectly filed crosscut and usually have too much set to the teeth. Unfortunately, you still only get what you pay for.

For stock preparation like general crosscutting and ripping, there is not yet the breadth of quality and choice that is offered in backsaws since the introduction of the electric circular saw killed the market for hand saws. The realistic choices are still limited to good used saws, and the offerings from Flinn, Garlick, and Pax. Just understand that the handles on these new saws might require bit of reshaping to make them more comfortable for your hand. If like me, you want a really top of the line crosscut or rip saw, you will have to buy used and refurbish the saw by derusting it and either sharpening it yourself, or sending it out to be done. This is really not as hard or bad as it sounds. Saw expert Tom Law has produced an excellent video on jointing, setting, and sharpening a saw. The tools are available from some of the web sites listed in the references. The easy alternative is to send the saws out to Steve Cooke and have him do the job for you. If you spent $40 for a saw and an hour or two cleaning it up, the $15-$25 for shipping and sharpening gives you a saw of better quality than you can buy new and you still save money. My only caveat on buying used saws is to seek advice from someone knowledgeable about old tools before spending a single cent.

I urge you to advance your woodworking skills by including hand saws in your arsenal of tools. A properly sharpened saw will open new horizons and is often the faster and a more accurate alternative to electrically powered saws. Learn the skills, practice, and enjoy.
Richard Angus – Moosup, CT
Cross-Grain Bowl Turning
Melding Basic Principals with Creativity
In this demonstration, a series of proven steps for making a bowl from a log will be presented. Log preparation will be discussed, the grain pattern in the planned bowl will be visualized and the blank will be mounted. A bowl will be turned in four steps: outside, rim, inside and foot. Jam and compression chucking, with emphasis on maintaining the same axis after remounts will be included. The cutting action of gouges and shear scrapers will be analyzed and put to use. Questions are encouraged and will somewhat direct the flow of the action.

Dick Batchelder – Bristol, NH
Reproducing Architectural Elements
This demonstration will show the process to replicate turned elements in historical restoration projects. The same technique can also be applied to repair and restore furniture that has turned elements in its construction. Participants will learn how to take an old turning that is rotted, broken or missing original detail and create a working drawing and a prototype turning. This demonstration provides hands on advice about choosing appropriate materials, pricing and production techniques.

Peter Bloch – New London, NH
Making a Living as a Woodturner
This is going to be a very personal version of will provide a laundry list of strategies, theories and obsession with turning work for him. You will probably offer his reflections on turning as a livelihood.

Jack Brown – Valencia, PA
Inlayed Christmas Ornament
During his demonstration, Jack will make an inlaid ornament, explaining how he made the router jig and how it is used to make the necessary cuts for the inlays. He will also show an easy way to make an indexing wheel to evenly space the inlays.

Dustin Coates – Etna, NH
Miniature Goblets
Dustin will be working in a very small scale, making goblets and other forms that are less than 1 inch long. He will be offering solutions to issues related of chucking, tools, and shaping. Cameras will be used to project his amazing workmanship onto a large screen, so that you can clearly see what he is doing.

Bob Coleman – Hollis, NH
Hollow Wooden Ornaments
To begin, Bob will shape the globe and hollow it out. He will verbally explain sanding and finishing the globe and then will drill the globe off the stem as a final step in creating the globe. The icicle and finial will be spindle-turned from rough blanks to final shapes, with attention to layout, sanding and finishing. To end, he will part these pieces off the lathe and assemble a finished ornament.

Charles Faucher – New Ipswich, NH
A Fresh Look at Segmented Turnings
Charles Faucher combines machine lathe accuracy with traditional wood lathe techniques to produce segmented forms that develop horizontally rather than vertically. Faucher will explain various jigs and procedures that go into his unusual work. He will turn an assembled form into a finished piece. If asked, he will probably offer his reflections on turning as a livelihood.

