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October 2005

## President's Message Turning to Hats

The day after our May meeting at 5am, I turned my attention to hats... wooden hats that is. I hopped in my car and drove up to Manchester VT. to see Johannes Michelsen, who is the inventor of the wooden hat that not only looks like one, but feels like one too. It is so thin you can see light thru it, and weighs just a few ounces. He offers three day courses on how to turn a hat where you can learn, turn, and take home a hat. Johannes has three lathes, and so he usually has his classes with three people which allow you to get plenty of help from him if needed. This article describes the experience of taking this class, not all the techniques involved. If you want to know more specifics, please talk to me directly, or look up more information on [www.woodhats.com](http://www.woodhats.com).

The first day we learned the technique. We were taught how to cut and band saw a log that would yield a blank that could be put on the lathe for turning. We learned the size needed and the grain pattern that would yield the best results. Johannes explained wooden hats to us from the concept and then the many problems that had to be resolved to where he's at today. Then we watched Johannes as he taught us his technique for turning the outside of the hat, then the inside. During this demo he talked about tool presentation, body movement, shaping of the hat and "the grind". This grind is a fingernail shape with a seriously backed off bevel ground free hand. At the end of all this, it was early afternoon, and we were ready to start selecting our blanks. Once we got our blanks we started to rough out the blanks for the next day. We were instructed to rough turn them only, no finish turning since the blanks would then check and warp out of shape. Johannes had us take the blanks off the lathe, wet them with water, and store them in shavings for the night to prevent any checking. Afterwards Johannes showed us how to bend the hat he had turned. After you turn a hat, it is a good idea to let the hat settle for a few hours before trying to bend it into shape. He

put the hat in the bending jig and showed us the proper technique as described on his web site.

The second day was a long day. On the second day, we first started to turn the outside of the hat to shape. Once this was complete we started to turn the brim of the hat to thickness. This was the cool part, since here is where you use light to guide your cutting. The hat gets turned to 1/8" thickness. You use the light to guide all your cuts, but we still needed to check the thickness using calipers due to changes in grain direction, wood moisture, and grain coloration. It wasn't long before our brims were done. It was at this point we broke for lunch. During the turning process because the hat gets turned so thin and we use light to turn which heats things up, the thin parts tend to dry out quickly, and you risk getting checks in the hat. To prevent this we would spray the hat once in a while with water to prevent drying out. We did this if we took breaks as well. Unfortunately for me, during lunch my hat checked, but fortunately for me Johannes fixed it, and you can't tell it even happened. So after lunch we turned the inside of the hats. This was the most nerve wracking part of it all. The last thing you want to get here is a catch and ruin your whole hat. I  
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## Club Officers and Contact Info for 2005

President, Ray Boutotte  
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 VP, External, Reid Gilmore  
 Secretary, Tim Elliott

Charlie Croteau

Treasurer, Richard DiPerna  
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### AAW President's Message

Message received from Phil Brennon, current President of the AAW:

I want to extend my heart felt thanks to all of the AAW chapters and their members for supporting the AAW. Much was accomplished this past year in our ongoing mission of education and awareness of woodturning. New and existing programs for members, from youth to professionals, continue to flourish within the AAW.

October brings our election for board members, as well as our membership renewal. I hope that each member carefully reads the candidate statements in the American Woodturner, and votes for the persons that best represent their concerns.

You can renew your membership online, at [www.woodturner.org](http://www.woodturner.org) or with the form in the AAW Journal.

Since sharpening is a key skill to woodturning, we are mailing the AAW's most popular DVD on sharpening tools (\$24.95 value) free to every new or renewing member along with their membership resource directory. We feel this is just another great reason to join AAW. We look forward to offering turners the best services and programs available in woodturning today and into the future.

If you are new to woodturning and haven't checked out all of the reasons to join AAW, give our website [www.woodturner.org](http://www.woodturner.org) or our AAW Journal a look. If you're a current member, you know the value of your organization, and I'm sure you are looking forward to another great year of camaraderie, articles and exciting programs.

### Editorial

This month was the Totally Turning symposium in Albany, NY and Hazel and I drove over for the weekend. I didn't see as many CNEW members there this year but the presentations were very good (at least the ones I attended) and there were enough vendors in attendance to empty even a Scottish wallet.

The rotations I thought particularly good were Keith Tompkins and Steve Sherman on form and design, Stuart Batty doing an off-centre square bowl, and Alan Hockenbery showing how he makes his suspended vessels. And if Andi Wolfe is back demonstrating her surface decoration techniques next year, Hazel might just sign up for the symposium and sit in Andi's class the whole time.

