Northwest Woodturners

A Chapter of
The American Association of Woodturners

Volume 11 Issue 5 **May 2007**

Northwest Woodturners meets on the 1st Thursday of each month at 7:00 PM. See website for details and map.

Next Meeting:
May 4th
Joe Cornett, on finishing

Turning Challenge:
Vase

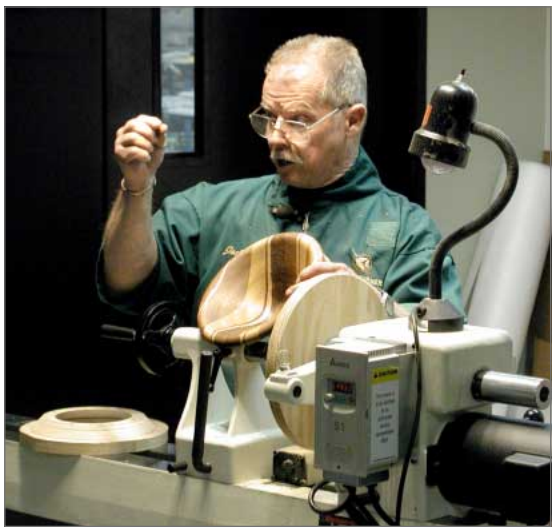
COME ONE… COME ALL…

MAY 15 is the deadline for early registration to the AAW Symposium to be held in Portland, on June 29 to July 1st. It will cost $50 more to register after May 15th, and $100 more at the door if you wait until then. Registration can be done on-line by going to this link *http://www.woodturner.org/sym/reg/default.asp?tE=1*, or you can print a hard copy of the registration form by going to this link *http://www.woodturner.org/sym/sym2007/2007SymRegistation.pdf*

Planning is underway with still more questions than answers, but we are starting to make some progress. I know that there are still lots of "holes" in the committees that are responsible for all the different events to be held at the Symposium this year and I am asking for our members to step forward and help showcase Portland to our national audience.

Sorry that I won't be in attendance for the May meeting, but business has taken me out of town for the week. That also means that there won't be a Learn-2-Turn this month, but I would like to schedule a weekend when people can come to the Chemwest parking lot and turn some toys for Doernbechers. I would like to tentatively schedule Saturday June 9th for this purpose. This would be the weekend after the June meeting when we would normally have a Learn-2-Turn.

- Safe Turning, Tom



Above: April demonstrator, Jack Wayne, shows how to make turnings with minimal fuss using flat stock.

Library News

In the game of chess announcing "Checkmate!" is declaring victory over your opponent and is very satisfying when playing someone of similar skill. Another form of satisfaction comes from completing a woodturning project, especially when the skew is involved. Both of which should occur more often in my life – but this is not a letter to my therapist. This article is about the book "Turned Chessmen" (not turned chess-people - sorry ladies) by Mike Darlow. This is Mr. Darlow's 5th book in his series on woodturning and has something in it for collectors, players, and woodturners. For the woodturner, this book is rich in photographs both at the lathe and of finished sets that provide inspiration for form. And there are several chapters that focus on the design, wood selection, and fabrication of chessmen with several pages of templates. For the chess player there is extensive coverage of the origin and history of chess. Collectors may benefit from the discussion of the history of chess set evolution.

Mr. Darlow begins Chapter 6, which addresses the making of chessmen, with an illustration of a turning shop at the turn of the century. He does so by quoting an article by Gareth Williams from "The Strand Magazine" published in London, June of 1895.

> *There were seventeen changes of tools, but the entire process took no more than a quarter of an hour. An expert man can produce four dozen heads per day.*

Continued on page 5 - See **Library**

Success = MC^{wood}

The answer to the question, “How dry is this wood?”, is one of the most important things for a woodworker to know. For a woodturner making such items as bowls or lamp bases, where a certain amount of distortion is acceptable, it may not be very critical. But when he is making items which will have parts inserted in them, such as ceramic tiles, or lids, or anything where excessive movement is likely to be a source of embarrassment, it becomes very necessary to ensure that the wood is sufficiently dry.