Mike Fonner – Weare, NH
Spindle Design Basics
This presentation will explore the concepts of making the transition from a square blank into a round design appear sculptural. Why does a round vase in a square piece of stock draw our eye? Where does good design differ from bad? Are modern designers better than designers from the past? How do you design a table leg to fit other pieces of furniture? Should my design be planned on paper or should I wing it and design while I'm turning? What size pommel do I use when transitioning from square to round? How do I design for the aprons that will tie the legs together? What turning will make this piece pop? If you've ever asked some of these questions, come join the discussion.

Stephen Glesener – Appleton, ME
Making a Bowl from a Thin Board
Stephen will show how to use a thin piece of stock to quickly and easily make a bowl of volume using very little material. He cuts concentric rings from a thin, dry plank of wood using a modified parting tool and then glues the rings back together in a bowl shape. This technique also maintains continuity of color, density and pattern throughout the piece. Too good to be true? Come and find out how easy it is.
vessels, and end-grain bowls). Next he will show why a hook tool serves as one solution to such problems — and why it has arisen around the world and over time as a common solution. He will also have a variety of commercial variations followed by a demonstration of making a basic hook tool.

**David Lancaster — Weeks Mills, ME**

**Once-Turned Bowls**

Based on his participation in other NE Turning Symposia, you can expect standing-room-only for David's demonstration. He will turn a bowl from a green piece of wood to a finished bowl. David will discuss the design process he uses to create his beautiful bowls. He will show you how to mount the bowl blank and efficiently rough it out. Proper use of the vacuum chuck and the OneWay Easycore tool will be demonstrated. Learn how to make a finish cut that is done in one continuous flowing motion. Sanding and drying will also be discussed.

**Andre Martel — St. Cesaire, Quebec**

**Turning End Grain**

Andre will be focusing on the basic principles of woodturning in relationship to grain. He will be showing: bevel and shearing cuts; roughing out with a side-ground bowl gouge (SGBG); and cutting into end grain using the SGBG. Then Andre will proceed to the use of ring tools and standard hook tools — their configuration, possibilities and limits. Finally he will demonstrate the unique Martel Hook tool and the "skew bowl gouge."

**Andy Motter — East Sullivan, NH**

**Natural Edge Goblet**

Andy's demonstration at the symposium will focus on the safe and efficient use of basic spindle turning tools to produce a natural edged goblet. Techniques to be discussed will include end grain hollowing and the "old turner's trick", the Captured Ring.

**Graham Oakes — Derry, NH**

**One Tool Wonder**

Using an Ellsworth-grind bowl gouge, Graham will be demonstrating multiple tasks in its use. By focusing on 14 simple cuts he will cover everything from thin-walled natural edge bowls to turned spindles. Remarkably, all aspects of turning will be covered using this one tool.

**Bob Rosand — Bloomsburg, PA**

**Intro to Sharpening**

This session will begin with Bob making two tools: a bent angle tool for hollowing and a small round skew. Each tool will be sharpened and it's use will be demonstrated. Bob will then demonstrate sharpening other tools (spindle gouge, roughing gouge, small bowl gouge, etc.), primarily using the Wolverine jig. If time allows, Bob will sharpen a few tools that come "straight from the manufacturer" and we may be able to do a little “hands on” work with beginners.

**George Saridakis — Groton, MA**

**Turning and Sculpting a Lidded Box**

In the first part of his presentation, George will discuss all the turning and sculpting tools, as well as chucking mechanisms he uses, including commentary on how this has evolved over the years. Secondly he will demonstrate and discuss key turning techniques and address lid fit issues including the tables used to measure fit requirements. Thirdly, he will briefly discuss using a vector graphics program to create designs, and then demonstrate the basic cutting approach used, and how ornament creation can be used to practice these techniques. Participants will be invited to try scrollsawing an ornament. Lastly he will discuss finishing techniques.

