

PENTURNING PRIMER • TURN A MULTIAxis CHILI PEPPER BOX • TURN A TAPERED-STAVE BOWL

AMERICAN WOODTURNER

Journal of the American Association of Woodturners

April 2016 vol 31, no 2 • woodturner.org

TURN A WINDSOR-STYLE FOOTSTOOL

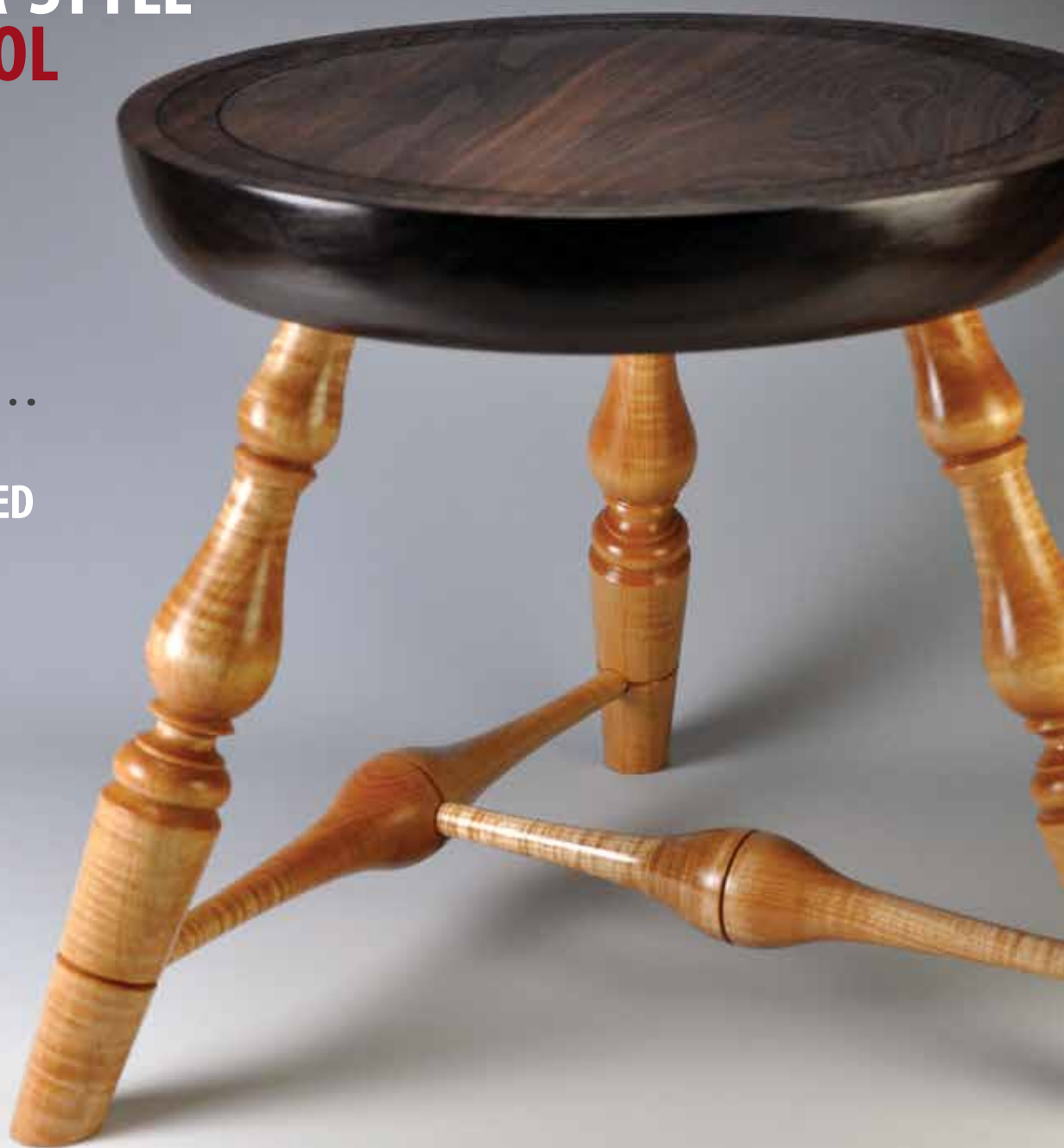
NEIL SCOBIE
A TURNER
FOR US ALL

.....

PHIL BROWN
ON UNTRAVERSED
SLOPES

.....

**TURNING
TUBES**



The Basket Illusionists

A popular style of embellishment on wood-turned forms, commonly called basket illusion, derives from patterns found on the stunning original work of indigenous artists, particularly those of the American Southwest. Enthusiasm for trompe l'oeil basket designs, explored by Lincoln Seitzman and made widely popular by the late David Nittmann, still thrives.

David Nittmann,
Plunk Yer Majic Twanger
Froggy (reverse side), Holly,
pigments, pyrography,
14¼" (36cm) diameter

AAW Permanent Collection
Donated by the artist in
memory of Rajah Catz



This replica of a bottleneck treasure basket was made in tribute to the Kitanemuk Indian tribe of California. The basket weave on top was done with #3 round weaving material, which must be soaked to make it flexible. I learned the beading, burning, and painting technique from Jim Adkins.

—Ken Hager, Oklahoma

Ken Hager, *Untitled*, 2015,
Maple, 8½" × 6" (22cm × 15cm)



Dan Burleson, *Basket Illusion Boxes with Threaded Lids*, 2015, Hard maple, average 3" × 2½" (8cm × 6cm)

About five years ago, I saw some pieces by Jim Adkins and David Nittmann with the basket illusion technique, and I thought, "Man, that is really cool. I've got to learn how to do that." The more pieces I did, the more I fell in love with the technique. It is quite labor-intensive, but there always seems to be one more pattern or a new twist on how to do them.

—Dan Burleson, Missouri



Dan Burleson,
Basket Illusion Bowl,
2016, Hard maple,
sea grass, 4" × 12½"
(10cm × 32cm)





Chris Ramsey,
Nittmann's Rodeo,
2005, Sugar maple,
6" x 15½" x 12½"
(15cm x 39cm x 32cm)



As a huge fan, promoter, and one who received a mountain of inspiration from David Nittmann's work, I wanted to honor him by applying the basket illusion technique on a hat. Made from fresh-cut maple, this cowboy hat was beaded, ebonized, bent, burned, and colored.

—Chris Ramsey, Kentucky



Harvey Meyer,
Untitled, 2015, Hard maple,
6" x 8" (15cm x 20cm)

I have always been a fan of the basket illusion work of David Nittmann, but about four years ago I suddenly became fascinated with his work. Shortly after, I learned of another basket illusionist, Jim Adkins, and after seeing some of his pieces, I was more than amazed. That was the tipping point for me and I taught myself the basket illusion process. I also find inspiration from pottery. I particularly love the work of Melissa and Frederica Antonio, two fabulous potters from the Acoma Reservation in New Mexico. You'll see much of their influence in some of my hollow vessels.

—Harvey Meyer, Georgia



Justin Stephen,
An Illusion of Choice, 2016,
Cherry, 14" (36cm) diameter

I have always been interested in the embellished-rim platter as a form. The rim provides a blank canvas for expression, while a beautiful piece of wood can "costar" in the middle. After experimenting with everything from dyes and wood carving to epoxy and polymer clay inlays, my moment of inspiration came after seeing some of the beautiful "body drum" works by David Nittmann. His use of the basket illusion technique inspired me to incorporate similar ideas on the rims of platters.

—Justin Stephen, Washington D.C.

Dedicated to providing education,
information, and organization to those
interested in woodturning

American Woodturner (ISSN 0895-9005)
is published bimonthly by:
American Association of Woodturners
222 Landmark Center
75 5th St W
St. Paul, MN 55102-7704
office: 651-484-9094
toll free: 877-595-9094
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American Association of Woodturners is
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Electronic-journal AAW membership, \$45

Send dues to:
American Association of Woodturners
222 Landmark Center
75 5th St W
St. Paul, MN 55102-7704 USA

Or join online at woodturner.org

Periodicals postage paid at St. Paul, MN,
and additional mailing offices.

POSTMASTER: Send address changes to
AAW, address listed above.

Publications Mail Agreement No. 40064408
Return undeliverable Canadian addresses to:
Express Messenger International
P.O. Box 25058, London BRC
Ontario, Canada N6C 6A8

Printed in the USA by
Quad/Graphics, Waseca, MN



Inside This Issue

April 2016 vol 31, no 2

FEATURES

16 Penturning Primer

An introduction to the gratifying world of turning
keepsake writing instruments, by Kurt Hertzog.



20 Turn a Windsor-Style Footstool

A classic furniture project that can be tailored to different skill levels,
by Janet A. Collins.

26 Turn a Tapered-Stave Bowl

Spare lumber around the shop? Bill Wells demonstrates
an alternate take on segmented bowl turning.



30 Turn a Multiaxis Chili Pepper Box

Mark Knize shows how to spice up your skills
with a hot new project.



34 Turning Curved Tubes

It all makes sense when you see how it's done, by Keith Tompkins.



37 Turning Straight Tubes

Et voilà! Pascal Oudet takes us through the steps of creating
one of his signature tubes.



40 Turning Tubular

A photo gallery of turned tubes. How will you
apply the technique?

41 Post-Millennial Standout: Kayla Dean

Habits of planning, precision, and finesse learned in the
woodshop serve her well at university, by David M. Fry.



42 Phil Brown on Untraversed Slopes

Exploring bowl shapes for more than thirty years, from
cones to concave, negatively curved pseudospheres,
by David M. Fry.



46 Neil Scobie: A Turner for Us All

It's a simple story. With hard work, dedication,
and relentless energy, the boy from the bush gains
an international reputation, by Terry Martin.

AMERICAN WOODTURNER

Journal of the American Association of Woodturners

ASSOCIATION NEWS

4 Editor's Note
Joshua Friend

4 President's Letter
Greg Schramek

5 AAW'S 30th
International
Symposium

10 POP to Showcase
Swiss Artist Jérôme
Blanc



11 2015 Fundraising Campaign

12 AAW Board of Directors
Call for Nominees

12 Women in Turning's
EOG auction collaborative

12 Call for Demonstrators
AAW Symposium 2017

12 2016 POP Fellowship
Grants Call for Applications



WOODTURNERS CHATTER

13 Chattahoochee Woodturners
Forms Partnership with Eagle
Ranch



13 Arizona Flutemaker Featured
in IWCS Video

13 Bay Lake Supports Troops

14 Tips

15 Calendar of Events

GALLERY

1 Gallery
The Basket Illusionists



52 Members' Gallery
Jay Shepard
Rick Bywater



71 Advertising Index

COVER

Cover – Janet A. Collins,
Windsor-style footstool

Back Cover – Miriam Carpenter



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A NOTE ABOUT SAFETY

An accident at the lathe can happen with
blinding suddenness; respiratory and other
problems can build over years.

Take appropriate precautions when you
turn. Safety guidelines are published online
at tiny.cc/turnsafe*. Following them will help
you continue to enjoy woodturning.

*Web address is case sensitive.

Editor's Note

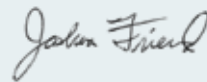


In the February 2016 issue of *AW*, I had the privilege of featuring Max Brosi's incredible tubular forms on the inside front cover spread. As a follow-up, I am glad to offer in this issue guidance from two authors on how to turn tubes. Keith Tompkins shares details on turning curved tubes, and Pascal Oudet, the straight variety (pages 34 and 37, respectively). I hope you will find these methods a useful addition to your woodturning repertoire.

David Fry, a regular author for *AW*, has been writing short articles about promising young turners new to

the scene. Check out his second piece in this series on page 41.

Finally, I am pleased to present an article on turning a Windsor-style footstool (page 20), by Janet A. Collins, who makes this useful, classic piece accessible for all.



—Joshua Friend

From the President



Thirty years of symposia: Atlanta, 2016

What an appropriate location for our 30th anniversary, historic Atlanta—home of Coca-Cola, Martin Luther King,

Jr., Margaret Mitchell and *Gone with the Wind*, the Atlanta Braves, Hawks, and Falcons, and the 1996 Summer Olympics. And the crowning achievement—AAW's 2016 International Symposium.

Our symposia are gatherings of friends, old and new, who represent the past, present, and future of our community. There are no strangers in the AAW, no social barriers, and the only language spoken is "woodturn-ese."

The number of early registrations suggests high attendance, and we are on track for possibly our largest vendor area ever. You will have access to galleries displaying turnings and art beyond imagination, and we've scheduled some of the world's best demonstrators, who will demonstrate skills and techniques many of us will try to introduce in our turnings. The unique Atlanta Convention Center will allow easy access to the demonstrations.

This year's Symposium, like those of previous years, will be the premier event in woodturning, bringing people from around the world and possibly every state and province in North America. We will again have our youth turning room. Additionally, Women in Turning is sponsoring a hands-on woodturning room that we hope will encourage more women to take up the gouge. Members with special physical challenges, including veterans,

can participate in organized discussions, and blind turners will have access to hands-on classes.

Exposure to segmented turning, pen making, jewelry making, spindle turning, and other related topics will be experienced in demonstrations and in the vendor area. If it relates to woodturning, it will be available at the AAW Symposium in Atlanta this June.

Why attend?

As excited as I am, what do others think?

- John Beaver, an imaginative and talented professional turner from California: "The AAW Symposium is the hub of my field; everyone, other turners, collectors, everything is there. It's my business and I really want to be a part of it."
- Natalia Cebollero Bertran, a new turner from Puerto Rico, will be attending her first AAW Symposium. She hopes to see demonstrators with styles beyond traditional turning that might capture her imagination. Her plan is to take these ideas back to other turners who cannot attend.
- Jim Bannister, a long-time turner and volunteer from Hawaii, has attended more than a dozen AAW Symposia. Demonstrators and galleries give him inspiration, and the tradeshow provides him the opportunity to buy "candy." Mostly, though, it's the fellowship, the one happy family willing to share, that brings him and his wife back every year. The Bannisters always volunteer at the Symposium, which makes their attendance even more fun.

If turning is not your interest, there's still a lot for you to do. Our craft room may interest you with a special project. A trip

to the Atlanta Aquarium, CNN Tower, Coca-Cola Museum, or the Martin Luther King Center might be an option. Nearby Stone Mountain offers a special glimpse into the past. You might consider staying in the Atlanta area an extra couple of days after the Symposium.

Thank you

Producing a symposium of this caliber is a monumental task. Thanks go out to the many volunteers who give of their time to make it successful. If you would like to help, contact John Ellis at nmwtwebman@aol.com. It is sure to make your Symposium experience more enjoyable. Thanks also to our many vendors who contribute tools and materials for use in demonstrations and hands-on activities. Finally, our staff and contractors always go above and beyond, ensuring your experience will be memorable.

If you have questions or want further information about the Symposium, go to our website, woodturner.org. While there, explore the site, watch videos, look at our publications, including past issues of *American Woodturner*, and look at our Services section, which includes directories, our forum, and our Woodturning Marketplace. AAW offers its members great services today, and look for even more in the future.

On behalf of the board, the volunteers, and the staff, we look forward to seeing you at our 30th-anniversary AAW Symposium in Atlanta.

Looking forward,



Greg Schramek

AAW 30TH INTERNATIONAL SYMPOSIUM

ATLANTA CONVENTION CENTER AT AMERICASMART
ATLANTA, GEORGIA • JUNE 9-12



Our International Symposium is an excellent opportunity to watch world-class demonstrators share their techniques, to find out about the latest innovations in tools and materials, and to be inspired by the instant gallery and other woodturning exhibits. Join us to experience in person the creative passion of woodturning while enjoying the company of others who share your interests.

DEMONSTRATORS AND PANELISTS

See the February journal for a listing of the invited demonstrators' rotation titles.