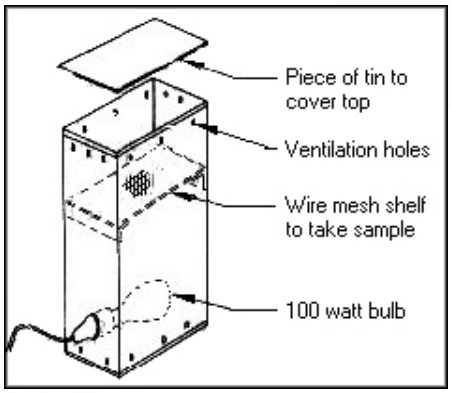
The standard measure for the dryness (or wetness) of timber is the moisture content (abbreviated to MC). This is found by expressing the weight of the water in a sample of wood as a percentage of that sample when it is completely dry. A simple and effective way of carrying out this measurement is to take a small sample of wood, then:
1. Weigh it carefully;
2. Bake it in an oven at a temperature of around 200° F;
3. Weigh it at intervals until there is no further loss of weight;
4. Remove it from the oven and record its final weight. (This is known as the “oven dry” weight).

The moisture content can then be obtained from the following equation:

$$MC\% = \frac{(\text{initial weight} - \text{oven dry weight}) \times 100}{\text{oven dry weight}}$$

The moisture content can be found with the aid of a meter but meters are expensive and few of us have access to one. There are also limitations on the accuracy which they can achieve. There are two types of meter:
1. One measures the electrical resistance of the wood between two probes;
2. The other measures the dielectric properties of the wood between two probes.

Even with long probes the resistance meters can only measure the moisture content of a piece of wood on its outer surface. Most pieces of timber will have a moisture gradient between the inside and the outside. Consequently a meter reading taken on a board which has been hanging around for some time can be misleading; this is why meter readings should



be taken only on a freshly sawn surface. In contrast the field of a dielectric meter will penetrate deep into the wood - here the difficulties are created by variations in the dielectric properties of the wood. Due to the differences in the characteristics of the various species of wood great care must be taken when using any type of meter to ensure that the results are interpreted correctly.

The oven method also has certain disadvantages. The biggest drawback is that it results in the destruction of the sample of wood being measured. It also needs some equipment; namely an oven and a sensitive pair of scales for weighing the sample. However, the equipment can be made quite easily and the sample need not be very large, say 3-5 ounces in weight.

For example, when I am making a clock (which is to have a ceramic tile face inserted) I usually cut the circular blank from a square piece of board. This leaves four waste corner pieces which become my sample. Incidentally, several small pieces of wood will dry more quickly than one large piece; there is no reason why the sample should not be cut up - as long as this is done before it is weighed.

The sample can be dried in the domestic oven but as it takes several hours even for small pieces this is a waste of heat. As the oven need only be small it is easy to make one from a tin of a suitable size with an electric light bulb to supply the heat. My own oven was made from a discarded 5 litre oil can fitted with a 100 watt bulb. *(ed: see pic to left)*

Sensitive scales can be expensive but with a little ingenuity they too can be home made. Mine were made from a length of 3/16" diameter aluminium tube, a couple of pieces of bent coat hanger wire and two tin lids (for the pans). Although it may look primitive, there is no reason why such a balance should not be reasonably accurate. For a 100 gram sample the degree of accuracy needs to be about plus or minus 1/2 gram (i.e. 1/2 per cent).

(editor: I bought my digital scale, accurate to 1/10th of an ounce on eBay for about $25, including shipping.)