Keith and Steve talked about some basic design principles like the golden rectangle, to which Keith added the "Tompkins Triangle". This is an equilateral triangle which fits around a bowl shape. So long as the foot of the bowl is also within the triangle, it's not too big. These are basic guidelines which will produce

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### November Program

The next meeting will be on Thursday November 3rd beginning at 6:30pm, at the usual place. This month, George Whippen will demonstrate making items that make noise, such as duck calls. Show & Tell will follow the regular business meeting so bring some of your recent work. There will also be a Wood Swap, if we do in fact have some wood to swap.

## Minutes of October Meeting

Tim Elliott

There were two visitors:

Jeff Harris of Harvard, MA

Corey Anderson of Connecticut

The treasury balance is now about \$1500, with \$250 owed for supplies purchased prior to the October meeting. The summary for calendar 2005 is approximately \$1500 income and \$2300 spent.

We are still seeking a new treasurer to replace Richard DiPerna, who has moved. Please contact a club officer if you are interested.

Next month's demo will be George Whippen on turned noise makers.

October 14 will be the teacher's conference Jack Grube spoke to us about last Spring. Norm Mancuso says that all demo slots are now filled.

Sunday October 23 will be the "Spirit of Wood" show at Middlesex Community College in Bedford, MA. Ken Brannock is coordinating CNEW's participation. We have 3 tables (2 free to exhibit work and 1 we paid for that may have items for sale). There will be at least one or two lathes available; members are encouraged to demonstrate.

There was some discussion of whether CNEW has a policy regarding personal use of club lathes. This arose because Norm Mancuso would like to use our Jet Mini on the day of the Spirit of Wood show. Apparently, the lathe is not needed that day for the show and there were no objections. Ray will discuss with the other officers whether we need to adopt a clear policy for the future.

Ray asked if any CNEW members attended the national symposium this year. Nobody raised their hand.

October 15 and 16 is the Totally Turning symposium in Albany, New York. Several members plan to attend.

If you would like to participate in CNEW's booth for the Thanksgiving weekend Craft Fair at the Worcester Center for Crafts, please be prepared to sign up at our November meeting. Last year's receipts exceeded \$5000.

We now have some cyanoacrylate glue and sanding disks available for purchase at meetings. Ken Brannock has volunteered to be "the supply guy". See him at meeting breaks if you're interested.

Angelo Iafrate contacted CNEW about a regional New England symposium he is helping to organize in 2006 or 2007. He would like us to name a CNEW representative to join the committee organizing this event. Contact a CNEW officer if you would like to be our rep.

Speaking of officers.... elections are coming up in only a few short months. Please think about what office you might like to hold for a year. There is generally a list of offices/officers somewhere in the newsletter. Most incumbents will step aside at election time to make room for an enthusiastic new face.

Steve Reznick announced that the Freedom Trail in Concord, MA would be happy for a turning demonstrator willing to make items on their "human powered" lathe.

Reid has sent a financial summary of the Lowell show to Richard DiPerna, who will make final payments to participants. Apparently there was at least one credit purchase denied by the bank. Since this possibility was not discussed prior to the show, we had some discussion about how such items should be handled. Are bad charges part of the show cost to be distributed across all sales? Norm Mancuso has agreed to help formulate a clear policy for future shows. Please contact him if you have input.

Ray pointed out that new and renewing AAW members will get a special bonus this year - a new DVD on the subject of sharpening.

### THE CNEW STORE

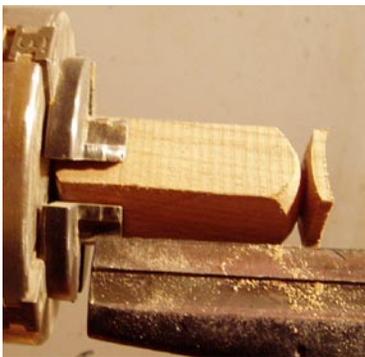
CA Thin, 2oz.	\$5
CA Medium	\$5
CA Thick	\$5
Accelerator	\$3
Sandpaper 2" & 3" (pack of 10)	\$2
Available in 80, 100, 120, 150, 180, 220, 320, 400 grit	
2" Sanding pad	\$6
3" Sanding pad	\$7

## Making the Raindrop Vase

Tim Elliott

The raindrop vase looks like it must be offset or multi-axis turned, but it's not. I can make one in about 15 minutes. A nice little production item for the holidays.

Start with square turning stock. It does not need to be surfaced. I like to work in roughly 6/4 stock, but the exact dimension doesn't matter. The length is only limited to what you feel comfortable working in your chuck – a piece five or 6 inches long will yield two vases one after another.



Use a gouge to clean up the endgrain on the end of the blank. Leave a slightly concave surface – the “dish” profile of the final vase rim. Then, make a delicate pommel cut an eighth inch or so to the left of the endgrain surface with a skew.