**Charlie Sheaff North — Swanzey, NH**

**Multi-Axis Turning**

Traditional woodturnings are done with the object mounted on the lathe, along a single axis. This session will explore some of the possibilities which occur by turning on multiple axes. Topics will include practical applications, such as furniture legs, as well as several fun and whimsical creations.

**Jon Siegel — Wilmot, NH**

**Spindle Turning Basics**

Learn the tools and techniques necessary for spindle turning between centers. What chisels do you need? How do you sharpen them? How do you build skill and confidence? All the basic processes will be demonstrated and clearly explained.

**Al Stirt — Enosburg Falls, VT**

**Turned, Textured and Carved Bowl**

After a brief slide show of some of his carved and textured pieces, he'll show the steps involved in turning a bowl with carved and textured and colored elements. He will also show some carving techniques using a reciprocal carver as well as a rotary carver.

**Chris Strassner — Biddeford, ME**

**Natural Edges from Green Wood**

This will be a how-to on natural edge turning, focusing on how to deal with greenwood, avoiding cracks, keeping crisp edges, and finishing issues.

**Linda VanGehuchten — Sarver, PA**

**Natural Edge Angels**

She will be turning one of her beautiful natural edge Angels. To turn an Angel — put together a bowl, a spindle turning and a little carving — presto!

**Jacques Vesery — Damariscotta, ME**

**Concepts in Design**

This in-depth slide lecture compares design components before and after turning, including form, balance, and proportions. Through a presentation of several artists' work, in some cases in retrospect, Jacques will show how variations and growth help a body of work evolve. This is a great learning tool for anyone, working in any medium. It is also an ever changing presentation as new artists' work is added to the mix each year.

**Brad Vietje — South Ryegate, VT**

**Introduction to Hollow Forms**

This session will explore the basics of design and form, and concentrate on the actual turning of thin-walled hollow forms with hand-held tools. Information about laser guided boring bar systems will also be discussed.

**Wendy Wilson — Putney, VT**

**Turning Small Bowls**

Wendy will demonstrate the process of turning small bowls on a mini/midi lathe. She will start with the bowl blank between centers to shape the outside of the bowl and end with a jam chucking system to finish the last detail of the bowl, the bottom. There will also be discussion and demonstration of tools, sharpening, sanding and finishing.
When I heard that Al Stirt would be teaching a workshop at the Center for Furniture Craftsmanship (CFC), I immediately decided that I would like to attend. I had seen Al demonstrate a few years ago at the guild’s turning symposium at Pinkerton Academy and I regarded Al and his classic shapes as one of the inheritors of the pioneering bowl turner Bob Stocksdale. I was interested in learning more about his approach to form and seeing the techniques Al uses to carve, decorate and work the surfaces of the bowls and platters he turns.

My own adventures and exploration of bowl turning began a few years ago when I picked up a copy of the exhibition catalogue 88 Bowls by Bob Stocksdale. I spent the winter of 2001 - 2003 studying the bowls pictured in the book enough so that in March of 2002 I decided to buy a lathe. That winter as I explored bowl turning, I discovered a number of “new” developments that had taken place in wood turning. One was sharpening jigs and the other that I heard about was turning wood green and wet.

Thanks to a Guild scholarship, I was able to enroll in Al’s class. I found Al’s teaching to be a memorable experience. Al Stirt is a very good natured and interesting person with a wide range of interests and knowledge. This shows through in his teaching and in his work.

Our week long class started on a Monday and after the initial CFC school rules talk, Al began his lecture by chain sawing a blank from a log of green wood. He explained how he centers the blank on the lathe and he showed us a what I can best describe as an adjustable screw chuck that he made either to be mounted on a dedicated faceplate or held in a scroll chuck.

Al has the ability with this chuck to adjust the blank and better balance the grain that will be revealed when the bowl is turned. It is easy to say that I have been meaning to make one of these for my own use. Having been a bowl turner for many years, Al of course makes it all look very easy. By Monday afternoon we were all turning away. I found out that turning wood in a school set up is a lot different than turning in your own workshop. I was aware of everyone around me and it actually took a few days until I felt comfortable. I suspect that the others were all workshop veterans and were in their element.

