

By Mel Turcanik

### **Finish** basics

Perhaps it's because some woodturners have never done any other type of woodworking, perhaps it's because there are a few special techniques that are peculiar to woodturners, but there seems to be a myth that turned objects require or deserve some special kind of finish that other wood doesn't. Wood is wood, finishes are finishes and while turners sometimes have some advantages in speed of application, the materials and techniques are essentially the same for all wood finishing. That being said, I highly recommend the book, "Understanding Wood Finishing" by Bob Flexner. With the exception of the material on water based finishes, which is a technology that is changing all the time, the book is a fundamental resource for anyone who is involved with wood finishing.

What I will try to do in this article, is provide an understanding of the most common options available for woodturners, and the criteria for choosing the available finishes. I feel this is important because very often I find people struggling with a finish that is difficult to do, and unnecessary, based on the object they are producing. In other words, there is no one "best" finish. Best for you depends on what you want to accomplish for appearance, protec-

8 Member Listing

tion, and cost (mostly labor).

There are two broad categories of finishes. The first is penetrating finishes. These are finishes that soak into the wood, are drawn into the wood by capillary action. They fill the space between the wood fibres so that when the finishing process is complete the surface texture or feel is still that of the wood itself. In fact, the wood fibres are still at the surface.

The other category of finishes is the film finish. This finish covers the surface of the wood so that you cannot touch the wood any longer. The texture of the surface is the texture of the finish, the level of gloss or sheen is that of the finish, not the underlying wood.

The materials that are used for both categories of

finish may, in many cases, be the same. A penetrating finish may be done with a varnish or shellac, though these are usually film finishes which are allowed to build above the surface of the wood. The method of application and the formulation of the material determines this. So. when we discuss the two categories of finishes, we are talking about the



result of their application, not a specific method or material.

Penetrating finishes may be made from almost any finish material. A penetrating finish cannot dry too rapidly or it won't have time to soak in. It must also be able to be applied thinly enough and have a low enough viscosity to be drawn into the wood by the capillary action of the wood fibres. Most varnishes, lac-



quers, two part finishes, and water based products are unsuitable for penetrating finishes by themselves because they lack the qualities I just mentioned. If oils, varnishes, shellac, and waxes are thinned and/or retarded sufficiently, they may make very good penetrating finishes. (Retardants are additives which slow drying.) There is even some work being done with waterborne products which may someday make an easy to use waterborne penetrating finish. (In my experimentation several years ago, I actually made a water based penetrating finish, but it was very expensive.) Since most of the above finishes can also be film finishes, the method of application becomes the deciding factor.

Typically in woodturning we will apply a penetrating finish because it can be applied quickly by wiping on

### **Finishing Keys**

**#** Selection of the correct finish for a particular job is the most important part of finishing. This is best done by understanding what the various options are, and what they will and won't accomplish.

**#2**When using any drying finish that dries by oxidation, like linseed oil, rags used with the finish may spontaneously catch fire. They can be safely contained in a container designed for the purpose or spread out to dry, so that they won't accumulate heat. Once dry, they are safe for routine disposal.

**#3** Don't believe what you read on containers of prepared finish materials. "Tung oil finish" rarely contains any tung oil. It's usually a thinned varnish. Likewise, "urethane oil" is thinned urethane varnish. No matter how hard you squeeze a Dane, you won't get Danish oil, which is often just linseed oil or a very thin varnish.



the spinning workpiece on the lathe. The surface can then be buffed and polished very quickly because only the wood needs to be polished and the some of the same methods that were used to prepare the wood surface are then used to complete the finish. Penetrating finishes are also easily applied off the lathe. Oils, waxes, very dilute shellac, very dilute varnish, may all be wiped on with the excess removed so the wood is still at the surface.

Penetrating finishes offer little or no protection against water, water vapor, staining, or wear of the wood. What they do quite well is enhance the appearance of the wood. They do this by closing the gap between fibres with an optical transmission medium. It's the same effect as a piece of paper or cloth that appears to be opaque until it has water on it, suddenly it's transparent or at least translucent. In wood this happens on a microscopic level and enhances the figure in the wood because the light is being transmitted rather than being scattered internally. An additional benefit of penetrating finishes is that they are easily repairable. Often penetrating finishes are used

in the most grueling of environments because, even though the wood will be affected and changed by the environment, the finish is easily restored to an acceptable level for that use. The ongoing wear and color change is considered to be part of the beauty of a functional object. Examples are kitchen utensils, salad bowls, and some furniture. When the damage happens, e.g. the bowl gets washed, it is simply waxed or oiled again afterwards perhaps with a mild abrasive, to restore a smooth surface and a deep color. It must be expected that eventually the figure in the wood will be obscured so the functional piece must be valued by it's form and function, not primarily the wood figure.