The latest Symposium information can be found on AAW's website, woodturner.org.

SALLY AULT
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JEFFREY BERNSTEIN
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JENNIFER SHIRLEY
BRIAN SIMMONS
CURT THEOBALD
DEREK WEIDMAN
HELGA WINTER

Demonstrators



Dixie Biggs, Florida

► Need some relief?



Harmony, 2007, Bleached jacaranda, 6" × 5½" (15cm × 14cm)

Photo: Randy Batista

Michael Blankenship, Illinois

► Lights out (hollow Christmas ornament)

► Out of the dark (crock-style rim bowl)

Loose Lid Box, Cherry, 4" × 6" (10cm × 15cm)

Photo: J. Blankenship



Pat Carroll, Ireland

► Tripod form



Tripod, 2015, Beech, 3" × 7" × 7" (8cm × 18cm × 18cm)

Andy Cole, Hawaii

► Natural-edge nested sets

Untitled, 2014, Macadamia, largest bowl is 8" × 12" (20cm × 30cm)

Photo: Hal Lum



Mark Dreyer, Illinois

► Turning alternative materials



The Original Steam Punk Mickey Mouse Crushed Penny Pen, 2015, Brass tubing, riveted aluminum duct tape, copper tape, resin

Photo: Michael Slaughter Photography

Michael Gibson, Georgia

► Hollow form Christmas ornament

Christmas Ornament, 2015, Honduras mahogany, holly, 6¾" (17cm) tall



Al Hockenbery, Florida

► Sand-carving



Globe & Stand, 2015, Sand-carved cherry, 4" (10cm) diameter

Photo credit: Sherry Hockenbery

Collection of Margaret Lospinuso

Keith Holt, Maryland

► Sphering around

Mr. Cellophane, 2010, Holly, walnut, 3¼" (8cm) diameter



Franck Johannesen, Florida

► Sidegrain hollow form



Untitled, Norfolk Island pine, 8" (20cm) tall

Jon Magill, Oregon

► Exploring ornamental turning chucks

► Mastering the universal cutting frame



Thorny, 2006, Holly, mopane, 2½" × 2¾" (6cm × 7cm)

Dennis Paullus, Tennessee

► Relief carving and texturing



Carved Cherry Vessels, 2013, Cherry, 4½" × 4½" (11cm × 11cm)

Michael Peace, Georgia

► Adding pizzazz with texturing tools

Texturing and spiraling items, 2013, Walnut, Bradford pear, dogwood



Frank Penta, North Carolina

► Designing and turning laminated wood



Wall of Plates, Various woods

Toni Ransfield, Alabama

► Connecting polymer clay to the pen world

Purple Rose Garden Majestic Jr. Roller Ball Pen, 2015, Polymer clay

Photo: Edward Street



Peggy Schmid, Georgia

► Hand-painted egg ornaments with finial

Untitled, 2015, Eggshell, wood, 6" (15cm) tall



Jennifer Shirley, Indiana

► Turned mirrors—big and small



Turned Mirror, 2013, Wood, dye, pyrography, 9" (23cm) diameter

Brian Simmons, Iowa

► Two bowls two ways

► An inside peek at hollow turning

Hollow Form, 2005, Boxelder burl, 4½" × 4½" (11cm × 11cm)



POP SHOWCASE ARTISTS

This year's Professional Outreach Program (POP) Artist Showcase will feature Helga Winter and Jérôme Blanc. In addition to their individual rotations noted below, Helga and Jérôme will participate in a POP panel discussion, "Evolution of An Artist."

Helga Winter

- ▶ Encaustic surface embellishment on turned wood: Part I
- ▶ Encaustic surface embellishment on turned wood: Part II



Mosaic of Life, 2015, Madrone, fiber-reactive dye, pigmented beeswax, 4" x 7¾" (10cm x 20cm)

Jérôme Blanc

- ▶ Sculpture on the lathe I: Turning an inlay of acrylic
- ▶ Sculpture on the lathe II: Presentation of laser textures



Arentèle, 2014, Plane tree, 6¾" x 10¼" (17cm x 26cm)

Woodturning Tradeshow

You'll see the latest and greatest woodturning products up close and in action. AAW's enormous tradeshow will be jam-packed with the newest woodturning products, tool and lathe manufacturers, and supplies. The tradeshow is free to AAW members. Following is a partial list of tradeshow vendors. Visit tiny.cc/2016Tradeshow for updated information.

Advanced Lathe Tools	Easy Wood Tools	Saburrtooth Tools
Advantage Lumber	Flute Master	Schiffer Publishing
Airbrush on Wood	Frugal Vacuum Chuck	Serious Toolworks
Alumilite Corp.	Geiger's Solutions	Stockroom Supply
Arrowmont School of Arts and Crafts	Guild of Master Craftsmen	TSDr, LLC
Australian Burls	HannesTool, LLC	Nova/Teknatool
Best Wood Tools	JET/Powermatic	Thompson Lathe Tools
Carter and Son Toolworks	John Jordan	Tom's Tools
Carter Products Co.	Kallenshaan Woods	Tormek
Center for Art in Wood	Learning Turning/ Rex Burningham	Trent Bosch
Chefware Kits	Lyle Jamieson	Turningwood.com
ChromaCraft, LLC	MDI Woodcarvers Supply	TurnTex Woodworks
Cindy Drozda	North Woods	Two Tree Boyz Wood
CPH International	Oneway Mfg.	Vince's WoodNWonders
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Craft Supplies USA	Record Power	West Penn Hardwoods
Curt Theobald	Reed's Woodworking, LLC	Wildwood Design
Cuttermasters	Robust Tools	Woodcraft Supply, LLC
David Marks	Rockler Woodworking & Tools	Woodcut Tools
Designs by Gjovaag	SS Bottle Stoppers	Wood Turners Wonders
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Earth's Watch Wooden Watches	Sauers & Co. Veneers	World of Wood



The Women in Turning (WIT) Hands-On Room will provide a lively, entertaining, and educational experience for attendees, managed by accomplished and recognizable women in the field of woodturning, focusing on skill-building and community development. Our thanks to those who generously donated in support of this program:

- Nova/Teknatool: lathes, stands, chucks
- Packard Woodworks: turning tools
- Crown Tools: Mini Revolution hollowing tools
- David Ellsworth: bowl gouges, sharpening jigs
- Robust Tools: toolrests and safety drive centers
- Honeywell Safety Products: faceshields
- Paula Nicks of Dust Bee Gone: earplugs
- Carmen De La Paz: dust masks, blue tape
- Two Tree Boyz Wood: green wood bowl blanks
- Thompson Tools: sponsoring Barbara Dill
- The Center For Art In Wood: sponsoring Kimberly Winkle

WIT Hands-on donor list current as of date of publication. See tiny.cc/AAW2016Atlanta for updated information.



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Visit woodturner.org for updated hotel and group rate information.

MOBILE APP



The Guidebook app for mobile devices will again be available for use at this year's Symposium. With this free app, you'll have all the rotations, demonstrators, tradeshow exhibitors, floor plans, and messaging at your fingertips. Save time by installing the app before the Symposium. Visit tiny.cc/AAW2016Atlanta.

DONATE TOOLS TO AAW TOOL BANK

To help AAW's Turners Without Borders continue implementing global initiatives—and to support other AAW programs like Woodturning Beyond Barriers and Turning to the Future—please bring your lightly used tools to the Atlanta Symposium. Bowl, spindle, and roughing gouges are most needed; chucks and other equipment are also welcome. Tool donations will be accepted at the registration desk.

RETURN TO THE COMMUNITY



Each year, local chapter organizers select a project for fundraising during the Symposium. This year, we have two. Bring a turned bowl or other object for the Empty Bowls fundraiser, which benefits Variety, the Children's Charity of Atlanta. You can also donate boxes to support Beads of Courage. For information on both of these initiatives, visit tiny.cc/2016Return.

FREE SYMPOSIUM HANDOUT BOOK

Symposium registration includes this comprehensive Symposium book, which features all the demonstrators, images of their work, and valuable how-to information on topics covered in demonstrations. Buy an extra copy for \$25 to share with your woodturning friends back home!



PROFESSIONAL OUTREACH PROGRAM PANEL DISCUSSIONS



Panel discussions open to all Symposium attendees.

- **Artist Showcase—Evolution of an Artist:** Helga Winter, Jérôme Blanc, David Ellsworth (facilitator)
- **Collaboration—Demo and Discussion:** Mark Sfirri, Michael Hosaluk, Jean-François Escoulen, Barbara Crockett (facilitator)
- **Cultural Appropriation or Misappropriation?** J. Paul Fennell, Derek Weidman, Graeme Priddle
- **So You Want to Be a Demonstrator—** characteristics of a good demonstrator as well as how to break into the demonstrator circuit, what to charge, how to promote yourself, and more: Beth Ireland, Derek Weidman, Andy Cole
- **Digital Photography—** what juries are looking for, what constitutes a good photo, basic techniques for achieving quality photos: John Beaver, Rudolph Lopez, John Lucas
- **The Ego and the Soul—Why Makers Make:** David Ellsworth, Graeme Priddle, Dixie Biggs
- **Influences, Copying, and Plagiarism—** blurred lines between influences and replication: J. Paul Fennell, David Ellsworth (facilitator), Jeffrey Bernstein, Curt Theobald
- **Business and Marketing—** strategies to make a living from your craft: Mike Mahoney, Nick Cook, Brian Simmons
- **Mock Jury/Critique:** Trent Bosch, Betty J. Scarpino, Graeme Priddle, Dale L. Couch
- **Language for the Future—** preview of the video learning project: David Ellsworth, John Beaver, J. Paul Fennell

Instant Gallery Critique

Mike Mahoney, Kip Christensen, Jeffrey Bernstein, Dale L. Couch

Intimate Critique

An opportunity to receive valuable feedback on your work through one-on-one discussion with an expert. Expect encouragement, tips, suggestions, and a positive experience.

CELEBRATION DINNER AND SILENT BENEFIT AUCTION

Join us Saturday evening and show your support for AAW's silent auction fundraiser, which will take place during the celebration dinner and special awards ceremony. To preregister pieces you'd like to donate to the silent auction, visit tiny.cc/AAWPreregister.



We are excited about the 2016 AAW Companion Program/Craft Room and will be able to offer attendees an outstanding mix of activities, including self-guided tours, demonstrations, lectures, and hands-on classes. Lectures and hands-on topics include sculpting with fiber, doll-making, T-shirt quilting, Zentangle® on cards, collage art, making a Quickwood snowman, and making your own Chia Pet.

TWO LIVE BENEFIT AUCTIONS

Join us the evening of Friday, June 10, to experience the EOG live auction, benefiting AAW educational programs. Refreshments will be provided and a cash bar will be available. Over the past ten years alone, AAW member support for the EOG benefit auctions has raised more than \$500,000 for woodturning education.

And show your support for AAW's professional outreach initiatives at the live auction of pieces in the POP exhibit, *Patterns*.

Both auctions will include remote online bidding, allowing bidders anywhere in the world to participate via live web audio feed. All live auction items will be published online for advance viewing in mid-May. To sign up to be notified when items become available for viewing, visit tiny.cc/2016Auctions.

Youth Turning Room



Youth ages 10 to 18 are eligible to register for free hands-on instruction. Each registered youth must be accompanied by an adult who is registered for the Symposium. Students will make a variety of projects.

Volunteer teachers include Kip Christensen, Rex Burningham, Steve Cook, Larry Miller, Nick Cook, and Jim Rodgers.

On Sunday, twenty-five young turners will win a complete turning package, including a lathe, tools, and faceshield. Our thanks to those who generously donated in support of this program:

- Powermatic/JET*: 25 mini lathes with stands
- Robust*: 25 toolrests and safety drive centers
- Crown Tools*: 25 sets of tools
- Vince's WoodNWonders: abrasives
- Nova/Teknatool*: 25 chucks
- Easy Wood Tools*: 25 sets of tools
- Hunter Tools: project supplies
- Atlanta Hardwood Lumber*: project supplies
- Rockler: project supplies
- Woodcraft*: faceshields
- Two Tree Boyz Wood: wood

*Also donated to Lighthouse for the Blind.



Photo: Andi Wolfe

Youth Turning Room donor list current as of time of publication. See tiny.cc/AAW2016Atlanta for updated information.

Special Interests



AAW's International Symposium encompasses many special interest groups that are all part of our woodturning community. At no other event will you be able to sample such a broad range of interests. Special Interest Night (SIN) will be held Thursday, 8:00 to 9:00 p.m. Groups being represented will include Women in Turning and Segmented Woodturners. Principally Pens and Ornamental Turners International will also host chapter programs. Anyone interested in organizing a SIN session should send a proposal to Al Hockenbery at al@woodturner.org.

Moulthrop Presentation

Additionally, Philip and Matt Moulthrop will present a special lecture at 7:00 p.m., entitled, "Material Selection and Creation of Turned Objects Using Personalized Tools and Methods." Attendees will learn about the Moulthrops' specialized turning techniques, their turning tools, and how they select wood for projects.

POWERMATIC LATHE RAFFLE!

A winning ticket will be drawn at AAW's International Symposium, in Atlanta, June 11, 2016.

Proceeds to support activities of the local AAW chapters in Georgia.



Woodturning Exhibitions



Instant Gallery

The AAW Symposium's instant gallery is the largest display of turned-wood objects under one roof! The open member show features more than 1,000 art works and crafts in wood by woodturners who are attending the Symposium. Many of the works are for sale. Bring up to three of your woodturnings and participate in this incredible display. To preregister your display pieces online prior to arrival, visit tiny.cc/AAWPreregister.

Turning 30

In celebration of the AAW's 30th anniversary, the 2016 member exhibition theme is *Turning 30*. For three decades, the annual AAW exhibition has encouraged members to present their finest work. Sometimes that means new and innovative ideas and techniques, sometimes presenting perfected techniques and classic forms. This exhibition brings that spirit of fellowship forward into our fourth decade.

Two artist awards will be given during the Symposium: a Masters' Choice Award of \$300 and a People's Choice Award of \$200.

Patterns

Now in its tenth year, the Professional Outreach Program's (POP's) exhibition series presents small-scale works by an international roster of emerging and established artists. *Patterns* features forty stunning pieces by artists from more than ten countries.

The work from this show will be auctioned during the Symposium. Proceeds support POP initiatives and programs, including panels, grants, and the Artist Showcase.

Turning to the Future

New This Year! *Turning to the Future* is a national high school and post-secondary student woodturning competition sponsored by the AAW. It will feature thirty pieces by finalists in three categories (Functional, Small Turnings, and Open). The final judging will take place during the Atlanta Symposium. Prizes include cash awards and Rikon midi lathes.

Our thanks to those who generously donated in support of this program: Penn State Industries, Rikon, Women in Turning, and the Professional Outreach Program.



William Ooms, *Wormhole through Dark Matter*, 2015, African blackwood, 4 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 2 $\frac{1}{4}$ " (12cm x 12cm x 6cm)

This piece will be included in the *Patterns* exhibit.

POP to Showcase Swiss Artist Jérôme Blanc

Jérôme Blanc is literally on the cutting edge of what will probably become commonplace in woodturning within ten years. The 38-year-old native of Geneva, Switzerland, uses a laser to create complex patterns and surface enhancements on his large platters and hollow forms.

The use of a laser and other digital technology in woodturning brings up different reactions among turners and collectors. "It's just another tool which makes it possible to produce the look I want," said Blanc. "The use of the laser is only part of the process of creating a piece—I am also shaping the form on the lathe, sanding, and getting shading on the dyes just right if I use color."