Monday evenings at CFC, the visiting faculty usually show slides of their work after the traditional ice cream and cookies desert. Al showed his slides and gave us an autobiographical look at his career. He does not consider himself a woodworker and feels more akin to a pottery making tradition. Along with his own work, he showed slides of historical Chinese and Japanese pottery and I could see how the shapes of these classic pieces had influenced him.

He also showed slides of the kayak trips he has taken for many years with his wife and a group of friends to the northern reaches of our hemisphere. He showed dramatic photos of the landscapes where he canoes in Labrador and Hudson’s Bay. And he considers these journeys to be a major influence on his work. When you spend a week taking a class with Al, you know it’s true.

Al demonstrated a number of electric powered carving tools with which he has become quite skilled. He was very adept and comfortable with the wide variety of power carving tools and I got the impression that he had at one time or another tried them all. His ability to work confidently with these tools and the dramatic results that he attained were a tribute to his skill and artistic vision.

I experimented using some of the power carving tools but felt more comfortable using traditional carving gouges. I also painted a couple of bowls using milk paints. Without the distraction of wood grain, a painted bowl allows you to concentrate on the form of the bowl.

I was not sure at the end of the workshop how I would apply what I had learned to my own work, but as it turned out I recently started turning some black and white painted and carved bowls for an upcoming exhibit at the League of New Hampshire Gallery in Concord.

Al was assisted in the workshop by Maine wood turner and furniture maker Mac Ray. Mac is one of those hidden treasures that we all occasionally come upon. He is quiet and unassuming, a master craftsman and a very patient and good teacher. Mac was extremely helpful and generously shared his knowledge and tools with the class.

If you have any interest in spending a week with a wood turning master and learning about turning open bowls and platters, I recommend taking a workshop with Al Stirt. Again I thank the Guild scholarship program.

Along the way though, a funny thing happened to me. When I applied for my grant I became interested in the workings of the Guild scholarship program. Jack Grube invited me to be a member of the committee and now I find myself as the committee chair. Now how did that happen?
The February meeting of the BIG was the final session of the door construction series which began at last December’s meeting.

Bob started by making a panel for the cope and stick frame made previously. The panel was made by cutting a rabbet on all four edges on the table saw. He then cleaned up the cuts with a shoulder plane. Bob recommended finishing the panel before assembly to eliminate the possibility of having an unfinished line appearing on the edge with seasonal wood movement.

Next came glue up and clamping, there were lots of tips on how to keep the frame square with the panel centered. He was very detailed about how to clean up the panel for final finishing and fitting the door to the opening.

The rest of the meeting centered on hardware. The door we made was hung using butt hinges mortised into the edge of the door and frame. He showed us how to make the hinge mortises both with hand tools and a jig and router. We then went through the other types of hinge options available. This included the knife hinges that James Krenov loves to use on his cabinets plus several styles of European type hinges.

Bob suggested getting a Blum catalog for details on their fine Euro hinges which he seemed to favor for their wide range of adjustability. He also showed us some quite serviceable Euro hinges available at home centers that are less expensive than Blum. Bob finished by demonstrating the installation and adjustment of the Blum Euro hinges.

 Begins by Greg Benulis
Beginner & Intermediate Group

Photos by Jim Seroskie
Feb 4th, 2006

ShopSmith …
Mark V – Great multipurpose woodworking tool in excellent condition. Check it out at www.shopsmith.com – $950.
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Variable speed, 1.5 HP; 3 spindles, one for router bits. Includes Shop Fox mobile base – $350
Jack Geerer: 802-484-5955 or Jgeerer@wavecomm.com

Some modern furniture has generated enough universal acclaim for enough time to suggest transcendence. Sam Maloof’s chairs are good candidates for masterpiece status.