Film finishes can also provide the optical enhancement of wood figure and color that penetrating finishes do, depending on the application technique. Sometimes a film finish is applied over a penetrating finish. Often the first coat of a film finish is thinned to "seal" the wood. Actually the film can't help but seal the wood. This terminology is often used by manufacturers to help sell a special first coat. (Some "sanding sealers"



have lubricants included that do nothing to enhance their finish qualities but make them easier to sand.) When properly applied, the surface of a film finish will be one uninterrupted smooth surface of finish, without any wood fibres coming through and without pores, depressions, or irregularities. If the surface is polished to a high gloss, light will reflect from it brightly. It will be possible to see the figure in the wood clearly, providing the film is contiguous with a deeply penetrating first coat. The film may also be dulled down to a more "satin" feel by rubbing out with a fine abrasive, or the use of "flattening" agents to break up the surface as the finish drys.

Deciding what to do, what finish to pick, how to apply it, depends on the goal. For instance, much of the very high end woodturning is done without a high gloss because very glossy things feel sticky. (This isn't the only reason but tactile sensation is important in marketing woodturnings.) A satin or matte finish creates less drag on skin so it actually feels smoother to the touch even though on a microscopic level it is rougher. A satin or less glossy finish also doesn't show minor defects as easily. (Though it does highlight the use of super glue which always appears glossier.) High shine is often perceived as being cheap because it is easily obtained by spraying lacquer and it often resembles molded plastic. (This is not universally true, Molthrop's, Meilahn's, and Mode's works are very glossy and expensive.)

Film finishes are capable of providing protection to the wood, depending on the material. Chemical, liquid, humidity, and abrasion damage can all be prevented to some degree by certain film finishes. The amount of protection each finish offers varies with the chemical composition and the characteristics when dry.

The "best" finish will be determined by what goals are set for the finish. Every finish is a compromise. Is the goal appearance? feel? abrasion protection? easy restoration? humidity protection? The goals need to be realistic, since you won't be able to get everything in one finish. (Certainly if economics are a factor) For example, if the piece won't get a lot of handling, wear isn't a factor and you can concentrate on appearance.

### MINNESOTA WOODTURNERS ASSOCIATION MEMBERSHIP YES! I would like to be a member of the Minnesota Wood-

turners Association. I understand I will receive all issues of the newsletter starting with the next mailing. I also understand I will be receiving a new members kit if applicable. The fee is \$25.

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### Characteristics of wood finishes typically used by turners:

Penetrating finishes, for easily repairable objects that are handled a lot, or objects that won't be handled a lot and don't need a lot of protection. Examples: Kitchenware, spatulas, spoons, bowls, platters, sculptural work, toys, boxes.

**Penetrating Finishes:** Waxes, nondrying oils (mineral oil), drying oils (linseed oil), semi-drying oils (walnut oil), shellac (less than 1# cut), varnishes that are thinned, usually to less than 10% solid content such as urethane oil, tung oil finish etc. (Notice that the commercial names for these products are usually misleading.)

*Film finishes:* For items that need surface reinforcement, like spalted woods that may be a bit punky. For items where showing wear is undesirable, like a shift knob on a car. Sculpture in public, architectural items and furniture. Items where the high gloss, smooth surface finish is desirable.

Film finishes are varnishes, polyurethanes, lacquers, water based finishes, acrylics, catalyzed lacquers, epoxy, polyester, any "oil finish" that claims that you can build a film is a varnish, shellac.

Application techniques for all finishes start with the preparation of the surface of the wood. This, for turners, means sanding. A properly prepared piece will not show any sanding scratches going around the direction of rotation. You know, if you are sanding a piece on the lathe, you will either end up with swirls from power sanding, or circles from hand sanding with the power on. Todd Hoyer recommended that with each grit you sand first with the power on, then by hand along the grain with the power off. I often do this alternating power, hand, as I move from one grit to the next finer grit. This eliminates the circular lines and pro-

vides a very smooth surface. This is essential for a penetrating finish because if the surface is rough, it will scatter light and you won't be able to take advantage of the optical enhancement in the wood. Once you progress beyond 300-400 grit, sanding direction becomes less important, depending on the wood because the eye can't really see the scratches that fine. With a penetrating finish, the finer you sand, and even polishing the wood itself with micro grit abrasives, steel wool or the equivalent synthetic, the better the result. Your experience will tell you what is worth it, and what isn't. On darker woods, finer sanding will eliminate "graying" of the surface. Light scattering from poorly sanded areas or rough spots will appear grey compared to the darkness of the underlying wood. Careful sanding and polishing of the surface will prevent this.

If a material that could be a film finish is used as a penetrating finish and the wood continues to be polished between coats, eventually the pores will be filled and the surface will become extremely smooth and can be as glossy as a film finish. Continuing the application past the filling of the pores makes it a film finish.