Blanc will discuss the technology he uses and show many of his pieces at the AAW's Annual Symposium in Atlanta this June. He and Helga Winter of Port Townsend, Washington, will be the AAW's Professional Outreach Program (POP) Showcase Artists this year. They both will offer demonstrations and participate in panel discussions during the weekend. Their work also will be featured in the instant gallery portion of the Symposium.

Blanc began working with wood while in high school at the Geneva School for Arts and Crafts. Following graduation in 1998, he enhanced his skills in carpentry and sculpture training in



Ama da Blanc, 2015, Maple, 39" (99cm) diameter

Switzerland, Australia, and France. He began exhibiting his work in Europe in 2004 and has won awards at several major European shows. In 2009, he was part of The Center for Art in Wood exchange program in Philadelphia. That summer, he won a POP Purchase award at the AAW Symposium in Albuquerque. He also demonstrated at the AAW's 25th-anniversary Symposium in Saint Paul in 2011. In 2014, he was one of twenty-five featured artists in the Collectors of Wood Art's *Beyond Boundaries* exhibit at SOFA Chicago.

"In my day job, I make models for architects. Since I must be very precise

in this work, I bought a laser toward the end of 2011. I quickly saw a lot of possibilities for using the technology in my turnings and began using it in that work in 2012," Blanc explained. "The first test was not good but revealed the potential. I spent almost a year experimenting with hundreds and hundreds of practice pieces until I could produce what I wanted on a consistent basis."

His current surface enhancements include basket-illusion-type work, rope patterns, inverted grooves, and optical illusions.

—Dave Long

(Left) *Torbeil*, 2014, Maple, 7" x 10" (18cm x 25cm)

(Right) *Nuvole*, 2014, Maple, 6" x 10" (15cm x 25cm)



2015 Fundraising Campaign

We want to express our deep appreciation for the generosity of individuals and AAW chapters who gave to the AAW during the 2015 fundraising campaign. Your donations will be used to fund our general operations, youth education, Women in Turning, Educational Opportunity Grants, and other programs. We also want to thank all of our members who contributed artwork to support the EOG and POP auctions at the Pittsburgh Symposium. Please visit woodturner.org for a complete donor recognition listing. AAW membership dues cover only a portion of the expenses for our member programs and services.

Your contributions matter to us immensely. We thank you for your personal expressions of support for the AAW and our nonprofit mission.

—John Ellis, Denis Delehanty, and David Wahl,
Members of the 2016 Fundraising Committee

—Greg Schramek, President, AAW Board of Directors

—Phil McDonald, AAW Executive Director

\$0 – \$99

Teresa Allen	Bruce Dalziel	Jacques Hadler	Joan Lech	Steve Pritchard	John Shrader
Mary Allen	Rebecca DeGroot	Barbara Hahn	Richard Mabie	Isabel Quayle	Paul Synder
Rosemarie Altberg	John Dekle	Philip Hathaway	Chris Mahler	Pat Reddemann	Laura Spelbring
Stephen F. Anderson	Darcie Diddon	Richard Horton	Joyce McCullough	Thomas Rigelman	Clint Stretch
Dixie Biggs	Sharon Doughtie	William Hunter	Michael McLain	Roni Roberts	Dale Thomas
Maryalice Birk	Jaunine Fouche	Gerald Jensen	John Meyer	Jack Rolison	Joseph Tieger
Robert Bley	David Fredrickson	Pamela Jilek	Peter Mockridge	Scarlette Rouse	Jean Turner
Francis Bonneville	William Frost	Jeffery Johnson	Joe Morris	Ed Samour	Dick Webber
Marilyn Campbell	Tom Gall	Nadine Johnson	Dave Mueller	Merryl Saylan	Leah Wilde
Diane Cobourn	George Gibson	Kimberly Kenny	Leon Olson	Betty J. Scarpino	Kimberly Winkle
Janet Collins	John Gorman	Junko Kidachi	Grace Parliman	Tib Shaw	Helga Winter
Coulee Region Woodturners	Karen Grogan	Carol Kinney	Joe Penn	Julie Sherwood	Des Wirges
Jim Creel	Robert Gunther	Loucille Kinsey	Dawn Petrie-George	Jennifer Shirley	Lauren Zenreich

\$100 – \$499

Carolyn Allard	Steve Cook	Catherine Futch	Jeff Kahn	Keith Oelke	Linda Suter
Chris Amundson	Nick Cook	David Gibson	John Kelsey	Michael Peace	Keith Tompkins
Sally Ault	Phil Cottell	Daryl Gray	Ron Kent	Betsy Pierre	Linda Topper
Sharon Ayres	Ruth Coursey	James Grundlach	Brian Kirschner	Marc Provost	Alan Turner
Rick Baker	David Crady	Harry Hamilton	Kathleen Knorr	Tania Radda	Paul Vordersaar
Jeffrey Bernstein and Judy Chernoff	Joel DesLauriers	Bill and Kay Haskell	Peg Latham	Garth Renken	Walt Wager
Ronald Bishop	Barbara Dill	Lynne Herndon	Bob LeBlanc	Byron Rosbrugh	Larry Wanerman
Frederic Braun	Kathleen Duncan	Dawn Herndon-Charles	Jean LeGwin	Elisabeth Ross	Ruth and David Waterbury
Bob Callinan	David Ellsworth	Louise Hoover	Kay Liggett	Robert Seigel	Stan Wellborn
Warren Carpenter	Linda Ferber	Beth Ireland	Arthur and Jane Mason	John (Jack) Shelton	Willamett Valley Woodturners
Ann Catts	Otto Folkerts	Ann Jackson	Larry Miller	Steven Slater	Woodturners of Olympia
Matthew Cohn	Diana Friend	Karl and Beth Jacobson	Cindy Navarro	James Solheim	Lynne Yamaguchi
Andy Cole	Joshua Friend	Robert Jensen	Francisco Navarro	Timothy Spaulding	

\$500 – \$999

Anonymous (2)	Des Moines Area Woodturners	Tim Kochman
J. Dean Adkins	Richard DiPerna	Ronald Lerner
Frank and Elizabeth Amigo	Eileen Duffy	Allen Miller and Andrea Sullivan
Jeffrey Browne	Richard Essenmacher	Michael Pearlman
Carolina Mtn. Woodturners c/o Edward Fradley	Harvey Fein	Robert Rotche
Scott Cutler	Robert and Gail Gaynes	Jim Scarsella
	Benjamin Hatcher	In memory of Robert Pastel (7)
	Suzanne Kahn	

\$1000 - \$4900

Johnnie Johnson and Eileen Kennedy	Ohio Valley Woodturners c/o KC Kendall
John and Carol Ellis	Pacific NW Woodturning Guild c/o Owen Olsen
John Green	Peckham Family Foundation
Geoffrey Hartwig	James Piper
Philip Hauser	Tennessee Association of Woodturners
John Hill	The Neel Foundation
Al and Sherry Hockenbery	
Jerome and Deena Kaplan	
Bill and Patti Loitz	

\$5000 and up

Anonymous (1)
Dale Larson
Mark Wood

AAW Board of Directors Call for Nominees

The AAW offers much to its members and we are looking for a few good people who can contribute something in return. Do you have the time, energy, and ideas to be a part of the AAW operations, as well as a willingness to help make it a better organization? Be a part of moving the AAW forward—run for a position on the AAW board of directors.

The AAW elects a volunteer nine-member board to represent the membership and move the organization forward. If you have been a member in good standing for the past three years, you are eligible. The nominating committee will select the six best candidates. From these six, members will elect three candidates to serve a three-year term, beginning in January 2017.

For information on the duties of board members, call any current board member or visit the AAW website at tiny.cc/Board for details.

If you are interested in serving on the board, please email the following to the executive director (phil@woodturner.org), no later than May 1, 2016:

1. A statement of intent, including qualifications and reasons for applying
2. Letters of recommendation from two individuals who can attest to your organizational and leadership abilities
3. A high-resolution photograph of yourself

The nominating committee will review application materials and conduct phone interviews in late May and early June. Candidates will be presented in the journal and on the AAW website, ballots will be sent out in the fall, and election results will be announced in late 2016.

Women in Turning's EOG auction collaborative,

Fruits of Our Labor,
Various woods,
7½" x 36" x 24"
(19cm x 91cm x 61cm)

This sculpture will be sold at auction Friday night at the Atlanta Symposium. More "fruits" will be added to the display at the event.



Call for Demonstrators AAW Symposium 2017

The AAW's 31st-Annual International Symposium will be held in Kansas City, Missouri, June 22–25, 2017.

To apply to be a demonstrator, visit tiny.cc/CallsforEntry (case sensitive) between May 1 and August 1, 2016. For more information, call the AAW office in Saint Paul, 877-595-9094 or 651-484-9094, or email inquiries@woodturner.org.

2016 POP Fellowship Grants Call for Applications



The Professional Outreach Program is accepting applications for its 2016 Fellowship Grants. The purpose of the POP

Fellowship Grant is to encourage creative growth through research or to provide inspiration for new directions in turned wood art. For example, applicants might be interested in pushing their work in a new direction, working in collaboration with other artists, or exploring new materials or using existing materials in a new way. POP Fellowship Grants are funded by proceeds from the annual POP auction at the Annual Symposium.

Applicants must be AAW members in good standing. The Fellowship Grants are open to turners of all levels and abilities. For more information and to apply online, visit tiny.cc/POPGrant.

Applications will be accepted online through May 1, 2016.

Chattahoochee Woodturners Forms Partnership with Eagle Ranch

In 2015, the Chattahoochee Woodturners (CW) of Gainesville, Georgia, formed a partnership with Eagle Ranch, a school and home for boys and girls whose lives and families are in crisis. Using an Educational Opportunity Grant from the AAW and other donations, CW built a woodturning studio on campus with four mini-lathes, a grinder, a bandsaw, and a drill press. Many local woodturners and suppliers generously donated tools and equipment for the studio.

A classroom would be useless without instructors, so the members of CW committed to teaching an exploratory woodturning class once a week. The first class was held in August 2015, and since then the offering has proven to be one of the most popular exploratory electives at the school. Our partnership is thriving.

Class time is short, just seventy minutes, so sessions are intense with little time for demonstrations. The method we have developed is to have one instructor per student with close supervision to “learn as you turn.” So far, ten different members of CW have served as instructors, with a

different lead instructor each quarter so that no one begins to feel burned out.

In the first quarter (twelve classes), the students made beads and coves, a spinning top, an egg, a snowman with arms and hat, a whistle, a keychain, a bud vase, a Christmas ornament, two different pens, and a small bowl. Our goal was to have simple projects the students could complete in one session and take home with them. Their pride in showing off to their friends what they made in woodturning class quickly generated a lot of interest in the program.

While the Eagle Ranch studio was being built and, later, as the classes were in progress, the rest of our chapter members were also busy. They were turning items to sell at the annual Marketplace craft show in November. Hundreds of items from small ornaments to large bowls and platters were completed and donated. After paying expenses, CW members raised close to \$4,000 for Eagle Ranch.

The Eagle Ranch project has brought our chapter members closer together, and our membership increased by about 10%



Members of the Chattahoochee Woodturners, ready to teach at Eagle Ranch in Flowery Branch, Georgia. Custom lathe stands were made with the Eagle Ranch and Chattahoochee Woodturners logos engraved.



Wes Jones talks to a student about the finer points of roughing down a workpiece. The woodturning classes have been among the most popular electives at Eagle Ranch.

in 2015. At Eagle Ranch, the students and staff have been exposed to the joy and satisfaction of creating something with their own hands. We think this partnership is a win-win for everyone. ■

Photos by sJackson Photography.

—Wes Jones

Arizona Flutemaker Featured in IWCS Video

In 2014, representatives of the International Wood Culture Society (IWCS.com) attended the AAW Symposium in Phoenix, Arizona. While in the area, they hoped to document desert wood culture and reached out to the Prescott Area Woodturners for introductions to local artists. The chapter's president at the time, Jim Muehleisen, suggested Dennis Stubbs, a collector and maker of Native American-style flutes.

The IWCS film crew visited Dennis and documented his work in an informative video titled, *RETURN - Maker of Native American Style Flutes*. In it, Dennis tells that he was about to purchase another flute for his collection

when his wife challenged him to make one himself. So was born a new direction in Dennis's life.

The video can be viewed at tiny.cc/Stubbs, or by scanning the QR code with a mobile device. ■

—Marge Hunt



A scene from the IWCS video featuring Dennis Stubbs, a maker of Native American-style flutes.

Bay Lake Supports Troops

The Bay Lake Woodturners of Green Bay, Wisconsin, conducted a pen-turning workshop in September 2015 that resulted in 125 pens given to active-duty personnel in the U.S. Armed Forces.

The club's initial goal was to turn fifty pens for the Freedom Pens Project, an all-volunteer effort to provide custom, hand-crafted pens to American servicemen and women overseas, but chapter members went above and beyond, with a total of seventy-five pens for the Freedom Pens Project and another fifty for a U.S. Army unit deployed in Europe. ■

—Gerry Jensen

Tips

Creative remounting

Having turned several hollow spheres for ornaments, I was disappointed in one that was made from black and white ebony. Not wanting to add it to the expensive-firewood pile, I needed an alternate method of remounting the workpiece. A pen mandrel in combination with the soft bushings from a duck-call kit proved successful.

—Jeff Koltveit, Minnesota



For further refinement, this hollow ornament body was remounted on a pen mandrel with soft duck-call bushings.

Handy CA applicator



The small poly (polyethylene) bags that pen parts are packaged in serve as a good applicator for cyanoacrylate (CA) glue. The CA doesn't react with the poly, as it does with paper towel, and allows for more working time.

Slide your finger into the bag and put a few drops of CA on the bag. The lathe should be running at a very low rpm. Move the bag slowly to spread the CA evenly, and allow the glue to set up naturally.

Do not use accelerator, as it will cause the glue to crystallize and bubble. After a few coats, I finish by leveling the surface with 320-grit abrasive and then wet-polishing to 12,000 grit without skipping any grits.

—Russel Bolton, Florida

Cautionary Note: It is possible that applying CA in this manner, more so than with paper towel, could cause a pooling of liquid glue that could be thrown outward in a radial spray if the lathe speed is sufficient. This could be a safety hazard to the user's eyes and face, especially if a faceshield or other personal protection is not used.

Temporary spindle lock

Many times it is desirable to hold your workpiece still so you can further embellish it. The lathe itself can serve as a workholder, but on my older Powermatic, the spindle lock button has to be held in place while in the locked position and I have only one locking position. A third hand would be useful.

My solution is to use a strap clamp to temporarily prevent the workpiece from turning. Put the strap around the spindle or chuck and then around the bed of the lathe. Tighten the strap sufficiently to hold your workpiece still, yet allow rotation by hand as needed. Be sure your lathe is turned off, and for safety's sake you might even want to unplug your lathe.

After you have worked on one area of the workpiece, just rotate it a little and work on the next area. This method is ideal for carving, burning, painting, piercing, etc.

—Wes Jones, Georgia



Roughing pen tubes

I prepare pen blanks in batches so they are ready for turning when I need them. Before gluing the tubes into the drilled blanks,



I rough the tubes to remove any remaining lubricant used in the tube drawing process and to improve adhesion. This is an important step to ensure a good glue bond between blank and tube. It is also time-consuming and tedious when done by hand. I recently prepared blanks for fifty pens, which meant roughing 100 tubes. To make the task easier and quicker, I used a flap sander mounted in my drill press.

I mount either a short pen mandrel or a short length of rod of the proper size in a drill chuck. In the example illustrated, I am using a 7mm rod. To use this method with larger diameter tubes, use a larger diameter rod or use trim sleeves to improve the fit. To complete the setup, drill a stopped, slightly loose-fit hole for the rod in a scrap of wood and then turn the wood to a knob. The drill chuck and the turned knob provide secure grips for the work, keep your hands clear of the sander, and prevent the tube from accidentally spinning off the rod.