Constant Tension
The four objectives are in constant tension and even competition one with another. However, you cannot make good furniture by emphasizing one or more objectives at the expense of another. I point this out when showing my students how to make a Windsor chair seat. I explain that the broad solid surface which supports the sitter’s backside satisfies function. However, the seat has to be nearly two inches thick so it can be deeply saddled to make it comfortable. The thickness also allows for deep, strong joints. However, the mass of a thick seat is in conflict with the chair’s graceful lines. Therefore, the maker has to carve the edges and upper surface of the seat in such a way as to create the illusion of the seat being thinner than it really is.

Another good example is the Klismos chair, popular in the young United States and western Europe starting about 1815. The Klismos is a chair developed in classical Greece and often illustrated on Grecian urns. Although very fashionable and beautiful, the Klismos chair was not a good piece of furniture. Stretchers were not used because they did not look good when combined with graceful saber legs. However, the legs were too thin to create strong joints. The result is that few Klismos chairs lasted very long without breaking. After a decade or two of bad experience, furniture makers began to add stretchers to their Klismos chairs to strengthen a beautiful, but weak design.
The January meeting at Peter Bloch’s shop opened with the introduction of eight turners who had not previously attended a GSWT meeting. This meeting focused on the use of the multiple varieties and uses of turning chucks. Interim President Jon Siegel quickly surveyed the attendees and identified twenty different chuck classifications. The chucks varied from machined products costing several hundred dollars to simple scrap wood chucks.

When turning chucks are mentioned, scroll chucks are likely to be visualized. Scroll chucks were first used on metal lathes in the 1800s. They are defined as "an adjustable chuck, applicable to a lathe spindle, for centering and holding work, in which the jaws are adjusted and tightened simultaneously by turning a disk having in its face a spiral groove which is entered by teeth on the backs of the jaws." Prior to the centering feature development, the work piece had to be manually centered by adjusting the chuck jaws.

The meeting progressed by members describing the multiple chuck types with comments and shared knowledge from other members.

Dustin Coates displayed a compression chuck and discussed the use of rigid foam to increase the gripping strength. In the spirit of yankee frugality and curb side procurement skills, the foam used on exercise machines was identified as a material that is suitable for shaping and compression.

Next described was a chuck that uses the headstock drawbar to pull a collet into the headstock Morse Taper (MT). The collet is used to provide a secure, tight fit around the stock as the drawbar is tightened.

As discussion progresses around the shop, a Napkin ring chuck made from a wooden rod with two perpendicular bandsaw cuts into one end was presented. As the tailstock is tightened into the intersecting cuts, the rod expands to provide a tight fit.

Multiple members have built Longworth chucks that are classified as scroll chucks also. Plans for construction are readily available on multiple web sites. Portrayed were held on the subtle variations.

For holding small stock without tailstock use, collet chucks are available. Manufactured collet chucks are available that are well adapted for turning bottle stoppers and similar objects that range from ¼” to ¾” diameters in ¼” increments.

Vacuum chucks are now commonly used and are ideal for holding larger objects since the holding force is dependent on the surface area multiplied by the difference between atmospheric pressure and the vacuum pressure. For a 6” radius object with a 75% vacuum, a perfect seal, and no air loss through the porous object walls, an ideal holding force of 1200 pounds can be obtained. George Saradakis displayed a homemade vacuum chuck that uses a short section of PVC pipe with O-rings for a tight seal to turn his signature lidded boxes. Comments were made that vacuum chucks are not suited for porous woods such as a red oak or thin wood turnings. Caution should be issued that an excessive high vacuum can generate enough pressure to cause the turning to implode with the scattering of debris.

One general type of chuck is the “Jam Chuck” that can be used for both tailstock and open access. Jam Chucks provide gripping power from friction but can also use “Duct Tape”, wrapping tape, hot melt glue, shoe glue or rubber cement for increased holding strength especially during rough turning. The fit can also be adjusted by applying moisture to the seated surfaces with a paper towel or spray bottle.