The advantage woodturners have in using penetrating finishes is the entire process can be done with the workpiece on the lathe, including final polishing. In addition, the friction heat generated during the process can accelerate curing or drying of the finish. Finishes that require oxidation, like linseed oil or varnishes, may feel dry immediately and be handled, but they still won't reach a full cure for hours or days after application. The advantage of lathe finishing is obviously speed. Things finished on the lathe are done immediately. The down side to doing penetrating finishes on the lathe is that the penetration itself takes time. By accelerating the drying, penetration is limited which makes the onlathe application of the penetrating finish inferior to off-lathe application. The best application of a penetrating finish allows the finish to penetrate until it begins to harden internally, before removing the excess. For oils that can be a considerable amount of time (in theory, days).

If pieces are delicate, intricate or difficult to hold on the lathe and reach all surfaces, the same techniques can be used off the lathe with polishing done using buffing wheels mounted on the lathe or on a drill motor. Penetrating finishes may also be completely applied by hand by wiping on and hand polishing and buffing.

Film finishes are more difficult to do on the lathe than off. One reason is that it's difficult to reach the entire piece at once in order to form a single unbroken surface film. Film finishes also often take longer to dry until they can be safely handled. That being said, there are some water based finishes that may be applied on the lathe, shellac also can be applied on the lathe. If you don't mind having the lathe tied up while waiting for the finish to dry, or you can remove the piece while it drys, I guess that's O.K., but I would rather do a film finish off the lathe. It just seems much more efficient.

Personally, I like spraying film finishes. Spraying is a technique that is fairly easy to learn and will produce a very nice finish with a little practice. It's also very quick. With the new HVLP sprayers, finishes dry quickly and the mess is a minimum. If you have a compressor, you may want to experiment with a conventional spray gun. Spray equipment involves some investment so it depends on wether or not you intend to do a sufficient volume of work to justify the expense. Without getting into a whole thing about sprayers, let me say that my experience has shown that getting the best quality gun you can afford is a very worthwhile investment. A good quality

gun will be a joy to use and produce great results with a minimum of effort on your part. You also have to be sure that you have the appropriate safety equipment to go along with the spray apparatus and finishes you will be using. Some film finishes come in spray cans and this is a viable option for someone who isn't doing large pieces or many pieces. The better finishes have excellent nozzles that are as good as the best spray guns. Pay attention to the safety notices on the spray cans or with any sprayable finish material. You can get in serious trouble with flammable sprays (Explosions!), not to mention the health effects.

Wiping a finish is very low tech, and with some practice can produce a wonderful finish. With some materials the drying times may have to be slowed by adding a "retarder" to slow drying so that they don't get sticky while you are wiping. Between coats the film finish must be sanded to remove any irregularities and bring it to a uniform scratch pattern. Regardless of the application method, don't even try to do a film finish in one coat. The results will not do the rest of your work justice. The sanding between coats to level the surface is the key.

Preparation of wood for a film finish can be about the same as for a penetrating finish except that you really don't get a lot of benefit from sanding any finer than 320 grit. The eye can't discern scratches finer than 220 to 320 and the finish will be filling all the openings anyway. It's only when there are scratches going across the grain that they become noticeable when the finish penetrates the end grain of the scratch and darkens it more than the surrounding area where the finish is sitting on top of the uncut wood fibres.

The quality of the film finish is obtained by sanding thoroughly between coats so as to level the surface. In industry, 50-80% of the labor cost of a wooden object is finishing, most of that is sanding. Sometimes



on the first coats this may even take you down to the wood, though this is often avoided to prevent differences in penetration which would create dark and light areas. Pores and depressions may not be sanded to oblivion, but the surrounding areas must be brought to a level surface between each coat until the low spots are filled. What you are after is an unbroken, even, smooth surface film without dips and valleys, pores, openings or irregularities. With the exception of some polyurethanes, epoxy and two part varnishes, the sanding between coats isn't to improve adhesion, but to level the surface. Finishes like shellac or lacquer will melt the previous coat and adhere to it by actually mixing with it. The sanding takes time, but when done properly is well worth it.

Even if you have a handle on all the stuff I've discussed to this point you will still have a difficult time picking out the "best" finish for your work. Depending on the type of work you are doing, and the skills you have and the procedures you are willing to endure, you will eventually gravitate toward certain types of finishes. Eventually everyone has a favorite finish for a particular type of work. I have found it useful to find attractive work done by others and see what they are using for a finish. Outside of the factory environment, finishing is a very personal endevour. What is pleasurable for another may be sheer hell for you. Plan on experimenting. Do some finishes just for the sake of the finish, then test for durability. For lathe applied finishes, I have gone as far as turing a long spindle and applying a different finish every couple inches so that I could compare them on an even playing field.