To use, I simply slide a tube onto the rod and place the knob over the end of the rod. The tube is then lightly presented to the spinning flap sander at a slight angle. This causes the tube to spin on the rod and the entire surface of the tube is roughed in a couple of seconds. ■

—John Tarpley, Tennessee

Share your turning ideas!

If we publish your tip, we'll pay you \$35. Email your tips along with relevant photos or illustrations to editor@woodturner.org.

—Joshua Friend, Editor

Calendar of Events

June issue deadline: April 15

Send information to editor@woodturner.org. For a more complete listing, see the AAW's Woodturning Calendar online at tiny.cc/AAWCalendar.

Canada

July 22–24, 2016, Saskatchewan Woodturning Symposium, Regina Trades and Skills Centre, Regina. Hosted by South Saskatchewan Woodturning Guild, featured demonstrators to include David Ellsworth, J. Paul Fennell, Jacques Vesery, Cam Merkle, Bernie Bober, and others. Vendors, auction, and instant gallery. For more, visit southsaskwoodturners.ca.

France

April 21–24, 2016, AFTAB's International Woodturning Congress, Combloux. International event to include world-class demonstrations, gallery and sale of work, ornamental turning exhibition, and vendors. Demonstrators to include Cindy Drozda, Curt Theobald, Stuart Mortimer, J. Paul Fennell, Art Liestman, Emmet Kane, Babette Meziere, Vivien Grandouiller, Hubert Landri, Pascal Oudet, Jean-Paul Rossi, Bernard Azema, and Jérôme Blanc. For more, visit <http://aftab-asso.fr> or contact Jean-Marie Girard, jmagirard@gmail.com.

New Zealand

September 29–October 2, 2016, Woodturning New Zealand International Symposium, Kings College, Otahuhu, Auckland. Demonstrators to include John Beaver, Troy Grimwood, Chris Hooton, Steven Kennard, Guilio Marcolongo, Hugh Mill, Chris Pytlik, Liz Scobie, Neil Scobie, Brendon Stemp, Curt Theobald, John Van Der Kolk, John Wessels, and Andi Wolfe. For more, visit sawg.org.nz or email events@sawg.org.nz.

Colorado

September 16–18, 2016, Rocky Mountain Woodturning Symposium, The Ranch Larimer County Fairgrounds, Loveland. Forty-eight demonstrations. Presenters to include Nick Cook, Liam O'Neill, Les Brandt, David Ellsworth, Jay Shepard, and Keith Gotschall. Large vendor tradeshow, art auction, hands-on rotations, and instant gallery. For more, visit rmwoodturningsymposium.com.

September 22–25, 2016, 14th Biennial Ornamental Turners International Symposium, DoubleTree by Hilton Denver-Stapleton North, Denver. Ornamental turning topics to include rose engine, fixed tool, and guilloché. Demonstrations on modern and antique OT machines. Demonstrators to include Jean-Claude Charpignon, Fred Armbruster, Bill Ooms, David Lindow, Phil Poirier, David Wood-Heath, Peter Gerstal, and Jon Magill. For more, contact Brad Davis, braddavis@netins.net or visit ornamentaltturners.org.

Georgia

May 14–August 7, 2016, *Turned and Sculpted: Wood Art from the Collection of Arthur and Jane Mason*, Georgia Museum of Art, Athens. Exhibition to include work by Ed, Phillip, and Matt Moulthrop, David Ellsworth, Mark and Mel Lindquist, Bob Stocksdales, and others. The Collectors of Wood Art will host discussion forums in conjunction with the exhibition June 7–9 in Athens and Atlanta. For full details, visit georgiamuseum.org or collectorsofwoodart.org.

September 15–17, 2017, Turning Southern Style Symposium, hosted by the Georgia Association of Woodturners, Dalton Convention Center, Dalton. Event to include top-notch demonstrators, a large group of vendors, and a great facility. For more, visit gawoodturner.org.

Illinois

July 22–24, 2016, Turn-On! Chicago 2016 Symposium, The Conference Center at the University of Saint Mary of the Lake, Mundelein. Demonstrators to include Nick Agar, Rex Burningham, Robin Costelle, Steven Hatcher, Clay Foster, and others. Hands-on penturning, tradeshow, meals, banquet, auction. For more, visit turnonchicago.com.

Maine

September 17, 2016, Maine Wood Carvers Show, Buker Community Center, Augusta. Includes a carving competition, vendor booths, tool and wood sales, and raffles. For more, contact Justina Hatch at justina_marie_1960@yahoo.com.

Massachusetts

March 12–June 12, 2016, *Visions from the Lathe: Selections from the Massachusetts South Shore Woodturners (SSW)*, Fuller Craft Museum, Brockton. More than thirty-five works from SSW. Workshops, demos, and events in conjunction with the exhibition. For more, visit fullercraft.org.

October 27–30, 2016, 5th Segmenting Symposium, Boston Marriott Quincy, Quincy. Demonstrators to include John Beaver, Bob Benke, Jerry Bennett, Bruce Berger, Andy Chen, Robin Costelle, Jim Rodgers, Malcolm Tibbetts, and others. Instant gallery, banquet, raffle, turning exchange, vendor area, and activities for partners. For more, visit segmentedwoodturners.org.

Minnesota

Ongoing exhibit: *Touch This!* At the AAW's Gallery of Wood Art, Saint Paul. Featuring fascinating facts about wood and woodturning, as well as pieces you can touch. For more, visit galleryofwoodart.org.

North Carolina

July 16, 2016–January 16, 2017, *Shaping the Vessel: Cummings + Mascoll + Samuel*, The Harvey B. Gantt Center for African-American Arts + Culture, Charlotte. An exhibition of twenty-six works by Frank E. Cummings III, John Mascoll, and Avelino Samuel. For more, visit ganttcnter.org.

North Dakota

April 22–24, 2016, Dakota Woodturners Spring Symposium, Dakota Bismarck School Career Academy, Bismarck State College Campus, Bismarck. Hands-on turning symposium led by professional turners, open to forty participants. Demonstrators to include Duey Marthaller, Michael Roper, and Doug Schneider. Instant gallery open to public. For more, email momdolly@bis.midco.net.

Pennsylvania

September 24, 25, 2016, Mid Atlantic Woodturning Symposium, Lancaster Marriott/Convention Center, Lancaster. Demonstrations by Mike Mahoney, Al Stirt, Binh Pho, Cindy Drozda, Eric Lofstrom, Mark Sfirri, Dennis Fuge, and Kurt Hertzog. Vendor tradeshow, banquet, auction, and instant gallery. Visit mawts.com. Vendors contact Lsherman120@gmail.com or call 717-478-1845.

South Carolina

April 29–May 18, 2016, Exhibition of wood art, Mary Martin Gallery, Charleston. Wood artists were asked to create pieces directly in response to the tragic shooting at Mother Emanuel Church in Charleston, 2015. Artists to include Andy DiPietro, Ashley Harwood, Christian Burchard, Cindy Drozda, Cynthia Carden Gibson, David Ellsworth, Derek Weidman, and others. For more, visit marymartinart.com.

Tennessee

January 27, 28, 2017, Tennessee Association of Woodturners' 29th Annual Woodturning Symposium, Marriott Hotel, Franklin. Demonstrators to include Nick Agar, Cynthia Carden Gibson, Stephen Hatcher, and Frank Penta. Tradeshow, instant gallery, banquet, and auction. For more, visit tnwoodturners.org. For vendor booth information, contact voldad18@comcast.net.

Texas

August 26–28, 2016, 25th Anniversary of the Southwest Association of Turners (SWAT) Symposium, Waco Convention Center, Waco. Demonstrators to include Cindy Drozda, Mike Mahoney, Clay Foster, Stuart Batty, Mary Lacer, John Beaver, John Jordan, and Dick Sing. Also regional demonstrators, vendors, art gallery, hands-on area, lunches, banquet, and raffles. For more, visit swaturners.org.

Utah

May 12–14, 2016, 37th Annual Utah Woodturning Symposium, Utah Valley University Events Center, Orem. Demonstrators to include Richard Raffan, Mike Mahoney, Kip Christensen, Kurt Hertzog, Michael Hosaluk, Keith Gotschall, Jimmy Clewes, and others. More than ninety rotations, penturners' rendezvous, gallery of woodturned art, banquet, auctions, and expanded spouse program. Sign up at utahwoodturning.com or call 801-809-8198.

Virginia

November 5, 6, 2016, Virginia Woodturning Symposium, presented by the Virginia Woodturners (a group of ten Virginia clubs), EXPOland, Fishersville. Featuring international and regional demonstrators. For more, visit virginiawoodturners.com.

Washington

July 23–27, 2016, 9th Annual Symposium & Workshops, the Woodturners of Olympia, Olympia High School, Olympia. All-day symposium with door prizes, lunch, and drawings, followed by four days of workshops with Michael Hosaluk and Bob Espen. For more, visit woodturnersofolympia.org/symposium-2016.html.

West Virginia

April 1–30, 2016, West Virginia Woodturners Exhibit, Carnegie Hall Museum Gallery, Lewisburg. An exhibition featuring a wide range of woodturning creations by West Virginia artists. Free admission. For more, visit wvwoodturners.com. ■

PENTURNING PRIMER

Kurt Hertzog



Easily made, the 7mm pen kit is a great entry into penturning. From here, you can take things as far as you like.

7mm kit parts



1
The 7mm kit contains everything you need except the wood. There are cosmetic differences between vendors and varying price points.

Many woodturners' first foray into turning is making a pen. Young or old, beginner or experienced, penturning is fast and fun. Here is a primer on how you can get started.

The humble 7mm pen

The commonly available 7mm kit is a great starter. Every reseller has designs of their own privately labeled for them. They have several price points based on plating durability and clip designs. Cosmetically different, their similarity, popularity, and low cost make them ideal for beginning penturners. The kit's eight pieces and a turned upper and lower barrel are assembled to make a finished pen. Your kit has everything except the wood (*Photo 1*), which you can pick according to your own preference.

Special accessories

There are a few accessories needed for making pens. If you are only going to make one pen, borrow these items so you won't have to make additional purchases. If you get the bug and continue, you will soon discover there are many ways to accomplish the workholding, blank facing, and assembly, but the basics for getting started are a 7mm drill bit, a pen mandrel with 7mm bushings, and a 7mm pen mill (*Photo 2*). With these items, you can make pens on a lathe of virtually any size with a single turning tool.

Cut and drill the blank

Pick your kit and select a wood pen blank. Later, you may want to try different materials, but wood is good to start. Mark and cut your blank into two pieces slightly longer than the brass tubes in your pen kit (*Photo 3*). You will trim the blanks to final length later using a pen mill.

Taking care to drill the blanks in the center of the blank without wandering, drill a 7mm hole through both halves. You can drill the two blank pieces in a drill press (*Photo 4*), in a vise using

a pistol drill, or in your lathe. Ideally, you'll have your entrance and exit holes centered in the blank. This will provide for the best grain match and ensure sufficient wall thickness of wood.

Gluing and facing the blanks

The next step is to glue the brass tubes into the two blank pieces. Scuffing the tubes with coarse abrasive prior to gluing them helps remove oxidation and manufacturing drawing lube, and provides a better mechanical glue bond. There is much controversy about which is the best glue to use. Epoxy, polyurethane glue, or cyanoacrylate (CA) will work fine. If you use CA, the thick version will fill the gaps and allow sufficient insertion and positioning time. I use polyurethane glue, but the foaming during the curing process is an additional cleanup process.

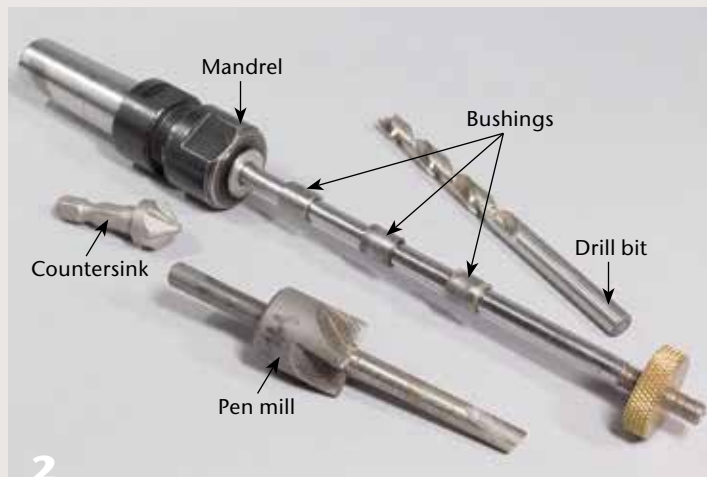
Put sufficient adhesive on the outside of the tube so it will coat the entire tube as you insert it (*Photo 5*). Err on the side of using too much adhesive rather than too little. Coating the entire inner surface of the wood and outer surface of the tube will provide a good bond for the life of your pen. Insert and seat the tube below the wood surface on both ends.

When the glue has cured, face the ends of the blank halves with a pen mill. Insert the pen mill's guide shaft into the tube for alignment and remove all excess wood until you just expose the brass tube, as shown in *Photo 6*. Be cautious when facing! If you remove too much brass tube, your finished pen can suffer at assembly time. When this is done properly, the end of the wood blank will be flush with the end of the tube and perpendicular to the pen's axis. This makes for accurate, gapless unions at assembly time.

Mounting and turning

Most adjustable pen mandrels come with 7mm bushings, which are needed to make a 7mm pen. These mandrels ►

Penturning accessories



There are many accessories for making pens, but a mandrel with bushings, 7mm drill bit, pen mill, and countersink will get you going.

Cut and drill blank



Don't blindly cut blanks in half. If the wood has interesting figure, cut and mark appropriately.



Whether drilling on a drill press, a lathe with a drill chuck, or a pistol drill with the blanks in a vise, take care to keep the hole centered.

Glue tubes, face blank ends

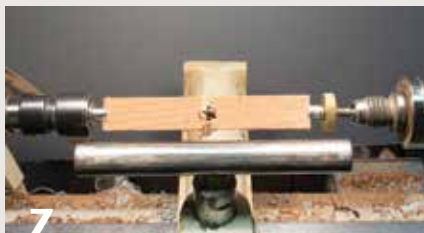


Epoxy, CA, or polyurethane glues will work to glue the brass tubes into the pen blank. I suggest scuffing the tubes before gluing for better adhesion.



A pen mill does a good job of facing the ends of the pen blanks in preparation for turning. Just expose the brass, making the wood perpendicular to the axis of the blank. A light twist with a countersink chamfers the tube's inside edge.

Mount and turn



Ready to turn, with the mandrel mounted in the lathe and from left: bushing, wood, bushing, wood, bushing, nut tightened, and tail center in place. Just support the end of the mandrel with the tail center; too much pressure will result in egg-shaped barrels and a damaged mandrel.



Turn the barrels of your pen using your favorite tool. Taper the blanks to your liking and use the bushings as a gauge for your end dimensions, as they are sized to match the press-fit parts in your pen kit. Be aware that bushings get smaller with use.



can also be used for other types of pen kits by obtaining the correct bushings.

The bushings are pre-sized to match the kit parts and are used to gauge final blank diameters at the ends and middle. Use a bushing on each end of the pen blanks and one in between them. Screw on the brass nut and tighten, compressing everything for turning. Install the mandrel into the Morse taper of your lathe spindle and bring the tailstock forward. Note that the tail center is advanced far enough to support the far end of the mandrel and no more. If you use too much tail center force, you will flex and bend the mandrel, compromising its

accuracy. You can tighten the knurled nut as needed to increase the gripping force on the wood (*Photo 7*).