On the commercial side, the Nova chuck that can be used in both compression and expansion modes was described as the first self centering four jaw chuck designed for wood workers with over a million units sold. Other manufacturers such as Grizzly, Penn State and Vicmarc now produce Nova imitations with varying prices, qualities and features. Clamping ease, stock size, spindle size, and cost were discussed for several manufacturers.

Jon indicated a preference to use Jam Chucks for repetitive bowl or plate turning. He starts by turning the bowl bottoms to the same diameter and then turns the jam chuck for a tight fit after the bowl if flipped. If multiple bowls are being turned, the bottoms are sized smallest to largest to adjust for wear as each bowl interior is completed.

For additional details, a “Guide to Work Holding in the Lathe” by Fred Holder was mentioned and can be obtained from Linden Publishing. Fred also publishes a newsletter called “More Woodturning”. Details can be found at www.fholder.com.

As expected, this month’s forum was both interesting and educational from the shared skills and expertise of the 40 attendees.
Homestead Meeting

Routers: Things you did not know you could do with them!

On February 18th, more than 60 of the guild’s 402 members found refuge from the blustery winter winds at the Homestead Woodworking School. Inside, heavy coats hung from cabinet doors, while sturdy workbenches displayed Dave Anderson’s finely made hand tools, the Guild’s impressive DVD library, and Practical Technologies’ Multi-Function Base Plate and Circle Jig.

Louis Duplessis, founder of Practical Technologies LLC, began the meeting with a demonstration of his router accessories. The base plate he has developed is made to easily attach to all common routers, and work with common Porter Cable styled template bushings. Louis’s innovation is in the simple pieces that complete the kit, taking the place of numerous other costly and inefficient jigs on the market. The Practical Technologies Base Plate is machined to accept an adjustable dovetailed slide that will anchor the router into a ¾” hole, creating a circle jig with a range from 2” to nearly 18 ½”. A simple aluminum fence can also be attached to the slide and adjusted out over 8”. In addition to the three pieces, Louis has developed a longer compatible slide capable of cutting larger circles. His business is based out of Raymond, NH, and more information about his products can be found at www.practical-technologies.com.

The meeting was given a considerable spark when President Roger Myers mentioned that Taunton Press had contacted Marty Milkovitz. For a few seconds the shop was a little quiet, a little stunned. And Roger announced that Fine Woodworking is interested in pursuing an article on Marty’s American Style Hutch, having seen it featured on the cover of the November 2005 issue of The Old Saw. Members in the room applauded Marty’s accomplishment a little bit like a family might clap for one of its members at college graduation. Many were proud and just sincerely happy for Marty.

The meeting’s presentation, entitled Routers: Things you did not know you could do with them, was given by Alan Mitchell, founder and director of the Homestead School, and Bob LaCivita, a professional woodworker and guest instructor at the school. The two worked well together, with one at center stage and the other always in the background preparing for the next demonstration.

Bob began. Using a shop made jig, a plunge router and a spiral up-cut bit, he cut the mortises for a loose tenon in the mock rail and stile of a cabinet door. He then used a set of matched bits in a router table to cut the mating profiles and a dado to receive the panel. After some discussion of the various panel raising bits on the market, Alan used a vertical bit to chamfer the edges of a door panel. Push blocks were used to safely send the piece through on edge. The final profile was achieved in three sets of passes at increasing depths. Each time Alan was sure to make the cuts across the end grain first in order to avoid tear out. His final set of passes took only a light cut from the panel, decreasing the severity of chatter marks.

The first demonstrations gave clear examples of how routers can be used to construct a raised panel door. A number of the other demonstrations can be linked by the use of a router and a flush trimming bit to both make and follow patterns. Bob displayed a mold he had used to bend graceful waves into a piece of maple. Once a single plywood pattern had been established, it was easily copied using the flush trimming or pattern making bit.