I hope that this has helped put the various finish possibilities in perspective. I am always happy to answer any specific questions you might have as I'm sure the other "mentors" in our club will be. Be forwarned, if you ask three turners about finishes you will get at least 4 different answers.

## THE MWA LOOSES A GREAT MEMBER A tribute to Larry Heyn

Larry Heyn passed away very unexpectedly this summer. He was an active member of our club and a true enthusiast of woodturning. The following are notes sent in about Larry.

I will try to jot some of my thoughts about Larry. Many of the techniques that I know about tool making I learned from him.

I knew Larry mostly as an artist, and a student of the arts, but he also had a lot of knowledge of tools. Larry knew steel, where to find, and what to do with it. He was the one that showed me where to buy the cobalt steel tool bits, and gave me the courage to try some tool making that I probably thought I could not do.

He had also got me to thinking about taking some art classes. A man of steel and a student of the arts.

- Duane Gemelke

The thing that I want to remember about Larry is that he was always ready to give help whenever anyone asked for it. At the last Christmas party Larry and I were talking about doing hollow vessels. Larry asked if I would come out in the hallway with him. We





Larry (center) with MWA members Mel Turcanik and Don Robinson at a small group meeting. Larry was a prolific turner, the picture at center are some of Larry's Christmas ornaments.

went to the end of the hall and there he had a sack with a Christmas tree ornaments in it. He handed it to me and said, "Here, I want you to have this."

I will always cherish that ornament now more than ever before. Because, like a lot of our turnings, there will never be another one like it. Thanks Larry.

- Tom Shields



Larry was one of the first men that I met in the woodturning club. He was gentle and outgoing and easy to talk with. That is the perfect kind of man that anyone should meet when they first join a club. Larry made it easy to make a friend.

Larry and I share the same lathe, a Record 48", there were a few times that I was over to his shop and we talked for hours about the in's and out's of turning. His insight helped me to become a better turner within days instead of months.

Larry was a good teacher of the mechanics of turning and problem solving. I still have a resurrected school bus stop sign that turned into a great tool rest. Thanks to Larry for digging it out of the endless recesses of his garage.

I think of him most every time I pull out that tool rest and smile. We'll will miss you, Larry.

- Todd Schweim

"We lost a great member, Larry Heyn. A master wood turner, who would go into great detail explaining the unique shapes he turned on his lathe. He was very knowledgeable of metallurgy and of the history of old carpentry tools, a great teacher.

He will be missed but not forgotten; and I'm sure he carried with him many woodturning secrets and questions I didn't get to ask."

- Gregory G. Super

"Larry Heyn joined our MWA in January, 1997, and as a very active member he shared his varied talents in so many ways. Whether the subject was metallurgy, tool making, his artistic views on 'form and function', or his tremendous grasp of practically all woodturning tools available from the various suppliers-he seemed to have it all!!

Since the MWA is, in part "Dedicated to providing education...." Larry helped reach that goal by becoming a 'Member at Large' on the Board of Directors. A smart move, because it soon became obvious to me and other members that for technical assistance you might indeed check with Larry before purchasing new tools or chucks, or have him explain in layman's terms what the advantage was of M-4 over M-2 steel, including taking the mystery out of such terms as "with 10% cobalt".

I'll never forget the time I invited Larry over to my shop to demonstrate his use of Behlen's Qualosole padding finish; he was currently using this to perfection on his exotic ornaments. Besides successfully teaching me this finishing technique, Larry noticed that I was using crushed Malachite stone impregnated into my ornaments. He asked me if I knew that Michelangelo used Malachite (a bright green) in painting the Sistine Chapel! Of course I didn't know that. Every time I use Malachite I think of Larry.

I would be a little remiss if I didn't touch on another of Larry's less obvious talent: storytelling. If you attended our 1999 Summer picnic at 3M's Tartan Park, you'll recall his story of the Yankee's Yogi Berra and his episode of the "Flying Bat".

Larry's hand-turned and hand-carved version of this mythical tale earned him a 3<sup>rd</sup> place finish in our 'Baseball Bat' challenge. He also took 1<sup>st</sup> prize for his artistic version of a real baseball bat, which he subsequently donated to a young Minnesota All-State baseball team finalist. Generosity was another of his many traits.

I know I speak for many MWA members- we have all benefited immensely because of Larry and his sharing, and we will sorely miss him"

-Ron Meilahn



### **GET INVOLVED! UPCOMING ELECTION**

President, VP, Librarian, Secretary and two at-large positions are up for elections at the December meeting. Volunteers should contact any board member or simply nominate themselves at the meeting! See the President's letter for more information.