Any tool will work for penturning. Pick your favorite. I use a $\frac{3}{4}$ " (19mm) roughing gouge because it is easy to control and sharpen (*Photo 8*). Penturning has very little turning involved. Since you are turning a small mass that is securely mounted, higher lathe speeds can be used safely. Knock the corners off both of the blanks, then begin shaping from the middle of each blank toward each end. Ultimately, your shape will taper to the bushing size at each end of the blank (*Photo 9*). Cutting cleanly minimizes

sanding. When you have cut nearly flush with the bushings at both ends of both blank halves, you are ready to sand.

Sanding and finishing

Begin sanding with the coarsest grit necessary based on your species of wood and the surface condition. Run the lathe slowly for best results, letting the abrasive do the work (*Photo 10*). Sand through the grits, wiping the sanding debris from the blanks with a paper towel between grits, until you have arrived at a satisfactory surface.

For finishing your first pen, I suggest a commonly available friction polish, which is made up of shellac, wax, and carrier. Once applied and burnished, it leaves a shiny finish (though not the most protective). Later on, you will probably change to a lacquer or CA finish.

With the toolrest moved out of the way, speed the lathe up to create the heat needed to flash off the carrier in the polish. Apply per the instructions and really squeeze the paper towel to create the needed heat. Use paper towels for safe application and burnishing (*Photo 11*). Never use cloth around a running lathe, as it can get caught and wrapped around the turning along with your fingers.

Assembly

With your finished pen barrels, you are ready to press-fit together the balance of the components. Use a bench vise, drill press, woodworking clamp, or your lathe

Sand and finish



Sand with the lathe running slowly. Work through the grits, cleaning off the dust between grits with a paper towel. After a final dusting, apply a friction polish—fast, easy, and pretty but not terribly durable.



JOURNAL ARCHIVE CONNECTION

For instructions on applying a CA (cyanoacrylate) finish, see Don McIvor's AW article, "Finishing with Cyanoacrylate" (vol 29, no 4, page 33). AAW members can access all past journal articles online at woodturner.org.



for assembly. Two of the three press-fit operations are to a hard stop, meaning they are positioned and pressed until they can go no farther. Protect the plating on the parts from scratches with some tape or paper towel.

Position and press the nib (writing-tip end) into the end of one of the finished pen barrel sections. Then press the end cap through the clip hole and into one end of the other barrel (*Photo 12*).

The only depth-sensitive press is the installation of the transmission, which, when twisted, advances the ink cartridge (or inkfill) for writing. Use any of the press methods suggested, but do it in stages. The transmission is installed into the open end of the nib blank. Insert the transmission's brass end into the brass tube. Press the transmission into the blank until you still have some of the brass on the transmission exposed. Thread the inkfill into the transmission and twist the transmission to fully advance the inkfill. Examine how far the end of the inkfill extends through the nib of the pen. If you like it, the transmission press is done. If it doesn't extend far enough, remove the inkfill and press the transmission into the blank slightly to make up that small distance. Install the inkfill and check the extension again. Repeat this process until you are pleased with the inkfill position at full extension.

Slide the centerband over the transmission using the force needed to get it into position. Take the top end of the

pen and slide it over the transmission until it fully seats against the centerband, and your pen is completed.

The beauty of turning pens is how you can enjoy the instant gratification while creating an enduring piece. Even with the demise of penmanship, everyone will appreciate the gift of a handcrafted pen. ■

Kurt Hertzog is a past president of the AAW, past chairman of the Rochester Woodworkers Society, and a council member of the Pen Makers Guild. He has written about woodturning and woodworking extensively for various publications, including Woodturning and Woodturning Design, where he published a long-running pen making column. You can find all of these and many additional unpublished articles at kurthertzog.com.

Eliminating the Centerband

Many penturners feel an undesirable aspect of the 7mm kit is the centerband, as it predetermines and therefore constrains the dimensions at the center of the pen. The centerband covers ills: It compensates for grain-matching issues due to wood loss when cutting and facing the blank and allows for sloppy dimensions of the centermost wood. It is a good place to start, but I suggest ditching it at the earliest possible moment. Without the centerband, you can turn the 7mm kit to any diameter and shape you wish. You can also create your own centerband effect by gluing an accent wood to the center of your pen blank pieces.

Shorter

You can simply eliminate the centerband. The kit will create a slightly shorter pen if you just throw the centerband away, and it will still work perfectly, provided you trim the barrels only enough to barely expose the brass tubes—with the wood flush and perpendicular to the pen's axis. Mount your pen as before, except don't use the center bushing. With both halves butted to each other on the mandrel, turn the pen to any center diameter you wish. Turn, sand, and finish both pieces simultaneously, and you will end up with a perfect union where the centerband would have been (*Photo a*).

Original length

Want the original length pen with no centerband? Cut, drill, and glue your tubes as usual. Trim one end of each blank flush with the tube. Trim the other end of each blank $\frac{1}{8}$ " (3mm) proud of the brass tube. Load the mandrel for turning with the proud wood ends butted together in the middle with no bushing between them. Use your bushings on both outside ends of the blanks, and turn those ends for the prescribed press-fit union. The center portions of the pen are now free to be sized as you wish.

Assemble and press the nib and end cap/clip into the brass tubes as usual. When you press the transmission into the center end of the nib barrel, there will be a bit of wood with no brass before you actually get a press. But don't worry, the press will still be deep enough for the transmission to be supported by the brass tube. You will have the same scenario with the clip end of the pen, but sliding that barrel over the top of the transmission will still provide plenty of engagement (*Photo b*).



Not using the kit's centerband gives you lots of design flexibility. You can make the pen shorter and go with or without trim decorations added to the blank before turning.



Turning blanks for a pen with no centerband means you can turn the interface fit continuously. Makes for the perfect fit.



You can make up the difference in length, or not. This blank is left longer than the brass tube inside it to compensate for the missing centerband.

Press-fit parts together



12 The pen kit parts are press-fitted together, with no glue. There are many ways to do this; a vise works nicely, but protect the metal plating on the parts.



Turn a WINDSOR-STYLE FOOTSTOOL

Janet A. Collins

Several years ago, while teaching at a woodworking school in Vermont, I was asked to develop a workshop that would teach both spindle and faceplate turning to furniture-making students. The project has evolved since then, but I still teach it, usually over the

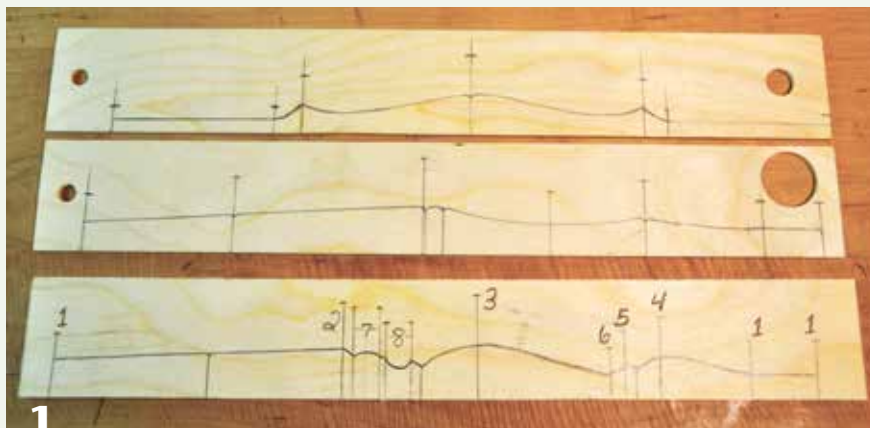
course of four days, to beginner and intermediate woodturners. This footstool, inspired by both Shaker- and Windsor-style furniture, is about 13" (33cm) in diameter and 13" tall. It comprises a seat supported by three splayed legs, which are braced by two stretchers.

Design considerations

I offer my students two leg designs—one simpler and one more complex—to accommodate different levels of experience. Both leg patterns, plus a stretcher design, are shown in *Photo 1*, but here are some tips to help you develop your own patterns:

- Be willing to draw the shapes several times, making changes until you are happy with the design. You may not know if the shape will be right until you make the commitment to a piece of wood by turning a prototype.
- Cut out a paper rectangle the size of the blank. I wanted the legs for this stool to come from $\frac{3}{4}$ ", or 2"- (5cm-) thick, kiln-dried lumber, 13" long, so my paper rectangle would be 2" square by 13". Draw a centerline the length of the paper. You will only need to draw half the shape along the centerline. When you have a design you like, fold the paper in half along

Leg and stretcher patterns



Top: a suggested stretcher pattern. Bottom two: leg design options. Note that the numbered locations indicate a sequence to follow when reducing the cylinder to key diameters with a parting tool. The holes drilled at the right ends are templates for the tenon size for each piece.

the centerline and trace the shape onto the other side of the paper. This will give you a good representation of the final leg shape.

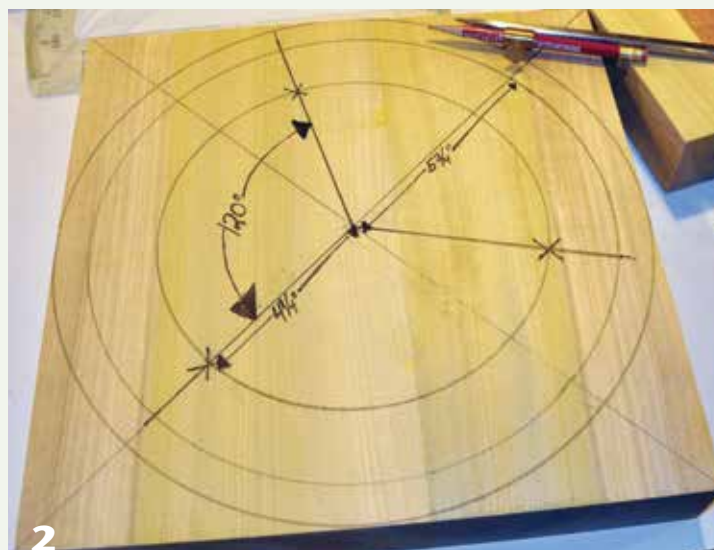
- For a taller stool, lengthen the leg pattern, noting that 1" (25mm) of it will be a tenon inside the top. If the legs are made longer and/or if the top is made a larger diameter, calculate a longer length for the stretchers, too. The surest way to do this is to draw the shapes full size with the desired angles and measure the length between the legs where you want the stretchers.
- Don't be tempted to create a shoulder at the ends of tenons. Shoulders on parts that are connected with angles other than ninety degrees are difficult to fit.
- To help with consistency across identical parts, make a story stick by transferring the half spindle profile from the paper pattern to a piece of thin plywood, aligning the pattern's centerline with the edge of the plywood.

Prepping material

The next step is to prepare the materials for turning. To illustrate this article, I used poplar, on which layout marks show up clearly. When I am teaching this workshop, we also use poplar for all the parts because it is a good wood for learning woodturning. But any hardwood can be substituted. I like to use walnut for the top and curly or birdseye maple for the legs and stretchers.

The leg and stretcher stock can be cut directly from rough-sawn lumber, with no surfacing necessary. I cut the spindle blanks on the bandsaw, using a fence to get roughly 2"-square blocks, which I then cut to length on a chop saw or radial-arm saw. The leg and stretcher blanks must all be the same length, and the ends should be close to square. This

Leg mortise layout



A protractor and compass will aid in locating the leg mortises on the underside of the seat.

will make the placement of the pattern and indicator marks, and the drilling of all the holes, more accurate.

The top, or seat, blank is about 14" (36cm) square and 2" thick but can certainly be made larger. If the top is made larger, the stretchers may need to be made longer to fit between the legs. The stretcher pattern is intentionally longer than needed, as the stretchers will be custom fitted after the legs are dry-fitted to the seat. If the top is made smaller, the legs become closer together and this can make the stool a bit tippy. One solution if using a smaller top is to drill different-angled holes to spread the footprint of the legs out farther. This should be drawn to scale on paper ahead of time to calculate the dimensions of all parts.

I mill the blank for the top by jointing one face and planing the opposite face, making the top and bottom surfaces parallel. At the very least, mill or hand-plane the bottom of the seat, as this is where all the layout for the joinery is done. If you do not have the machines to mill material, most lumberyards will surface the material for you. If you can find wide $\frac{3}{4}$ " stock for the top, you will not have to glue

boards together to make up the size needed. If not, glue up the necessary boards to make the top approximately 14" square. This will ensure you can end up with a 13" seat.

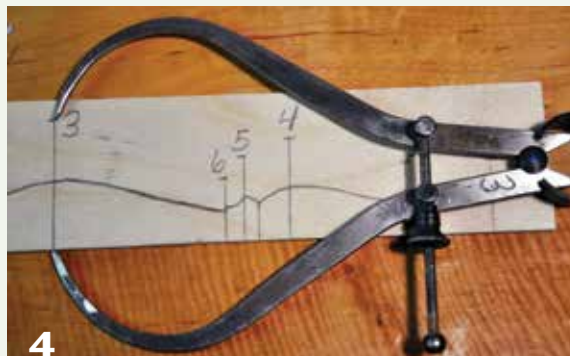
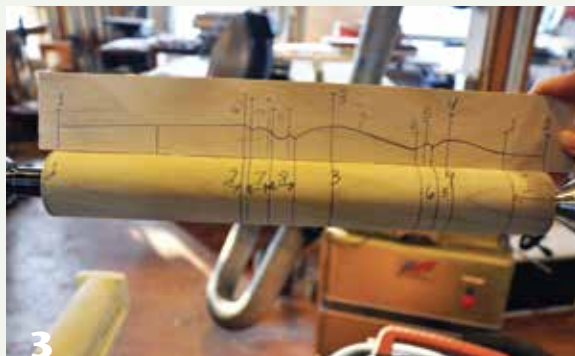
Seat layout

The layout on the underside of the square seat blank (*Photo 2*) starts with a pair of lines drawn from corner to corner. Where the lines intersect is the center of the blank. From this center point, use a compass to draw three circles:

1. A $4\frac{1}{4}$ "- (11cm-) radius circle, to be used for locating the leg holes
2. A $5\frac{3}{4}$ "- (15cm-) radius circle, to be used as a guide during turning when shaping a slight contour from the top surface toward the underside
3. A $6\frac{1}{2}$ "- (17cm-) radius circle, to be used as a cut line for shaping the blank on the bandsaw prior to turning

Where either of the diagonal lines intersects the smallest circle will be the location for one of the leg holes. Use a protractor to locate the other two leg holes. Place the protractor's origin, or center mark, at ►

Transfer leg design



Transfer your desired leg pattern to a thin piece of plywood to make a story stick, helpful for consistent layout on the workpiece. Preset calipers speed sizing of key diameters.

the center of the seat blank with its base line on the line on which the first leg hole is located. Mark 120 degrees, then draw a line through the center to the smallest circle. This intersection is the location of the second leg hole. Locate the third leg hole in the same manner, on the smallest circle and 120 degrees from the second hole's centerline.

After all these lines are drawn and the leg holes are located, drill a hole at the center mark for mounting the blank on a screw chuck. At the bandsaw, cut the seat blank round, using the largest circle as a guideline.

Turn the parts

Legs and stretchers

Start by turning the legs and stretchers. This is spindle turning, where the grain of the wood is parallel to the bed of the lathe. The four turning tools I use are the spindle-roughing gouge, the parting tool, the spindle gouge, and the skew chisel.

After roughing the spindle blank round, transfer key points from your story stick to the blank (*Photo 3*). The parting tool is used to size the diameters of the various components of the pattern. If you have access to multiple pairs of calipers, number them with a marker and set each to the corresponding dimensions on the pattern (*Photo 4*). The calipers can stay set and help with producing matching spindles. I start with the largest diameter and use the parting tool to turn that area of the spindle to the diameter of the set caliper. Move through the numbered sequence shown in *Photo 1* until all the settings have been cut to the appropriate diameter (*Photo 5*).