Having found a means of determining the actual moisture content of a sample of wood it is necessary to consider what the desired moisture content should be. When a ‘wet’ piece of wood is put in a ‘dry’ environment its moisture content will fall as the water in it evaporates. At a certain point, determined by the relative humidity (RH) of the surrounding air, the evaporation of the moisture will cease. The wood will then be said to have reached its ‘equilibrium’ MC (EMC). After that the MC will rise and fall as the RH of the air rises and falls - with the change in MC so the wood will expand and contract.

Continued on page 3 - See ***Moisture Content***

Moisture Content - *Continued from page 2*

The relative humidity is the ratio of the amount of water vapor present in the air to that which it would hold at saturation at the same temperature. Cold air holds less water vapor than warm air; as a consequence when cold air is admitted into a centrally heated environment the humidity falls to a low level. In a test made in Wisconsin (USA) indoors in the winter, the moisture content of a wood sample fell to 3%. This is very extreme, however, and in the UK it is customary to think in terms of a minimum moisture content of 10% as a national average. Due to the equable climate of the UK, neither the seasonal nor the regional variations are as great as in other parts of the world.

There is, however, one other factor which must be considered. The minimum moisture content attained by a piece of domestic turnery, will depend on where it is placed in the house. For instance, a clock put on the wall of the lounge over a radiator will get much drier than one in an unheated hallway. One of the problems to be faced by the maker is that he does not know where one of his products will end up.

Although one should be aware of all the factors affecting the movement of the wood, in practice it is necessary to adopt a rule of thumb. A reason for this is that however carefully the procedures described in this article are carried out, the variability of timber means that the results will not be perfect and the desired moisture content will not be achieved with absolute precision. Nevertheless, they will be good enough to ensure that one has the situation under control. In those circumstances where the movement of the wood might lead to damage, my method is to aim at an moisture content of 10% to 12%. If the wood I have selected is not dry enough then I dry it some more by the methods discussed below. Then when I turn it I make sure that there is sufficient clearance in the important places to take care of any further movement.

As a rough guide to the amount of clearance that should be allowed it is found that most common timbers will shrink by 1.5% to 2% across the grain with a fall in moisture content of 5%. If, for example, I am making a clock to take a 150mm (6 inch) diameter ceramic tile insert I allow for a maximum fall in moisture content of 5%. As a consequence I have a gap of l.5mm all round the tile, this gives a total allowance of 3mm (or 2%) across the width of the tile.

Timber which has been kiln dried will probably have an moisture content of 12% to 15% and will, therefore, be suitable for most purposes. It should be remembered, though, that it will begin to pick up moisture as soon as it comes out of the kiln unless it is stored in a place with low humidity. Air dried timber on the other hand, usually has an moisture content in the region of 18% to 20% and, for the kind of purposes being considered here, may well have to be dried further - this further drying is known as conditioning. If there is no need for haste the simplest way of conditioning timber is to place it in an environment similar to that which the finished piece will occupy. Unfortunately, this is seldom practicable and so to speed up the process some way has to be found to create an environment which is warmer and drier than normal.

It need hardly be said that timbers vary enormously in their response to drying methods. I have found, for example, that ash is very forgiving - even when samples are baked dry in the oven they often do not split. Others, such as yew, have to be treated with great care. Trial and error, experience and the exchange of information with others, are the only guides.

My own experience of the conditioning process is based largely on the ash which I use for clocks. In winter I have found that a considerable number of clock blanks can be conditioned quite quickly over a storage heater. I stand them on edge with a gap between each one - they are, of course, raised above the heater as well - and I rotate them through 90° every day. In summer the blanks can be placed in a box with a low wattage heater (e.g. a couple of 100 watt light bulbs). A place favored by many turners for small quantities (if their partner does not object) is the airing cupboard, which is available summer and winter. I tried a microwave oven for small pieces with some success. If you want to have a go I suggest you use the oven on the defrost setting starting with short periods.