In a router table, the pattern making bit can be just as useful. The legs of a Shaker pedestal table were formed using a double sided jig, which first guided the bit along the curved top edge and then, once the piece had been moved to the opposite side, along the bottom. As the presentation progressed, the list of creative jigs lengthened to include Bob’s shop-made circle jig, and his fixtures for creating a tapered sliding dovetail joint. Alan presented the cradle used to router dovetailed slots in the shaft of a Shaker pedestal table. He also quickly cut a well fitted box joint using an Incra Positioner System.

When the demonstration ended, Bob and Allen answered the questions of members who went up to take a closer look at the various jigs. Louis Duplessis did the same from behind the workbench displaying his products.

Safety Notes

• Wear eye and ear protection.
• Make good use of push blocks and push sticks.
• Be sure router is off before plugging it in.
• Be sure to operate all router bits at recommended speed.
• Be sure collets are clean and well tightened.
• Make multiple light cuts when removing a significant amount of material.
• Use extreme care when climb cutting.
March 11th, 2006

Period Furniture Group

by John Whiteside

The March meeting of the Period Furniture Group met at Paul Miller’s shop in Chester, NH. As has the Guild as a whole, the group has grown this past year. We consistently have over twenty attendees now and so we took some time to discuss the nature of our group and how to accommodate all of us in the smaller shops in which we typically meet.

We agreed that, strictly speaking, period furniture means pre-industrial revolution, that is, furniture built before about 1820, culminating with what is loosely known as Empire style. In terms of member’s preferences, Queen Anne is the favorite. There is also interest in Georgian, Federal, Windsor, William and Mary, and Chippendale. There is also some interest in what are known as vernacular or country styles, such as Shaker.

In terms of skill level, 70% of the members describe themselves as experienced, 15% as professional and 15% as beginners. Despite this high level of experience, there is a general feeling that new members are welcome. The problem arises in that we now have more attendees than can be accommodated by members who have smaller shops.

We discussed possible solutions to this dilemma. One piece of good news is that there are about six member’s shops where 25 or more people can be accommodated. However, it may be necessary from time to time, to limit attendance to those who respond first to the meeting announcement. This will only be done as a last resort. Another idea we will try is, when a member’s shop is too small for everyone to see the demonstration clearly, we will split the meeting in two so that half will discuss and socialize in the living room while the other half sees the shop demo, and then rotate. A third idea is to meet in a venue other than a member’s shop. For example, we plan to have a meeting next year in Old South Church in Newburyport, MA, built in 1756 and the largest wooden structure in the 13 colonies. It is likely that we will have steeple tours to view the early structural techniques.

Besides organizational issues, our meeting featured, as always, a safety topic. According to members who have reason to know, it is likely that at some point, your table saw blade or shaper bit will throw off a tooth at high speed. Your only protection then, besides pure luck, will be if you have remembered to stand out of the line of fire, have a guard in place, and have remembered to wear safety glasses or a face shield.

Our host, Paul Miller, is known for his beautiful Windsor chairs. However, at this meeting, he gave us a presentation on carving. Don’t carve bending over! Arrange a carving bench at the level of your elbows. Always clamp your work. Never place a hand in front of where your tool is cutting or you will surely stab yourself. Stand in a compact manner, arms and elbows close to your body.

Sharpening carving tools can be a challenge. Here is an invaluable trick for curved gouges. Use the gouge to create its own shape, both the convex and the concave side, along the length of a piece of wood. Then coat the wood with a honing compound. The tool can then be slid along the compound-coated, perfectly shaped wooden strop for sharpening.