PEN TIP

### A quick tip for pen makers:

The mandrels for "7mm" pens and accessories are made from size "D" drill rod. It's available from MSC industrial supply for a little more than \$2 for a 3' piece. Stock # 06019046. This is much more economical for making custom mandrels for your designs. They have a \$25 minimum order but carry everything suppliers like J&L carry so it's pretty easy to meet the minimum. Their phone is 1-800-645-7270.



It is now possible to order AAW educational materials and logo products on-line on our web site.

The secure order form is available at http://www.wood-turner.org/

Also available on the site is the AAW membership form for those chapter members who are interested in joining the national group.

### **President's Letter**

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Now that Summer's over and we're back in the turning season, I just wanted to let everyone know what's been going on.

24 of the top turners in the country will be sending pieces to the Rochester exhibit. Instead of jurying photos or slides for the local artists part of the exhibition, the Rochester Art Center decided to jury the actual work. Some of you may have received entry forms. If not, contact me and I'll send you one. The work you want to enter needs to be to the Rochester Art center between 10/17 and 10/26. If you get your work to me at one of our next meetings, the demo at the woodworking show 10/8, the demo at Northern Woods Southdale on 10/22, I'll deliver it down there and get it back to you somehow. That should save some shipping and packing hassle. By the way, if you just want to catch the exhibit, it will open with a reception on 11/18 8pm - 10pm and run through 12/31.

We are going to try to have some of the parts for the Chapter Collaborative ready for the Holiday party. If you haven't signed up to do a part yet, contact Don W. or Bruce A. They've got plans and ideas. The scale is 1" = 4' if you want to get creative. In January we'll try to put together what we've got and go from there.

The subject of a new club lathe to help out at public demonstrations has come up many times at board meetings. Storage of our stuff has always been a problem, and it hasn't been solved yet. We will continue to work on finding a permanent location, perhaps in conjunction with the Woodworkers Guild. But any such thing is probably a way into the future. Let us know if you have any feelings on getting a second lathe.

The main news is that there are up to 6 board positions including the President and Vice President open for election in December. In addition, the Library and Secretary position terms are up. Linda and Ken have volunteered to run for re-election for those offices, Bruce has volunteered to run for the President position and has already begun to work into the position. If you are interested in putting a little back into the club feel free to nominate yourself at the December meeting or contact any board member before then.

We, and particularly Bob, needs more help with the meetings. The Al Stirt demo was quite good and the facility and video equipment was outstanding. We had a big screen monitor so everyone could see all the time. It's a shame more members didn't take advantage of it, but we should have a good video for our library. All this stuff doesn't happen by magic. Bob went to a lot of trouble to arrange for the demonstrator, the site, the video equipment and lathe (which was his). We owe him a lot of gratitude. What he would really like is a few more people to help out before and during the meetings with set up, clean up, moving stuff around etc.

We will be asking for commitments for help with the membership renewal notices that go out toward the end of the year. Thanks to all those who stayed after the Stirt demo to help clean up. In spite of the tarp on the carpet, there were still a lot of shavings that had to be removed, almost by hand. With the help we had, it took little time and the site was in good shape when we left.

In November we are fortunate to have Haley Smith to demo for us on 11/8. She is a talented turner from Wales doing pieces with compelling decorative elements. In spite of the fact that she is a professional from out of town, we will try to provide this demo free to the membership since there will be no travel expense. The final decision on this will be at the October board meeting.

If you haven't taken a look at the library lately, Linda has made some huge changes which should make it easier to pick the right video, and be sure that we get it back so others can enjoy it. We also have a great collection of magazines that are worth the time to browse. Be sure to thank her for her efforts.

We will be doing the Toys For Tots toy challenge again at the Holiday party which will be on 12/12. Thanks to Jim Jacobs for coordinating this again this year. It's not too soon to start on some creative toys. Remember to keep them safe with respect to pointy things, breakable things and choking hazards for very small children. We may change locations for the party since we are really pushing the limits of the size of the bank, we'll let you know. Happy turning!

Mel Turcanik, President Minnesota Woodturner's Association



## DON'T MISS OUR UPCOMING **DEMONSTRATOR HAYLEY SMITH**



Hayley Smith Demonstration Wednesday, November 8, 2000 6:30 - 9:30pm Location: Minneapolis College of Art and Design

The graphic qualities of her work reflect former years of study in printmaking. She continues to explore themes previously represented two dimensionally, but feels liberated by the actuality of working three dimensionally.

Carved elements, contrasting textural areas and scorched fragments embellish and subdivide sanded surfaces, creating an abstracted representation of an idea.

Her intention is to balance these elements, representative of themes both old and new, to reach a harmonious resolution.

Her forms are turned on a lathe from native hardwoods, predominantly Sycamore and Ash.

Texture is created both on and off the lathe. Gouges, files, and airtools in conjunction with a variety of burrs (many of which are dental) are used to laboriously carve intricate surfaces.