Whatever method is used for the conditioning process it is necessary to follow a regular procedure to ensure that the desired level of moisture content is attained. My own procedure is as follows. First I find the moisture content of a reasonably representative sample of the batch of timber I am going to use. When taking this sample I avoid the end of a board (as this may be drier than other parts) and nontypical pieces such as a large knot. It must also be weighed immediately after it is cut. Having found the MC of the sample I assume that the rest of the batch will have the same MC. I then cut up the rest of the timber into blanks as soon as possible. Then every blank is immediately weighed and the weight marked on it. Once that is done the pieces can be conditioned at leisure - they will probably start to lose some weight (i.e. water) as soon as they are cut.

After a blank has had its initial weighing the target weight (i.e. the weight it will need to be to attain the required MC) can be calculated and that too, marked on the blank.

The formula for calculating the target weight is as follows:

$$\text{Target Weight} = \frac{\text{initial weight} \times (100 + \text{req. MC\%})}{(100 + \text{initial MC\%})}$$

Once the required weight of a blank has been calculated it will be possible to monitor the MC at any time by weighing the blank. If the blanks are weighed at regular intervals, then as soon as any blank has reached the target weight it can be withdrawn from the conditioning process.

Make mine scrambled, poached, or sunnyside up - just hold the quiche!

The April Challenge was an eye-opener with Phil Lapp bringing home the bacon with his All-American breakfast plate on which everything was wooden (except for the sprinkles of pepper). Also cookin' were Chris Nilluka's poached egg, top center, and Craig Taylor's black beauty. Don Simmon's bowl of colorful eggs was eggzactly perfect, while Rich Winston's pair were eggstraspecial. Fred Kline's diminutive ovum was dino-mongous.

Notable Trees of Oregon

Mitchell Monument Shrapnel Tree

On Saturday, May 5, 1945, Reverend Archie Mitchell and his pregnant wife, Elsie, loaded their car with a picnic lunch and fishing gear. Traveling with them were five children (aged 11-14 years old) from Mitchell's Sunday school class from Bly, Oregon. The group traveled northeast to the vicinity of Leonard Creek on the lower slopes of Gearhart Mountain. Elsie and the youngsters went off to explore the creek while Archie parked their car. As Reverend Mitchell stepped from his car an explosion shattered the quiet morning. A Japanese balloon bomb had exploded killing Elsie and the five children - the only civilian casualties of World War II on the continental United States as a result of enemy action.

In 1950, the Weyerhauser Timber Company, which owned the site of the attack, dedicated a monument constructed of native stone and displaying a bronze plaque bearing the names of the six victims. A ponderosa pine, hit by bomb fragments, stands behind the monument. Known today as the Mitchell Monument, the site is now listed on the National Register of Historic Places.

Japan launched more than 9,000 balloons throughout the course of the war, sending approximately 900 to America, although only about 300 have ever been found. They turned up in Alaska, Washington, Oregon, California, Arizona, Idaho, Montana, Utah, Wyoming, Colorado, Texas, Kansas, Nebraska, South Dakota, North Dakota, Michigan and Iowa, as well as Mexico and Canada. The last known discovery of a viable balloon bomb in North America was in 1955 - its payload still lethal after 10 years of corrosion. There was a non-lethal balloon bomb discovered in Alaska in 1992.

From: <www.oregontic.com/heritage/docs/trees-newsletter-2005spring.pdf> and <http://en.wikipedia.org/wiki/Balloon_bomb>.

Library - *Continued from page 1*

This glimpse into the past evokes two thoughts within me. One thought is how highly skilled crafts people established the standard to which automation had to surpass. The second more obvious thought is with regards to my own personal production rate of about one piece a month – not 48 in a day, wow!

In the chapter about the history of chessmen, there is a photograph of a traveling chess set made in the years 1890 to 1930. What is particularly interesting about this photo is that it is from an Art Museum right here in the Northwest. The Maryhill Museum of Art in Goldendale Washington has several sets in their collections and is on my list of places to visit. Their website states that about 100 chess sets are in their collections.