I form the beads and coves using a spindle gouge (*Photo 6*).

The straight lower section of the legs is formed by connecting the points using either a spindle or roughing gouge. This section can be made flat with a sanding block, which will even the high spots.

Mark this section of the leg at the height where you will drill for the stretcher to be inserted. Use a skew chisel with the long point down on the toolrest, arcing it into the wood to form a shallow V-groove (*Photo 7*). Since the legs are already cut to length, it is important the mark be at the same height on each leg.

The leg tenons should be sized to match the drill bit used to form the holes in the seat bottom (1" diameter). Likewise, the stretcher tenons should be sized to the drill bit used to make their mortises (½", or 13mm, diameter). I drill a hole in a thin piece of plywood or a story stick and use it to test-fit the tenon. If the hole can be slipped snugly over the tenon along its length, this will ensure a tight fit in the mortise. The tenons might be too snug when fitting them to the seat bottom, but they can be sanded later to fine-tune the fit. A loose tenon makes for a structurally weak joint that will not last.

Turn the legs



Start by sizing key diameters in the leg pattern, then form beads, coves, and tapers. The lower straight section receives a V-groove to indicate the height of the stretcher mortise.

After turning, sand each leg and stretcher to at least 180 grit if you plan to paint the stool, finer if you are applying a clear finish.

The seat

Now it is time to turn the seat. Mount the seat blank on a screw chuck. I use the screw that came with my chuck, mounted in large jaws, which provide excellent backing support for the mass of the seat blank (*Photo 8*). It is possible to mount the blank on a faceplate instead, but the faceplate must be truly centered on the wood since the leg hole locations were based on the blank's center.

If the piece was milled flat with parallel surfaces, the top of the stool will need only minimal turning. True the edge of the seat using a bowl gouge. Never use a spindle-roughing gouge on faceplate work, as the tool's tang, which is inserted into the handle, is not robust enough to withstand the significant forces of wood rotating with its grain perpendicular to the bed of the lathe. In addition, the corners of the spindle-roughing gouge will act like a splitting wedge to the wood if they catch the endgrain.

The top surface can be made slightly concave or left flat. Turn an undercut profile into the edge of the seat, removing material from the top edge to the $5\frac{3}{4}$ "-radius circle drawn on the bottom face, which is approximately $\frac{3}{4}$ " smaller than the seat's overall diameter. Keep in mind the $4\frac{1}{4}$ "-radius circle is the location of the leg holes, or mortises, and the edge needs to be kept slightly away from this line.

Sand the seat. If a decorative ring is desired on top, now is the time to define that feature using the long point of a skew chisel or a spear-point scraper. I often texture the area within two lines for added visual interest (*Photo 9*).

Drill the seat

I drill the 1"-diameter by 1"-deep holes in the seat bottom using a fixture that mounts to the lathe's tailstock (see *Sidebar*). The holes are drilled at a 15-degree angle ►

Mount the seat



A screw held in large chuck jaws provides ample support for turning the seat.

Texture the seat

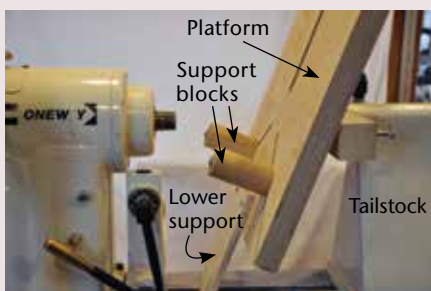


I often decorate the seat top with a defined, textured area. I use a flex-shaft tool with a hammering handpiece to create the texture.

A Lathe-Based Drilling Jig

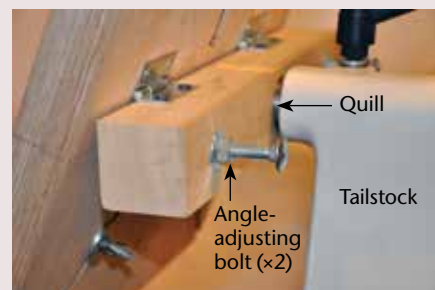
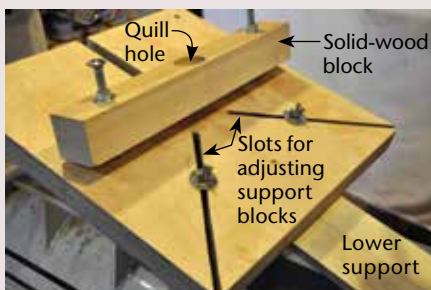
This drilling jig, a modified version of one in Keith Rowley's *Woodturning: A Foundation Course, New Edition*, allows you to use your lathe as a drilling station. The jig mounts directly onto the tailstock quill and can be adjusted to hold a variety of workpieces at any angle. The workpiece is clamped to the jig, which is advanced toward the headstock-mounted drill bit by turning the handwheel on the tailstock.

Front



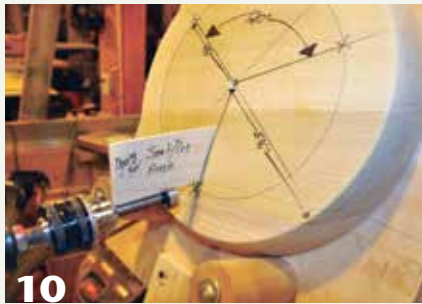
The main platform comprises two layers of $\frac{3}{4}$ "- (19mm-) thick Baltic birch plywood, 16" (41cm) square, glued together. Round adjustable support blocks, $3\frac{1}{2}$ " (9cm) long and 2" (5cm) in diameter, slide on diagonal slots and are bolted in position with $\frac{5}{16}$ " (8mm) carriage bolts. The lower support, made of $\frac{1}{2}$ "- (13mm-) thick plywood, is cut to fit in and slide along the space between the bed ways to prevent the jig from pivoting during drilling. (The slot in the top section of the platform is used for clamping smaller workpieces.)

Back

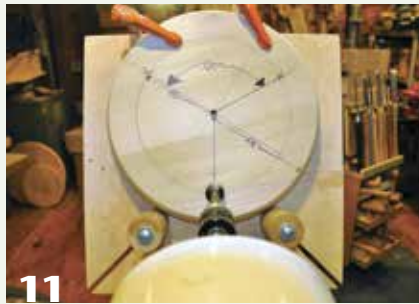


The solid-wood block on the back, or tailstock, side measures 15" (38cm) long and 2" square. The hole drilled in the block matches the diameter of the tailstock quill and is drilled deep enough to accept about $1\frac{1}{2}$ " (38mm) of the quill (live center removed). The block, attached with hinges to the back of the platform, should be positioned so the quill hole is centered on the platform. The hinging allows for drilling at different angles, adjusted by two $\frac{5}{16}$ " carriage bolts (with threaded inserts) set/locked at a specific length with nuts and washers on both sides of the block. The weight of the platform and the pressure of drilling from the headstock maintain the angle during drilling.

Drill leg mortises



10 This drilling fixture, adapted from a Keith Rowley book, mounts on the tailstock and holds the workpiece at the correct angle (15 degrees). The movement of the tailstock quill advances the seat into the spinning drill bit, held in the headstock.



11

using a Forstner bit mounted in a drill chuck held in the lathe's headstock.

With the jig's angle set to 15 degrees (*Photo 10*), I set the front support blocks so that the workpiece is at the correct height, which means the drill bit lines up with one of the marked locations for a leg hole. Position the seat so that a 120-degree line is perpendicular to the lathe bed. This can be visualized by sighting down from the headstock and seeing if the line is angled to the left or right of the drill bit (*Photo 11*).

With the seat accurately placed in the jig, clamp the seat in place and advance the tailstock quill, moving the seat in the fixture until the drill bit is almost touching the surface. Turn the lathe on slow speed and advance the jig, drilling the seat to the desired 1" depth. I use a 1"-wide ruler to slip in the space between the mounting block and the tailstock body, indicating when the unit has advanced the desired distance. Repeat for the additional two leg mortises.

Position the legs

Fit the legs in the mortises in the seat. Rotate them to your desired position. Once they are drilled to accept the stretchers, you cannot change their rotation. You may not care about the location of the legs if the piece will be painted, but if you are using figured maple for the legs and stretchers, you may want to rotate them to show off the best figure.

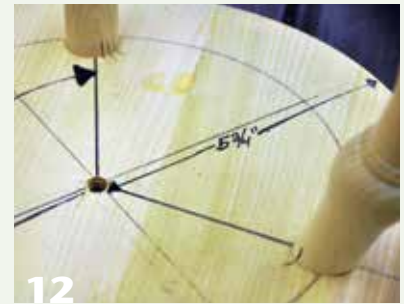
Once the legs are positioned, mark each leg and the underside of the seat with corresponding index marks (*Photo 12*). For the first leg I use one mark, second leg two marks, third leg three marks. These marks are critical because once the mortises are drilled in the legs for the stretchers, there is only one way the assembly can go together.

On the legs that will have the stretcher between them, make opposing marks on the V-grooves where the stretcher holes will be drilled. Mark the third leg on the V-groove where the surface faces the center of the seat.

Drill legs and stretchers

The mortises in the legs are drilled at a 15-degree angle. These holes can be drilled with one setup using an angled fixture

Position the legs



12

Rotate the legs to show off the best grain pattern, then note their position with registration marks for future reference.

that sits on the table of the drill press, which remains at 90 degrees (*Photo 13*).

Only one of the stretchers gets a mortise, and it is drilled at 90 degrees (*Photo 14*). The same fixture can be used to hold the stretcher but without an angle.

Cut stretchers to length

Before cutting the stretchers to length, remove the excess material that was used for holding the work on the lathe. This can be done with a chisel, a handsaw, or carefully on the bandsaw (*Photo 15*). It is not advisable to cut round objects, including spindles, on the bandsaw without a safe holding method such as a V-block, as the piece can spin during the cut and pull your hand into the blade.

Determine the required length of the stretchers by finding the distance

Drill legs and stretcher



13



14

All three legs are held securely in this simple drilling fixture by pressure from bolts at each end. Set the fixture to the correct angle and drill all the leg holes. The one stretcher that receives a mortise is also held in the drilling fixture. Its hole is drilled at 90 degrees, so the fixture is set flat to the drill press table.

Trim the stretchers



15 Cut away the excess wood at the end of the stretcher where it was mounted at the headstock. Note the stretcher is held securely in a V-block to prevent it from rolling while being cut on the bandsaw.

between the bottoms of the mortises of each leg. This can be done with a pair of thin strips of wood or plywood. Place the legs in their appropriate mortises, carefully aligning your registration marks. Place one end of each strip in the mortises facing each other. Overlap the strips and make one or two marks across both (Photo 16). Take the strips out, realign the marks, measure end to end, and you have the length of the first stretcher. If you divide this length in half, you can mark cut lines at each end measured from the middle of the stretcher. This will ensure the center of the stretcher stays in the center after assembly, which is important because it will need to align with the other stretcher.

Cut the stretcher to length and sand, if necessary, to fit in the mortises of

the legs. Rotate the stretcher so the hole you drilled is facing the third leg. Find the required length of the second stretcher using the same method as before, and cut it to length.

Assembly

To assemble the stool, put the stretcher assembly together first. With the stool upside down on a flat surface, place the legs in the seat, again carefully aligning the registration marks. The legs can be splayed out a bit to fit the stretcher assembly within the legs. A rubber mallet may help with the parts going together.

The last step before gluing is to cut the bottom of the legs at the correct angle so they will sit flat. Turn the stool over and place it on a flat and level surface. You can see the angle that needs to be cut off each leg. Make a simple scribe tool from a scrap of wood and a pencil. Use a flat scrap the thickness of the largest part of the gap. Flatten a pencil using a block plane or sander and tape the flat side of the pencil to the block of wood. Keeping the scribe flat on the surface, scribe a pencil line around each leg (Photo 17). Disassemble the stool and cut off the leg ends at your scribe lines using a handsaw or bandsaw with the turned work held in a V-block.

Reassemble the stool and ensure a good fit of all parts. If the feet are not sitting flat, more material may need to be cut or sanded off. Once you are happy with the fit, it is time to glue up the stool.

This is where the leg registration marks are an important guide. Make sure you can see them once you start spreading glue and align them as soon as possible before the glue sets. Start with gluing the stretcher assembly, placing glue in the mortise and some on the tenon. If you have tight-fitting tenons, you must work quickly because once the glue is in the mortise, the wood starts to swell.

Place glue in one of the seat bottom mortises and fit its corresponding leg, making sure it is aligned according to the registration marks. Glue the next two legs in place, being sure they are aligned properly. Place glue in the mortises of the legs and a bit of glue on the tenons of the stretchers. Splay the legs and fit the stretcher assembly in place. Tap the legs and stretchers with a rubber mallet to be sure all joints are seated. If the mortise-and-tenon joints fit well, clamping will not be necessary.

All that is left now is to apply the finish of your choice and enjoy using this classic piece of furniture. ■

Janet A. Collins has been a furniture maker, woodturner, and teacher since graduating from the North Bennet Street School furniture-making program in the mid-1990s. Her shop is located in a barn at her home in Ryegate, Vermont, and she teaches woodworking full time at Dartmouth College in Hanover, New Hampshire. Janet's work can be seen at her website: greenmountainwoodturning.com.

Determine stretcher length



Use two thin strips of wood, slid and held together, as a simple length finder. With the ends positioned at the bottoms of the mortises, make reference lines across both strips of wood. Realign these marks and measure the length of the two strips.

Scribe the legs



17 A scrap of wood and a pencil make a suitable scribe. Trimming the legs to the scribe line will allow the legs to sit flush on the floor.

TURN A TAPERED-STAVE *Bowl*

Bill Wells

I am relatively new to woodturning but have worked with wood most of my life. That's why I started turning segmented pieces right away—I had a shop full of lumber and no turning blanks. But rather than using a typical segmented design comprising small segments glued into rings, I started making staved designs, which are similar but with fewer pieces. I began with vertical beveled-edge staves, which are useful but limit your blank to having only vertical sides. Soon I moved on to bowl-shaped designs, which require *tapered* staves that form a conical blank (*Figure 1*).

In this article, I'll describe how to design and build a tapered-stave bowl. The example project is based upon the bowl shown in the opening photo, but I have included everything you need to make a project of your own design.

Benefits

- Economical—very little wasted material
- Staves cut smoothly along the grain
- Requires only a dozen or so pieces, compared to hundreds
- Finished piece displays only facegrain

Design and plan

All segmented designs begin with a drawing, and stave designs are no exception. I use a software program, but all you need is ¼" (6mm) graph paper, a ruler, and a protractor. Make your drawings full size so you can use them later to easily determine stave dimensions.

See *Figure 2* for terminology used in this article and *Figure 3*, the design drawing for the example project, showing all dimensions and angles. First, choose the number of staves for your bowl. I used twelve staves, which is enough to produce a decent turning

blank; using fewer will reduce the wall thickness you will have when turning. Start your drawing with a V-shaped cone angle like the left image in *Figure 2*; I used 60°. If you want a flatter design, use a larger angle; a narrower design, a smaller angle. Next, draw the top line, which will establish the top diameter, and the bottom line for the base diameter.

Now you need to find dimensions and angles for the staves, as follows:

Stave width

If you have drawn a full-sized top view, you can measure the stave width directly from your drawing; otherwise, it can be estimated by dividing the circumference of the top ($3.14 \times \text{diameter}$) by the number of staves. Since the top diameter of our example project is 8¾" (22cm), the circumference is 27½" (70cm). With twelve staves, the width would be 2.3" (5.8cm), which is very close to the measurement I took from my drawing, 2¼" (5.7cm).