DATE November 8, 2000 6:30 - 9:30 p.m.	EVENT PLANNED Hayley Smith Demonstration Location: Minneapolis College of Art and Design
November 18 - December 31	Exhibition at Rochester Art Center
December 1, 2000	Newsletter Submission Cutoff
Tuesday, Dec. 12 6:30 - 9:30 p.m.	Holiday Party, Elections Location: American Association of Woodturners Shoreview, MN
a	Woodturner and and spouse Invited. We will be having potluck - please bring a dish, salad or desert to share. This year's turning challenge: Toys. We will also have
an	open gallery - bring your turnings for display.

Don't forget to turn a gift for the gift exchange!



We are actively seeking articles and photographs for upcoming newsletters. Remember, this newsletter doesn't write itself. We need your articles to put out a newsletter.

We are looking for articles on the following topics. How to set up your first grinder (what to look for, good brands of grinders, jigs, wheels, etc.) Having a ball (we are looking for anyone with experiecne in turning balls.) Dinner is on us (We need someone to write an article on turning dinner plates.) Selling your turnings (We need an article on selling your turnings from the viewpoint of first-time sellers.)

If you would like to write an article on any of these topics or have a topic of your own, call the editor and let him know, he will be overjoyed! You can contact the editor, Todd, at 612.861.7409 or by e-mail at: schweim@skypoint.com.

## **CHESS SET RESTORATION**

COLUMN 2

by Mel Turcanik

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Since I'm a woodworker, people often want me to make missing parts of things or repair broken stuff. Most of the time it's just hard to explain that my time is worth as much to me as their time is to them. No, I don't want to spend my life fixing things that aren't worth even your time. I've gotten to the point that when someone asks how much it will cost to fix something, I just say, "My labor rate is \$35 per hour (and I will probably be raising that) and it will take as long as it takes. If we've been talking for 15 minutes start from there." That usually weeds out the people that want me to make a replacement part for a plastic chess set that would cost them \$5 to replace, total. I may be exaggerating, but most people really don't know what your, or their, time is worth.

A year or so ago, a man approached me about making some pieces for a chess set. When he finally got serious and asked the price question, I answered him as I related above. He didn't flinch so I looked at his set. It had been owned by his grandfather and he got it when he was a child. It showed the wear of several generations, at least. There were several pieces missing and most of the knights were missing the horse head. Everything was dirty, there were broken pieces with poor repairs, it was a mess.

But, I was immediately attracted to the quality and grace of the turning. Each pawn had a perfect little ball "head" turned on the top. Most of the other pieces also has a spherical "head" resting on a graceful, thin neck. Those thin necks didn't hold up to a child's play very well and previous repairs had since failed again. The beads that decorated the areas below a collar that thinly protruded from the center below each "head", were as small as 1/32" thick though they protruded three or four times that far from the body. In short, the detail was fantastic.

When I looked at the bottoms of the pieces, I could see how a skew had parted off each piece often leaving a bit of spiral chatter. The grain and color of the wood was clearly visible on the white pieces, and I believe it is boxwood. In places the finish had worn off the black pieces and it was obvious they were the same material, painted.

I agreed to see what I could do with the set and the customer asked me to call him when I reached \$100 to see how it was going. Woodcraft stocks a small amount of very expensive boxwood so I got enough to do the job and a little extra just in case.

My examination of the set in my shop revealed that because of the knight design, I believe that this set was made in a factory. I've seen the same knight carving before and it is very simple and partly done by machine. Actually, the horses look more like Great Danes. I took calipers out and measured the pieces to see if they were all exactly alike....no way! This set may have been done on a production line, but it was hand done. Heights, diameters, all varied from one piece to the next. The spacing of the elements between the fine beads and that wide collar were almost exactly the same so there was some kind of marking device used, at least.

The first piece took me forever to turn. The spacing between beads was only a couple of thousandths wider than my smallest parting tool, way thinner than the smallest Sorby in the micro set. The grooves were deep and this provided a certain amount of tension as I saw myself shattering an otherwise perfect piece with a little too much enthusiasm. After I relaxed a little I really enjoyed the opportunity to turn boxwood, a magnificent material.

Succeeding pieces went much faster and I really enjoyed repeating the motions of someone working, probably in Europe, probably 100 years ago. Repair of the thin, broken parts was done using a technique I learned from Steven Hughes of Australia. I drilled a hole in one part and inserted a thin brass dowel which I used to mark the hole location in the other part. The whole thing eventually joined with epoxy.

Once the pieces were done, there was the matter of the finish. New boxwood was much lighter than the old white pieces, even with a couple of coats of orange shellac, the most likely old finish. I didn't bother to test the old finish because there wasn't enough on the pieces to get a good reading and I pretty much had already made up my mind that the finish on the new pieces would be shellac.