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**Lathe & Wood ...**

**Hegner Lathe – HDB200**
1/2 hp 36” between centers, four jaw chuck, live tail center, drive spur & face plate — $400

**Copy Attachment** — Heavy duty for lathe — $200.00

**Mini Lathe – Teknatoool Nova Comet** — $150

**Mobile Base** — HTC/JET Model JMB-JTAS 50ST 24 ¾” x 53” w/ 36” T extension — $100.

**Wide Pine board 32”x7’ S2S**. This is one board, not one that has been glued-up. It has only one small tight black knot — $225.

**Wide Pine clear & selects S2S 20”x12’** — $6.00 bdf

**Hickory 4/4 S2S** — $2.00 bdf

**Cherry 4/4 RGH #2 common** — $2.00 bdf

**Walnut RGH 4/4, 5/4, 6/4** — $3.00 bdf

**Aromatic Cedar RGH** — $1.00 bdf

**Marty Milkovits in Mason, NH:**
marty@mjfurniture.com
603-878-3591 or 603-345-5058
Upcoming Guild Meetings
• April 15 – Hardware: Selection & Installation with Barbara Rockwell from Horton Brasses at Pinkerton Academy in Derry, NH. 10 am - 3 pm. Please note – this meeting has been moved forward one week to April 15.
• May 12-13 – Turning Symposium at Pinkerton Academy in Derry, NH.
• June 17 – Summer Trip to Nichols & Stone (furniture maker) in Gardner, MA plus Starrett (tool maker) in Athol, MA.

Period Furniture
The Period Furniture Group meets five times a year, usually on the second Saturday of September, November, January, March, and May, from 9am to noon. Announcements and directions are e-mailed to members a week to ten days before each meeting.

The next meeting is on May 6 (first Saturday) so as not to conflict with the Guild turning symposium. We will meet at Les Huckins’ shop in Weare, NH. Les has a large shop – space will not be a problem. To be placed on the e-mail (or telephone) notification list for this and future meetings, contact …

John Whiteside
603-679-5443 or johninfremont@comcast.net

Beginner & Intermediate Group
The next BIG meeting will cover making and installing crown mouldings. The next meeting is April 1 at Bob LaCivita’s shop at 365 Stage Road (Rt 152) Nottingham, NH from 9:30am to 12:00 noon. Please e-mail or telephone (before 9 pm) if you plan to attend.

Bob LaCivita
603-942-1240 or rlacivita@comcast.net

Granite State Woodturners
Meetings are 9:00am to 1:00pm on the fourth Saturday of the odd numbered months. The Turning Symposium will take precedence over our regular May meeting and so the next meeting will be July 22. The meeting place changes each time. Contact Jon Siegel to be added to the e-mail notification list.

Jon Siegel – big@proctornet.com

Personal Notes
Roy Noyes – On Feb. 19, long time member, Roy Noyes, had a major fire at his home in Chester, NH. Roy was not hurt, but the barn and shop along with most of his tools were “destroyed”. His house suffered severe smoke damage. It is not a pretty sight. The kitchen must be gutted and rebuilt. However, all the tiger and birdseye maple, butternut, wide pine, etc. is ok except for smoke on the outside.

The fire was caused by an emergency generator exhaust where it went outside through the wall. Apparently, there was not adequate clearance, although he had run it a number of times before without problems.

Roy says, “This is certainly a blow but I can overcome it. I do not expect to live in the Chester house again. With my bad hip, it was about time for me to look for an independent living facility anyway. I have found two that have woodworking shops! I do hope to see you and the other Guild members at the Turning Symposium.”

He is comfortable staying with his son in Bedford, NH for the present. Roy says that although he may not be an active woodworker, he still has a great interest in woodworking and wants to continue attending Guild activities. The Guild will always be remembered as a special part of his life.

One piece of good news. He lost about eight Lie Nielsen planes. He says, “When I called them, they said that if I send them back, they will refurbish them like new at no charge. What a great company!”

Roy’s email remains roynoyes@adelphia.net for the time being. His cell phone is 603-548-8725. The new address is – 46 N. Amherst Rd, Bedford, NH 03110. – Jim Seroskie