Stave length

Stave length can be measured directly from your full-sized drawing; add ½" (13mm) for trimming. *Figure 3* indicates



a 5" (13cm) stave length, so I used 5½" (14cm). Neither stave length nor width needs to be exact, as long as all staves are cut to the same dimensions.

Miter and bevel angles

Calculation of miter and bevel angles for a tapered-stave design requires some number crunching, which I have done and presented in *Figure 4*, a table of pre-calculated miter and bevel angles for various cone angles and numbers of staves.

Grain orientation

For this project, the wood grain runs around the bowl, and, depending on the species, this can create a dramatic effect. I used bubinga for the example project, but any kiln-dried, defect-free hardwood can make beautiful bowls. To achieve this grain orientation, each stave will have the grain running across its width, not along its length. So you will be cross-cutting your board to achieve the stave *width* and ripping to achieve the stave *length*. This is opposite from most wood-working applications, where you cross-cut a board to length and rip it to width.

Your board should be at least ¾" (19mm) thick; the thickness determines how much material you will have to work with when turning. I used a 36"- (91cm-) long board, 5½" wide, which was plenty for the twelve staves plus two extras.

Two stave designs



Figure 1. Basic-stave design, left, is straight-sided; tapered-stave design, right, is cone-shaped.

Terminology & Sample Specs

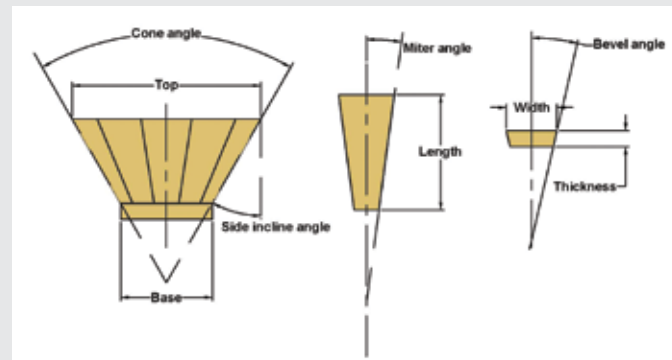


Figure 2. Terminology of tapered stave design. Note that I use the term *cone angle*—other resources might use *side incline angle*, which is half the cone angle.

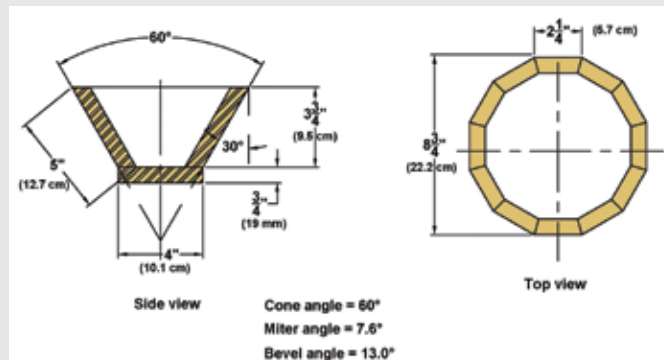


Figure 3. Dimensions and angles for the example project. This is a CAD drawing, but a hand drawing will work just as well.

Table saw sled

Much has been written about the need for absolute precision when cutting segments, and staves are a kind of segment. The most critical thing is to make every stave identical—same miter, bevel, width, and length for each. But you don't have to use a micrometer to measure stave width and length; rounding up to the nearest fraction is OK, as long as you use the same dimension for each stave. You do need to set angles for miter and bevel precisely, and below I discuss ways to do this. But don't worry; there is a fix if your angles are off slightly.

To cut the tapered segments, I made a simple sled from 3/4" plywood, with a hardwood runner underneath that slides in the table saw's miter slot (*Photo 1*). The key is to start by making the sled oversized, so that the left edge extends past the blade by an inch (25mm) or so. When you have completed the rest of the sled, raise the blade and push the sled through to trim off the overhang. This will make the left edge of the sled exactly parallel with the saw blade; now the left edge can serve as a reference for laying out angles.

Use a 4"- (10cm-) wide piece of plywood for the fence; be sure the top edge is smooth and straight. I used a digital protractor to set the angle of the fence to the miter angle, in this case, 7.6°. Drive the left screw first, tap the ▶

Staves ▶	4		6		8		10		12	
Cone angle	Miter	Bevel	Miter	Bevel	Miter	Bevel	Miter	Bevel	Miter	Bevel
0	0.0	45.0	0.0	30.0	0.0	22.5	0.0	18.0	0.0	15.0
10	5.0	44.8	2.9	29.9	2.1	22.4	1.6	17.9	1.3	14.9
20	9.9	44.1	5.7	29.5	4.1	22.1	3.2	17.7	2.7	14.8
30	14.5	43.1	8.5	28.9	6.1	21.7	4.8	17.4	4.0	14.5
40	18.9	41.6	11.2	28.0	8.1	21.1	6.3	16.9	5.2	14.1
50	22.9	39.9	13.7	26.9	9.9	20.3	7.8	16.3	6.5	13.6
60	26.6	37.8	16.1	25.7	11.7	19.4	9.2	15.5	7.6	13.0
70	29.8	35.4	18.3	24.2	13.4	18.3	10.6	14.7	8.7	12.2
80	32.7	32.8	20.4	22.5	14.9	17.0	11.8	13.7	9.8	11.4
90	35.3	30.0	22.2	20.7	16.3	15.7	12.9	12.6	10.7	10.5
100	37.5	27.0	23.9	18.7	17.6	14.2	14.0	11.5	11.6	9.6
110	39.3	23.9	25.3	16.7	18.7	12.7	14.9	10.2	12.4	8.5
120	40.9	20.7	26.6	14.5	19.7	11.0	15.7	8.9	13.1	7.4
130	42.2	17.4	27.6	12.2	20.6	9.3	16.4	7.5	13.6	6.3
140	43.2	14.0	28.5	9.8	21.3	7.5	17.0	6.1	14.1	5.1
150	44.0	10.5	29.1	7.4	21.8	5.7	17.4	4.6	14.5	3.8
160	44.6	7.1	29.6	5.0	22.2	3.8	17.7	3.1	14.8	2.6
170	44.9	3.5	29.9	2.5	22.4	1.9	17.9	1.5	14.9	1.3
180	45.0	0.0	30.0	0.0	22.5	0.0	18.0	0.0	15.0	0.0

Figure 4. Table of miter and bevel angles for cutting tapered staves. Numbers used for the example project are highlighted.

Table saw sled



The author's shopmade table saw sled for cutting tapered staves, set for a miter angle of 7.6°. Since the digital protractor is aligned with the left edge of the sled, its angle is set to the complement of the miter angle: $90^\circ - 7.6^\circ = 82.4^\circ$.



The saw is set up for cutting staves. An adjustable stop block, at left, ensures each stave is cut at identical width. The saw blade is tilted to the required bevel angle, in this case, 13°.

Bevel stave ends



3 The ends of staves must also be beveled so they will sit flat when assembled into a cone. Set the saw blade's bevel to one-half the cone angle—in this case, 30°.



4

Make gluing cauls



These cauls will make gluing easy. The notches hold rubber bands in place for clamping.

5

fence till you get the angle you want, and then drive the other screws.

I also made an adjustable stop to ensure cutting accurate stave width. Your stop does not need to be adjustable, but it is essential to have some kind of rigid stop for consistency.

To set the blade bevel (some call this blade tilt) to 13°, I use a magnetic digital angle gauge. *Photo 2* shows the saw set up for cutting staves. The blade is tilted at the *bevel* angle, the fence is set at the *miter* angle, and the point of the board is against the stop to set the *width*. The stave *length* is predetermined by the width of the board, which has been ripped to 5½".

To start, trim away the square end of your board to establish a mitered

and beveled end, then turn the board over and cut your first stave. After each stave is cut, the board is turned over and the next stave cut. Each time you turn the board and cut, the stave will have the correct miter and bevel.

Bevel the stave ends

After all staves have been cut, the ends have to be beveled so that, when assembled, the staves will sit flat yet the staves will splay outward and the top rim will be horizontal, as shown in *Photo 3*. You can use the same sled as in the previous step, but re-set the saw blade's bevel to one-half the cone angle. For the example project, I set the bevel to $60 \div 2$, or 30°. Now set the stave, wider side up, against

the fence. Trim away until the top edge is beveled, as in *Photo 4*, and make a mark on the sled at the small end of the stave to indicate where to place the remaining staves when you cut them. Now do the same to the bottom edge of the stave, but trim with the narrower side up.

Get ready to glue

It is awkward to glue and then clamp together a dozen angled pieces. It helps greatly to have a set of custom-made cauls to keep the staves in a conical shape. I made twelve cauls, one for each stave (*Photo 5*). It helps to do a dry fit-up prior to gluing. Lay all your staves out in a fan pattern, wider side up and tape the staves together with blue painter's tape (*Photo 6*). Then move the taped-up staves into a cone shape, set it on a work surface, and add the cauls and rubber bands (*Photo 7*). Notches in the cauls provide a place for rubber bands to grip, and the compressive force of the bands is directed inward. Make these, or something similar, before gluing. You will be glad you did.

Next, separate the staves into two equal groups. You are going to glue up these two groups separately but at the same time. Keep each group securely taped and put a narrow strip of double-sided tape on the two edges that won't be glued. This way, you will end up with two separate halves of your bowl blank.

Apply plenty of wood glue in the valleys between the staves (*Photo 8*). Now gather everything together and set the cone big end down on your

Dry-fit the assembly



6



7

Tape the staves into a fan pattern and dry-fit them prior to gluing. Cauls and rubber bands hold the staves in place.

Glue the staves



8



9

Apply a liberal amount of wood glue and clamp with rubber bands. Two opposing joints are not glued yet, forming two halves of the bowl blank.

work surface, with the cauls in place, and stretch rubber bands to keep the assembly together. Now is the time to make sure the glue joints are aligned. Add several more and tighter, heavy rubber bands. *Photo 9* shows the staves glued and clamped. Let dry overnight.

Unbundle and check fit

You now have two similar halves. Butt them together and, alas, the edges will not fit perfectly flat. This is normal; after all, you made several compound-miter cuts, so any slight variation in accuracy would be magnified across all the staves. To get the mating edges to fit flat together, sand both halves face down on a smooth sanding board (*Photo 10*). I use 120-grit abrasive glued to MDF.

Now glue the two halves together, using the same procedure as in the previous step.

Make and glue the base

For the example project, I made the base from a piece of $\frac{3}{4}$ "-thick walnut, 5" square. I cut the base round on

my bandsaw, then sanded it smooth and flat. I used a disc sander to sand the mating face of the stave assembly (*Photo 11*). Make sure the two pieces mate without gaps, then glue and clamp the two pieces together. I use a shopmade press for clamping (*Photo 12*), but other clamping methods, or even using weights, will work.

As you see in *Photo 12*, I also glued a waste block to the base for mounting on a faceplate. Let the glue dry overnight before proceeding to the next step.

Finally, ready to turn!

Mount the blank onto your lathe and rotate it by hand. It will be somewhat out of round, as would be a solid-wood blank. I use a $\frac{1}{2}$ " bowl gouge to rough-turn the outside, starting at a slow speed, and use the same tool for the interior. Except for the base, you will be cutting entirely along the grain, which will likely be smooth going.

After truing the bowl round, I had a little over $\frac{1}{2}$ " of uniform wall thickness

to work with. Changing to a $\frac{3}{8}$ " (10mm) bowl gouge, I turned the piece to its final shape, with slight contours at the base and top (*Photo 13*). If you start with thicker material, you will have more flexibility with regard to your bowl's final shape.

Sanding and finishing

I typically start sanding with 120-grit abrasive and progress to 800 grit. A staved piece sands nicely because you are sanding along the grain on each segment. To finish this project, I applied three coats of shellac, rubbing with 0000 steel wool between coats.

After parting the bowl off, I wrapped foam tape around the remaining base and waste block and held the bowl in place with the live center in the tailstock for completing the base (*Photos 14, 15*). ■

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Flatten remaining edges



10
Sand to flatten the mating edges of each half yet to be glued.

Glue on base



11



12

Sand the bottom smooth and flat prior to gluing on the base. I use a shopmade fixture to apply pressure, but an F clamp with a deep enough throat would also work.

Turn the bowl



13



14



15

Turn your tapered-stave bowl. Foam tape is wrapped around the remains of the base and waste block to form a jam chuck for completing the bottom.

Turn a MULTIAXIS CHILI PEPPER BOX

Mark Knize



The origin of this idea is easy to pinpoint. At the AAW Symposium in Phoenix, 2014, I was especially taken by the offset-turned seed pods Neil Scobie demonstrated. As a part of the same trip, I was immersed in the New Mexico chili pepper culture. I put the two thoughts together and came up with the chili pepper box. We have chili peppers here in California, and I grow them in my own garden, but this time a vacation led me to create something new.

The boxes are turned on three axes, and there is some carving at the end of the process, not uncommon in contemporary woodturning. My intention was to make a stylized chili pepper, not a scale model of a specific pepper.

Getting started

The project starts with a dry wood blank $1\frac{1}{8}$ " (5cm) square and $7\frac{1}{2}$ " (19cm) long. One should use sound, crack-free and rot-free wood for this project. I like walnut, fruit woods, and olive wood when I can get crack-free wood in the suitable size. The pictured example is mesquite.

Find the center of the blank and mark two additional centers offset by $\frac{1}{2}$ " (13mm) (Photo 1). Mark the opposite end the same way. The ends of the piece are always parallel during the offset turning. If the wood has a particularly nice side that should be toward the top of the final box, the second center, labeled 2, should be toward that better side.

The turning is initiated by mounting the blank between centers using the true center of the blank, center 1. I like to use the crown-style drive center and live center, as that style distributes the pressure over a large area and the point doesn't enter the wood very far. I use the full length of the wood for the chili pepper box, so I don't want to damage the ends. Take the corners off the blank with a roughing gouge and, using a parting tool, form a tenon at each end to fit your chuck. It is important to make the tenon deep enough and of the correct diameter for your chuck to facilitate the hollowing of the box lid and bottom.

Use a thin parting tool to part the cylinder halfway though $2\frac{1}{2}$ " (6cm) from the one end. After stopping the lathe, I draw a pencil line across the parting tool kerf to help me align the wood grain later (Photo 2). Carefully complete the parting tool cut off the lathe, either by hand or on a bandsaw with the workpiece held safely, resulting in two cylinders.

Hollow the lid

I start with the box lid, the shorter of the two pieces, so I can later fit the bottom

Mark centers



Mark the true center and label it 1. Then add two other axis points $\frac{1}{2}$ " away, labeled 2 and 3. Do this on both ends of the blank.

Prepare the blank



Rough-turn the blank and turn tenons on both ends. Make a partial parting cut where the lid and bottom will be separated and finish the cut off the lathe. Make a reference mark for future alignment.

of the box to the finished lid. Drill the lid using a 1½" (29mm) Forstner bit to the depth of the head of the bit, ⅝" deep (16mm) (*Photo 3*). Drilling the lid ensures that the sides will be parallel, and parallel sides are half the battle for a good-fitting box lid. I use a small scraper to form a dome inside the top of the lid in order to remove the point made by the center of the drill bit (*Photo 4*).

Next, sand inside the top of the lid with 220- and then 320-grit abrasive, being careful not to touch the inside wall. I also sand the bottom of the lid with abrasive on a block of wood to make a perfectly flat bottom.

Hollow the box

The longer cylinder, soon to be the bottom part of the chili pepper, goes into the chuck for hollowing. I use a ⅞" (22mm) Forstner bit to drill a hole 1½" (41mm) deep (*Photo 5*). Complete the hollowing using a 1" (25mm) box core router bit mounted so it extends from the chuck 2" (5cm) (*Photo 6*). Advance the bit all the way in.