Open the pommel cut to the left, forming a “vee” that extends down to the final minimum outside diameter of the vase's neck.... say, 3/4". With experience, you will want to make the rim as thin as practical – but remember that the rest of the vase is turned with the pommel intact and at least one of the four corners must survive.

Now rough down the mass of the vase until it is just round. Picture the location of the maximum vase diameter in preparation for the next step. Finalize the profile of the vase as you would normally turn a spindle.



Rotate your toolrest again to access the top/endgrain surface, and drill a hole to final hollowing depth using a 1/4" gouge.



Hollow the vase to final wall thickness using your favorite miniature hollowing tool (mine is an allen wrench fitted to a very wide handle to control torque). Measure wall thickness using miniature double-ended calipers, bent coat-hanger wire, or “tap and listen” techniques. Since this item is so small, it will naturally be light in weight – it's not necessary to get too neurotic about wall thickness.

Refine and thin down the bottom vase profile, maybe with a small foot. Sand all surfaces but the sides of the pommel before parting off the base.



Use a disk sander to remove all but one of the remaining pommel corners. This is where a thin, delicate pommel pays off. Smooth the rim to a raindrop shape. Touch up with hand-sanding, if needed. Apply finish and you're done.

Make another! Repeat! There is nothing like repetitive production work to improve your skills.



Editorial, contd.

forms that are well-proportioned, but they are only guidelines: many interesting and beautiful forms do not fit the guidelines and just because it's well-proportioned does not mean it isn't boring.

For me, there were two main points of this presentation. First, aim for a particular form. Use the guidelines to decide what you want to produce and then stick with it. This will improve your technique faster than just accepting whatever form happens to emerge from the wood. Second, practise! only by practising will you improve your technique, and better technique is what will allow you to design and then create without getting frustrated at your inability to achieve the effect you want to achieve.

I watched two of Stuart Batty's rotations, on making an off-centre rectangular bowl and a thin-walled bowl from exotic hardwood (cocobolo). There was no particular trick to the off-centre bowl beyond bandsawing off any large chunk of waste to reduce the imbalance. Then mount it between centres to rough down the bowl and form a tenon for the chuck. Stuart did use a technique I would never have dared try to clean up the rectangular faces: scraping, from the bowl right out to the edges of the wings. This, he said, gives a better finish than a gouge. Stuart also used a scraper to clean up the inside of his cocobolo bowl.

Throughout, he was using negative rake scrapers made from Jerry Glaser's A11 steel. This seems to be a new development in turning tools: Sorby makes one, sold by Craft Supplies as a hardwood scraper. It looks like a regular scraper except that the top surface slopes gently down towards the tip. The result of this change in geometry is that you can use the tool on the inside of a bowl or box, even on the bottom, without it grabbing. According to Stuart, the tool will only cut with a burr on it and with HSS the burr lasts mere seconds, which is why he uses Glaser's steel. The tool certainly did a very good job of cleaning up tool marks inside Stuart's thin cocobolo bowl.

To clean up the outside of the thin bowl, Stuart made a jam chuck which fit inside the rim. Held in place by the tailstock, this did not drive the bowl but supported the rim while the outside was finished. Stuart also demonstrated and explained his push cut on the outside of the bowl, and also showed how lack of attention can catch out even the most experienced turner. Omitting to check for clearance first, he turned on the lathe and

crunch! as the toolrest took a chunk off one corner of the rectangular bowl.

I was not familiar with Alan Hockenbery's work before this symposium but *Suspended Vessels* sounded interesting. These start out as a spindle turning about 4-6" in diameter. The central part of the spindle is turned down to a sphere. Alan showed how to do this by marking out the blank and turning it down, first to an 8-sided polygon then to one with 16 sides and finally to a sphere, using a small plastic ring to find the high spots. When the sphere is complete but still attached at both ends, it is mounted on a vacuum chuck and hollowed. With the piece off the lathe, the ends can be cut away, carved and otherwise shaped however you like.

As last year the instant gallery was very popular, with a lot of interesting work shown. One improvement over last year: only one table was marked "Do Not Touch", on the others you were free to pick up and feel the pieces, which helps a lot in assessing a piece. The critique was also better this year. Andi Wolfe and Stuart Batty did the honours, and critiqued a *lot* of pieces. Some pieces they picked out but they also invited anyone who wanted a piece critiqued to point it out to an assistant. I had two of my pieces critiqued and while it was nice to have some of the things I thought I'd done well confirmed, it was more valuable to hear where and how the pieces could be improved.

All in all this was a very good show and well worth the drive to New York. We might even go again next year.



From the Instant Gallery  
"Follow, follow, follow" by Ken Deaner



Above: American elm (Massachusetts state tree) bowl by Joe Harbey, with MA quarter in base.  
 Right: A walnut platter with segmented rim by Phil Bowman and a bowl by Charlie Croteau.