If you liked Mr. Darlow's other books, than you will also like this one. This book is done in his typical engineer – industrial arts instructor format with an abundance of information – some useful and some not so. I fear that if I had to take shop class from Mr. Darlow I would be happy with a D+ even though the lamp stand made for mom was perfect. With that, its time for me to stop writing and time for me to start turning some chessmen. – Checkmate!

- Chris Dix

Learn-2-Turn Re-turns...

next month. Tom will be out of town, on our regularly scheduled May 5th Learn-2-Turn. We'll try again for June - perhaps turning toys for Doernbechers.

April Show'n'Tell turnings: (clockwise from top left) Salt & pepper shakers by Bob Tuck; vessel by Don Woodward; box by John Wirth; pair with finial twists by Jim Hall; and bowl by Lynne Hemmert.

myfamily.com Forum

If you do not have access to the private chapter forum, send Owen an email <onlnlowe@verizon.net> using an email account in which you'd like to receive the username and password. *Also, if you've experienced problems with your access, it is imperative to communicate via email with Owen to assist him in getting your log-on issue straightened out.*

Turnings, left to right, by Richard Benham, Lynne Hemmert, and Andy Johnson Laird.

Classified Ads

Guidelines for Classified Ads: If you sell or find your item please notify the editor. Ads will only run for 3 (three) consecutive months. Please submit your ad to the editor by the 20th of the month. Editor makes no guarantees for spelling or grammatical errors. All woodworking items, for sale or wanted, are welcome.

Denver Ulery custom bowl lathe: 16" short bed, 14" swing, 30" extension - 36" between centers. The diameter of the swing is adjustable, 1.25"x8 tpi spindle, 2 Morse taper. 1.5 hp, 220v, DC motor w/ two-step pulley and rheostat controlled rpm. 2 face plates, wrench, 10" tool rest. Excellent condition, half price! $1,650.
Contact Patrick Lynch, (503) 557-5526. (4/07)

Woodcraft® Classes with Fred Kline, Bob Tuck & Jerry Keller

Bottle Stoppers!
Instructor: Fred Kline
Saturday, May 05, 9:00 AM - 1:00 PM
Skill Level: Beginner

Learn To Turn A Pepper Mill
Instructor: Bob Tuck
Sunday, May 06, 10:00 AM - 4:00 PM
Skill Level: Beginner/Intermediate

Beginning Lathe Turning
Instructor: Bob Tuck
Saturday, May 19, 10:00 AM - 4:00 PM
Skill Level: Beginner

Basic Bowl Turning
Instructor: Bob Tuck
Sunday, May 20, 10:00 AM - 4:00 PM
Skill Level: Beginner/Intermediate

Pen Turning
Instructor: Woodcraft Staff
Thursday, May 24, 6:00 PM - 9:00 PM
Skill Level: Beginner

Turn A Platter!
Instructor: Jerry Keller
Saturday, June 02, 1:00 PM - 5:00 PM
Skill Level: Beginner/Intermediate

For more information and to register, contact the Tigard Woodcraft store. Call (503) 684-1428 or email <portlandretail@woodcraft.com>.

Rockler® Classes with Chris Nilluka & Paul Rasmussen

Bottle Stopper Demo
Saturday, May 26,
Instructor: Chris Nilluka

Bowl Turning
Saturday, June 2
Instructor: Paul Rasmussen

Bowl Turning,
Bowl Chucks & Accessories
Saturday, June 23
Instructor: Chris Nilluka

For more information and to register, contact the Beaverton Rockler store. Call (503) 672-7266 or email <store17@rockler.com>.

Editor's Note:

Submissions to the newsletter are due by the 20th of the month. Articles, tips, web links, classified ads, or other items pertaining to woodturning are welcome.

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Above: Two April Show'n'Tell bowls by Bob Mach.

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