For the black pieces, I decided to color shellac black using a 'base concentrate' for water based lacquer. My hope was that it would look like the old worn finish. Actually, the black got pretty close. I used a horsehair rotary brush on an air tool to clean the old pieces and after putting the finish on the new pieces and brushing them, they looked pretty close, worn through areas and all. The white pieces were a problem though. The old ones weren't just dark from age, they had the patina of dirty hands over many years. The shellac I applied had some linseed oil mixed in to prevent it from sticking as it was applied. That oil takes a few days to cure, and in the mean time can pick up dirt. Normally you just don't handle freshly finished pieces but in this case I wanted to mimic the look of ages. I ended up borrowing my wife's eye shadow. She had one brownish gray

shade that looked about right so I took a little on my fingers and just rubbed it over the new pieces. Perfect! It lodged in the low places, shined in the high, just like the old patina. After a couple of more days the finish was hard and the "new patina" was permanent. The customer was delighted. Though he could pick out most of the pieces I had made, it took him a while. To me it was worth the time, even though I didn't charge for all the time I actually spent. I learned a few things and I enjoyed the process. For him it was worth the money. This set has memories and a very unique quality in the age of machine made parts.

### Springpole Lazhe Circa 1390 Turner's Shavings Shavings Toys for Tots It's not too early to start thinking about a Toys for Tots gift. Please

## Our Club is Growing!

The Minnesota Woodturners Association is growing! Below is a list of the new members since the April/May/June newsletter. WELCOME!!!

mation.

NAME

Arron Valleen John & Alyssa Hunter Brian & Jane Grobe Dennis Erickson Eskil Broberg Robert Schmidt Daniel Hegman Erwin Nistler Tim Ziemer Marv Grabau John Nicholson Kevin Machacek Harmon Pierce Loren Gilles Darwin Witzel

### FROM

Taylors Falls, MN N. St. Paul, MN Woodbury, MN Pine City, MN White Bear Lake, MN Maplewood, MN Hudson, WI Maple Plain, MN Corcoran, MN Hudson, WI Blaine, MN Stillwater, MN West Concord, MN Circle Pines, MN North Oaks, MN DATE JOINED March, 2000 April, 2000 April, 2000 May, 2000 May, 2000 July, 2000 August, 2000 September, 2000 September, 2000

contact Jim Jacobs for more infor-

### **Turning Tip**

Finishes need to be stored in an easy to use container. And it's just not right to have only one type of finish at hand in the shop while turning.

Stop throwing out all those old shampoo bottles. They have another life as a squeeze bottle of wood finishes.

Just wash them out thoroughly and refill with your favorite finish. Make sure to label the bottle so you know what new mixture is in the bottle.



## save up to 30% on your woodturning supplies

We will once again be placing a Club order with Craft Supplies. Because of our large order, Craft Supplies gives us a significant discount on our order.

Discounts range from 0-30%. If you would like to place an order, create your order from the their catalog and contact Bruce Arones at (651) 433-5364. Please feel free to contact Bruce if you have any questions.

Hurry, the deadline for getting your order to Bruce is November 15.

# THE ULTIMAT LACOUER FINISH

### by Ron Meilahn

When I joined the MWA in 1995, I was exposed to some very fine turnings by some seasoned MWA turners. I became anxious to produce a finish equal to the quality of the pieces that I knew I would begin creating. Up until that time I had used only Polyurethane to finish various woodworking projects such as rocking horses, tables and had never been near a wood lathe.

> Ron Meilahn is well known in the MWA for his mirror finishes. The enclosed photos are some of Ron's Christmas Ornaments.



After working closely with veterans like Hal Malmlov, Sir John Magnusssen, John Engstrom and Dave Schneider, I soon saw that making small hollow ornaments would be my first challenge. In addition to making me some neat hollowing tools, they have also

showed me excellent turnteching niques. It goes without saying that I have benefited greatly from one of our goals .... "Sharing of Ideas".

My second challenge was coming up with a 'perfect finish' for these hollow forms. It's obvious that their are as many different blends of pleasing finishes as there are different woodturning tools. You could easily develop a headache (pun intended) trying to determine which finish to use.

MWA

I have locked on to what I believe to be a wonderful high gloss finish. It's easy to apply as it's a multiple coats of Aerosol spray, but you will need patience as it's hand-rubbed between each coat.



STEP 1-SANDING: Some experienced turners don't need to use sandpaper, they claim their final shear scrape is enough. I'm not one to claim such excellence so I start with 280 grit and work up to 360 grit, I do a final sanding with the grain after the lathe is shut off for a very nice finish

STEP 2-SEALING: Depending on the wood I have chosen, I use a sealer (one coat) to harden the surface. Spalted maple definitely needs sealing; either sanding sealer, thin super glue or Minwax's Wood Hardener. I lean towards sanding sealer as being the most economical. Most other hard woods will seal nicely with several coats of lacquer, allowing you to bypass the sealing primer.