Two pieces by Frank White. Left, a spruce burl hollow form and on the right a cherry burl bowl with basket weave carving that took five years to complete.



Below left: Cherry burl lidded box by Graeme Young.  
 Below right: Platter assembled from numerous curved walnut segments with interspersed veneer by John McAtee.

Below left: Cherry burl lidded box by Graeme Young.



## Turning to Hats

was nervous and almost shaking. A lot of people, esp. people that are not very experienced have Johannes make most of the final finish cuts, but I was braver, and did 75% of the finish cuts on the hat myself. What a relief when I was done with the inside. The final phase of creating the hat is to turn it back over and turn the top of the hat. The top of the hat is turned using a light box. The hat is also sanded at this point and once this is done, the hat is left to rest for a few hours before being put into the bender.

On the third and final day, we finished the hat. Not much left to do, we adjusted the bender once in a while and checked to make sure the hat was progressing to the shape of our heads, and at the end of the day, it gets sanded, signed and sprayed with 3 coats of lacquer. Of course we didn't just wait around for our hat to do its thing. Johannes usually has his students turn a mini hat. Again we watch Johannes turn one, which took about an hour, then we used the cores from our hat blanks to make one ourselves. This mini hat is turned even thinner, but with the same exact techniques. Johannes was nice enough to provide us with another option since we were such good students. We could turn another full size hat, provided we pay for the wood blank (a second wood blank costs \$50, if you ruined your first hat you could turn another hat as well). How could I refuse....two hats from one course! Then I had to decide which type of hat to make. I decided on a crusher style made from yellow birch, which just happened to be light brown with a lot of red streaks running thru the hat. Of course we would have to finish the hat at home. I was able to fully finish my hat all the way to the bending stage before I headed on home.

The grind was pretty neat. The technique in using it reminded me of the Ellsworth grind a lot, but was different. The neat thing about it is that the grind edges roll up into the flute, so when presented to the wood straight in, the bevels actually get in the way of the cutting edge so the tool only goes in 1/4" deep. This is great for turning the tip of the hat on the inside. You absolutely cannot get a catch at this point with this grind. The downside is that you need to free hand the grind; there is no jig that you could make that could be used.

One nice thing about working with other turners is that you learn some neat tips and tricks. Johannes saves most of his scraps for other uses. He saves a lot of the

band saw waste for hat stands. Cores the hats during turning to make mini or micro hats. Turns off an outside piece of the hat around the brim to make a blank that can be used to make a mirror. And the other smaller scraps are used for the wood stove to heat the place. Another neat tip was how the band on the hat was created by burnishing other types of wood onto the hat to create a colored band. This could be used in various other turnings besides hats. Also when we had to spray the hats with water to keep them from drying out, the water contained a small amount of bleach to make sure no mold would form if left overnight.

So at the end of the course I had two hats, a cowboy style hat called the range rider made from sugar maple with some curl in it, and a crusher style with a shorter brim made from yellow birch. Everyone who sees my crusher hat thinks it is a real hat. I have had to bring it to people's attention that it is not a leather hat, but made from wood. Unfortunately the range rider didn't fit my head correctly, but it fit my wife perfectly, so she was very happy that she has a hat to wear. My crusher doesn't fit too well either, but better. Where did we go wrong? I believe it was the way we measured our heads. Johannes takes the width and length of your head to get an average head size, but this method is flawed if you have a very oval head like me. The better way is to take a circumference measurement and figure out your head size from there. Also the wood for the first hat was a lot wetter so it may have shrunk more than expected, but Johannes figures this into the measurements. To get the right size hat you take your average hat size, and add the thickness of the hat on both sides, and account for shrinkage to get the size you need to turn the outside of the hat. I have the numbers and formulas written down if anyone is interested.

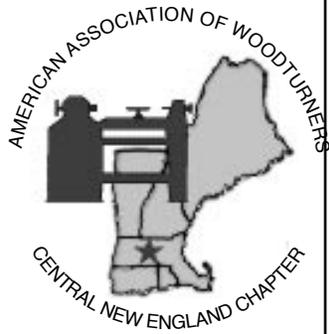
So, would I do it again? Yes. It was a wonderful experience; I learned a lot, it was a great mini three day vacation where you are fully engrossed in turning. Other students brought their wives who went shopping during the day, I left mine home since I didn't know how much time I would have been able to spend with her, and it wouldn't have been much. Was it expensive? It was \$650, which is reasonable with other course fees, about \$20 an hour for the time spent. The hats he sells are over \$1K, so if you want a hat, this is the best way. I feel I could turn another hat in my workshop now if I wanted too, and I hope to some day.

The CNEW SKEW

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Tim Elliott hollowing a tiny vase



Ray Boutotte sanding a large hat