Remember to sand between each coat. This is especially true after the first coat. The first coat has the potential of raising the wood grain. This is regardless of your first coat being lacquer, sanding sealer or wood hardener. It will probably raise some grain. Sand after each coat, it will be worth the time. If you are striving for the perfect finish, don't overlook this extra effort.

STEP 3-SPRAY-BOOTH SET-UP: Because of the overspray and harmful fumes I ALWAYS Spray in front of an old 2-speed furnace exhaust fan, enclosed in a box behind a 16"x20"x1" cheap furnace filter, exiting thru my basement window thru an attached 8" duct. It helps to have a light nearby, reflecting off the spraying surface so you can observe the developing shine. Lacquer spray is explosive! Be sure there are no sources of spark or flame nearby. Work in a dust-free environment. Don't expect to shut off the lathe after sanding and start spraying and not get specs in the finish.

STEP 4-SPRAYING: Since lacquer dries quickly, a light coat will produce a rough finish. This is because the lacquer is partially dry before it even hits the surface of your piece. Spray the woodturning until it gets a smooth, wet finish.

Practice on a scrap piece of wood to get the hang of it. Rotate the turning as you spray; this allows the coat to blend in as it turns. Keep turning the piece after it has been sprayed. It will take 1-2 minutes for the lacquer to set up, at which point you can stop turning.

If a sag or run does occur, you can carefully wipe off that spot, or let the piece cure, then sand with #280 grit. Lacquer is very forgiving, and each subsequent coat partially dissolves and blends in with the preceding layer. Each coat looks nice and glossy while the lacquer is wet, but as the solvents evaporate lacquer solids left behind are quite thin. A 2nd coat can be applied as soon as the first coat is tacky (usually 3-5 minutes). Sanding after the first coat depends on your judgment of how the finish looks as it hardens.

Dense woods, like cocobolo and some of your exotics don't need



sanding, and will look just perfect after 2 coats. Open grain woods require more coats to fill the pores. On these woods, very light sanding between coats with 320 or 360 grit is recommended to create the glass-like finish.

Don't bother using finer grit because the lacquer dust will clog your sandpaper. Most of all, be patient, wait until the lacquer is cured, otherwise, a gummy mess is at hand. Don't try to speed up the drying process; the mfr has a set solvent/solids formula, and trying to hasten this drying process could cause wrinkling.

Unlike using a spray gun which allows you to add thinners, or retarders, the aerosol can comes as is; and typically, the only adjustment is the distance from the nozzle to your piece. Follow the instructions on the can-you should be just fine.

A coat of wax as a final finish is optional.

This whole process undoubtedly will be a little more time-consuming than other finishes, but it's one that can be very rewarding!!! Treen for the Table -

Wooden Objects Related to Eating and Drinking --Jonathan Levi

> If you've ever wondered what the turners in the 17th - 19th centuries produced on their pole lathes, this is a reference to be used. Inside are fine examples of various turned items such as masers, goblets, salts, spice boxes, and so on.

The incredible detail of the items is to say the least stunning, considering that such detail would be difficult to achieve in this day of variable speed lathes and exotic tools, and was done with only foot power and a handful of rudimentary tools.

The goblets run from the plain and ordinary, to rather elegant chalices. The chapter on rose engine will turning impress you with the sheer detail that could be achieved in the 16th -17th centuries. The other fine examples of treen such as mortars, mortar grinders, spoons, love spoons, egg cups, funnels, etc, will leave you impressed with the craftsmanship in the day to day items that were used in a home.

If you are looking for a book full of various fine ideas for turning projects, this is one book that would recommend highly. Dan Noren Holen Hennelsleichnicht auf all the Hennelsen in Bernelsen in Bernelse

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BIFFA WILCHEIT

The activities of this club are the product of many volunteer efforts by a number of people. The fol-lowing individuals have volun-teered to help out from time-totime in various ways. Please let them know you appreciate their efforts when you see them. Also, if you would like to volunteer, just let Mel T. know and he will add you to the list.

#### **GROUP PURCHASES**

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Roger Ronsen . . . . . . 612-890-8713 **GLUE SALES** 

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Todd Schweim ......612-941-9492 

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George Dupre . . . . .715-448-3002 



MEMBERS: If you would like to sell any of your woodworking tools or equipment through the Minnesota Woodturning

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Association's newsletter, now is your chance!

Simply type up the information and send it to:

Todd Schweim Editor, MWA newsletter 7644-1/2 Lyndale Avenue South Minneapolis, MN 55423

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Ads will run one issue unless you call to extend your ad each additional issue. Call for submission deadline information.