The box core bit, which leaves a consistent diameter and a beautifully rounded bottom of the hollowed area, should be used at a slow lathe speed and with a slow feed rate. If chattering starts, immediately stop the lathe, tighten the wood in the chuck, make sure the tailstock and Morse taper fittings are seated well, slow the lathe speed, and try again. The box core bit is only removing ⅛" (3mm) across the diameter. When the box core bit gets to the bottom of the hole, it is much closer to the headstock and always gives a chatter-free conclusion, despite scraping into endgrain. Alternatively, the Forstner-bit-drilled hole could be enlarged by hand with a strong and narrow scraper.

I sand the hole at a slow lathe speed with narrow strips of abrasive supported by my finger.

Fit the lid

Because this is a long piece of wood held at one end, I always support these next

Hollow the lid



The lid section is held in the chuck for hollowing with a Forstner bit. The interior of the lid is then refined with a scraper.

Hollow the box



The box body is also hollowed with a Forstner bit, then refined with a box core router bit.

Form the tenon



With tailstock support, reduce the diameter of the blank and form a tenon onto which the lid will fit snugly. Fine-tune the fit carefully with a skew held flat on the toolrest.

cuts with the tailstock. Conveniently, my crown live center fits the 1" hole, but a conventional cone center works well, too. I use a parting tool to remove wood for the over-fitting lid (*Photo 7*). Measure the depth of the lid and make a tenon almost as long as the lid interior. I believe a long tenon is easier to fit and appropriate for a box that lies on its side.

Because the lid was drilled with a 1½"-diameter drill bit and the bottom

hole is 1" diameter, I know I want the tenon's wall thickness to be ⅛" (1.6mm). It is a quick job to use a parting tool to get close to this wall thickness by eye. I then remove the tailstock and switch to a small skew chisel held flat on the toolrest to scrape the tenon (*Photo 8*), testing the fit until the lid has a snug friction fit. The fit will be made looser in a later step. ►

Turn on axis 1



On the true center, create the rough shape of the pepper.



Turn on axes 2 and 3



Turning the piece on multiple axes creates “facets,” giving the pepper added dimension.



Turn the pepper

Axis 1

The idea now is to fit the parts together tightly, turn them on three centers, carve and sand the exterior, and then do a final fitting of the lid. If the fit of the lid is a bit loose for the turning and carving, tape can be used to augment the fit when turning on centers 2 and 3. The compression of the wood between the two centers keeps even loose-fitting parts together when using center 1.

With the lid fitted to the box and the grain aligned according to the pencil

mark you made earlier, mount the piece between centers on the true center, 1. Leaving the ends intact, turn the cylinder to a carrot shape between two discs about $\frac{1}{4}$ " (6mm) thick at the edge. I use a spindle gouge for these cuts. Begin at the lid end to make a cove at the top of the pepper shape that plunges abruptly to $\frac{1}{2}$ " diameter (Photo 9) and then smoothly making the curve of the stem.

The pointed tip of the pepper is also formed with a cove. The body of the pepper has a gradual curve starting at the joint of the two parts, tapering to

the end of the pepper to a diameter of about $\frac{3}{4}$ " (19mm) (shown toward the headstock in Photo 10) and sweeping upward to become the shape of the eventual curved and pointed tip.

I make a final cut with a skew chisel to improve the surface and save sanding effort later. At this stage, the overall shape should look like the piece in Photo 11. Now is the time to sand the top surface of the pepper.

Axis 2

Next I move the box to the centers marked 2. Both ends of the box should be moved in the same direction so the box turns parallel to the original axis. This is a good time to check that the toolrest is not in the way of the piece. The next cut, using a spindle gouge, will form the bottom of the pepper box as it lies on its side. About $\frac{3}{16}$ " (5mm) of the shadow line of the spinning box should be removed, parallel to the box's current shape, leaving the coves and disc-shaped ends untouched (Photo 12). Light cuts are in order here. Stop the

Trim the ends



Draw on the ends where you would like to remove material, leaving a stem on one end and a curved tip on the other. Never cut a round object on the bandsaw without proper support; note the flat surface of the workpiece making contact with the bandsaw table.



lathe and inspect. The flatter area where wood is being removed should be about 1¼" (32mm) wide (*Photo 13*). I usually take a final light cut with a skew chisel at this time on the convex box bottom, because this is the final surface. I also sand the box bottom to 320 grit, supporting the abrasive with a sanding block.

Axis 3

Move the box to the centers marked 3. These cuts form the top area of the box. Take a light cut parallel to the existing box shape and then stop and inspect. When I have removed wood to make a facet about 1½" (38mm) wide, I take more off toward the pointy end of the box, remembering how far down the hollow portion is. You can remove the box, remove the lid, and feel the wall thickness to determine how much more to remove to thin the pointy end of the chili pepper. The shape of the piece after all turning is shown in *Photo 14*.

Trimming the ends

Both ends of the chili pepper can be trimmed to rough shape on the bandsaw prior to carving, but be aware that cutting round forms on the bandsaw without proper support poses a safety hazard. It is important when using the bandsaw to have a flat area of the workpiece in contact with the bandsaw table, or hold the piece in a jig. Alternatively, you could use a handsaw to trim the ends.

The outline of the stem and pointy tip are shown from the top-view perspective in *Photo 15*. A cut is made on each side of the stem and tip. Then, from the side view, a single cut forms the outside curve (*Photo 16*).

Carving

I like to use a bullnose-shaped (radius cylinder) bit driven by a die grinder (*Photo 17*). Wearing a carving glove, I hold the piece firmly, paying careful attention to the rotation of the bit to ensure I am cutting "downhill" with respect to the wood grain. This helps me control the spinning bit. Refine the stem end, making it round and tapered to a smaller diameter away from the pepper.

Next, refine the pointed end of the pepper to give a flattened shape on side view. On the top, I carve a recess to simulate the concave areas seen on real peppers on the inside of a sharp bend. I then use a flame-shaped, fine-tooth carbide burr in a rotary tool to refine carved areas of the pepper box (*Photo 18*). On the stem, I try to get a final smooth-carved surface, as I do not sand the stem, believing the rough texture simulates an actual pepper stem and gives a nice contrast to the shiny pepper.

I sand by hand with 120-grit abrasive to remove the tool marks and then sand using grits from 180 to 400 on all surfaces but the stem. I prefer to leave the "corners" on the box that result from the offset turning, but these could be removed for a more rounded form, if preferred.

Final steps

The fit of the lid can now be loosened so it is easily removed but still has enough friction to keep it in place. I mount the pepper body (lower section) carefully on expanding pin jaws and use a freshly sharpened parting tool to make light cuts, stopping the lathe, removing the piece, and testing the fit (*Photo 19*).

I apply at least two coats of wipe-on polyurethane, allowing each coat to dry overnight. Finally, I buff everything but the stem with Tripoli. This finishing treatment results in a beautiful and pleasingly tactile piece. ■

Mark Knize, a former research scientist, is now a full-time sculptor in a variety of media. He is a member of the Bay Area Woodturners Association in California.

Carve the final shape



Carving burrs driven by rotary tools help refine and smooth the final pepper shape.

Adjust the lid fit



The box is mounted on expanding pin jaws to refine the tight fit of the lid. Use a sharp parting tool to lightly trim the tenon until you reach your desired fit.

JOURNAL ARCHIVE CONNECTION

For more on safely cutting round objects on the bandsaw, see Betty J. Scarpino's *AW* article, "A Jig for Cutting Round Objects" (vol 31, no 1, page 20). AAW members can access all past journal articles online at woodturner.org.





Turning CURVED TUBES

Keith Tompkins

I set out to turn my first tubular form after accepting a personal challenge to do so. In a lively conversation with woodturning friends, I casually commented, "So what's the big deal about turned tubes?" This was greeted with howls of protest, and, after some discussion, I finally had to admit I had never turned a tube form. The challenge was issued and I hastily accepted. After all, how difficult could it be?

I spent a few evenings making rough sketches in an attempt to come up with a piece that was obviously a tube form, yet unique enough to have a distinct, recognizable signature. The more sketches I made, the more difficult the decision became: I could turn it in endgrain or crossgrain orientation, I could turn it translucently thin, or on multiple axis points. I could pierce the final result, or stain or airbrush it to add color. Once I decided on the design, there were more obstacles to overcome. How was I going to hold the workpiece on the lathe and hollow from both ends? Working through these questions and experimenting with various tube forms eventually led me to make *When Good Tubes Go Bad*.

My work often involves turnings that are cut apart and reassembled. This piece was no exception. The general steps to make a closed, curved tube are as follows. Note that this process will produce half a hollow torus, as in *When Good Tubes Go Bad*.

1. Turn the outside profile (half of a torus) from a blank mounted in a four-jaw chuck.

2. Reverse-mount the piece, true up what will become the inside gluing edge, and cut the ring free.
3. Remount the form on a jam chuck and hollow the half torus.
4. Remove the form from the lathe, cut it in half, and glue the halves together to make a curved tube.

Create templates

After drawing a sketch of the proposed piece, I realized a set of templates would help me achieve a truly round form both inside and out. The lathe was the perfect tool for creating these templates. To make the outside profile template, I held a piece of stiff cardboard against a faceplate using the lathe's tailstock and masking tape. I then marked a circle with a diameter of $1\frac{1}{4}$ " (3cm), which would be the outside diameter of my turned torus form, and cut it out with the toe of a skew chisel. I then repeated the process to mark and cut out the inside profile template, a circle $\frac{3}{4}$ " (19mm) in



When Good Tubes Go Bad, 2015, Holly, walnut, rose thorns, acrylics, 9" x 6" x 3" (23cm x 15cm x 8cm)

JOURNAL ARCHIVE CONNECTION

See how Murray Stein put turned curved tubes to use in his functional wooden French horn in his AW article, "French Horn with a Twist" (vol 30, no 5, page 26). AAW members can access all past journal articles online at woodturner.org.



diameter. I only required half of the larger, outside profile template, so I cut it in half with a pair of scissors (*Photos 1, 2*).

The process

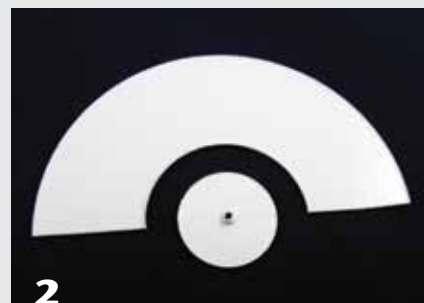
To begin the torus form, I mounted a dry maple blank in a chuck in cross-grain orientation (with the grain running perpendicular to the ways of the lathe). It is important to true up the face and outside diameter and to square these surfaces to one another, as you will later take critical measurements from these surfaces. I used a machinist's square and straightedge to ensure accuracy.

After truing, I cut straight in using a parting tool to separate outer material for the half-torus and inner material for a tenon (*Photo 3*). The parting cut also served as a depth gauge to indicate the final radius of the torus. For my intended 1¼" diameter for the tube, my parting cut had to be half that, or ⅝" (16mm) deep.

I then began forming the half-round shape of the outside profile of the torus, using a spindle gouge for rough-shaping and a scraper for fine-tuning until the cardboard template fit perfectly (*Photo 4*). When I was satisfied with the shape, I created a tenon with the remaining wood in the center, removed the piece from the lathe, flipped it over, and remounted it in the chuck.

In this orientation, I removed waste material until I approached the final radius of my torus, ⅝" (*Photo 5*). Since I wanted to end up with a perfect circle, the ⅝" radius was critical. When the ring is cut in half and glued together, the two halves would add up to my desired diameter, 1¼". It was also important to create a truly flat surface around the area to be hollowed, as it would later become the gluing surface for joining the two halves. I used a metal straightedge to verify flatness

Make templates



Cardboard templates can be made perfectly concentric on the lathe.

Square blank/form profile



It is important to work from a trued and squared blank, as critical measurements for the torus will be taken from those surfaces. After truing the blank, I formed the outside profile of the half-torus and verified its accuracy with the template. The tenon at center will be used to reverse-mount the workpiece.

Remount and true



The piece is reverse-mounted so the rounded half-torus is facing the headstock, and what will be the inside gluing surface can be reduced to the desired radius (⅝" in this case). This face must be dead flat, verified with a straightedge, to ensure a good glue joint. I then parted the half-torus ring from the center material.

before proceeding. Once the surface was reduced to the correct radius and turned dead flat, I cut the yet-to-be-hollowed half-torus free from the center (*Photo 6*).

To hollow the half-torus, I made a jam chuck from glued-up scrap plywood (*Photo 7*). When the glue was dry, I turned the jam chuck until the inside of the torus form fit snugly ►

Jam chuck for hollowing



I formed a jam chuck using plywood scrap and turned it for a snug fit of the inside of the half-torus. The workpiece was pressed onto the jam chuck with the tailstock and a scrap block, which was removed prior to hollowing. The hollowed inside profile is verified using the cardboard template.

over it. I used a piece of scrap pushed by the tailstock to seat the turning to the jam chuck, then added four spots of hot-melt glue around the diameter for extra insurance (*Photo 8*). The reason I mounted the ring on a jam chuck for hollowing was to ensure accuracy. The wood on the faceplate was flattened and verified with a straightedge, then the flat face of the torus was checked to be true before hollowing so there would be no variation in the finished product.

With the workpiece accurately mounted on the jam chuck, I could begin hollowing the inside radius (essentially a cove), using a spindle gouge and then a round carbide

scraper to create a match for my inside profile template (*Photo 9*).

With the template fitting the inside profile perfectly, I removed the torus from the lathe and cut it in half. I did this on the bandsaw. For greater stability and safety, place the flat edge of the workpiece down on the bandsaw table during the cut. Of course, you could also use a handsaw to cut the form in half.

Now I had two mirror-image open halves (*Photo 10*), which I could glue together to form a closed, curved tube. I dry-assembled the two halves, secured with rubber bands, to test the accuracy of my work, and then glued them together

(*Photo 11*). The result was a hollow, curved tube form that I could use to create an art piece.

Finishing touches

To complete *When Good Tubes Go Bad*, I added texture with a small carving gouge, then added rose thorns randomly glued in place (*Photo 12*). Ebonizing and a bit of airbrush work, followed by a stand turned from walnut, completed the piece. ■

Keith Tompkins is an accomplished life-long woodworker and turner. For contact information and examples of his work, visit keithtompkins.com.

Cut and glue



After hollowing, I cut the ring in half across its diameter and glued the matching pieces together to form a tube.

Embellish



I decided some carving and the addition of rose thorns should adorn this piece.

Turning STRAIGHT TUBES

Pascal Oudet



(Top left) Untitled Tube Form, 2015, Turned and sandblasted oak, 12" x 3" (30cm x 8cm)

(Top right) Untitled Tube Form, 2009, Turned and sandblasted oak, 13½" x 4" (34cm x 10cm)

(Bottom) Duo, 2014, Turned and sandblasted oak, each tube is 8" x 2" (20cm x 5cm)

I always turn my tubes crossgrain (with the wood grain perpendicular to the ways of the lathe), in green wood. In my sandblasted work, this is the only way to achieve a transparency all around the piece. And the slight curve induced by drying and warping gives an added interest to the shape.

Of course, turning in crossgrain orientation has strong disadvantages: the wood is weak in this direction, especially if the tube is long. And the height of the tube is limited by the tree's diameter. But it is better to adapt to technical constraints to achieve design ideas than to adapt your intended design to the technique.

Cut and mount the blank

I start by cutting a block from a thick slice of trunk, just beside the pith (*Photo 1*). The block is around 3" (8cm) square and 12" (30cm) ►

Cut and mount blank



The tube blank is cut from a 3"-thick slice of a tree and, as shown here, can include the bark for a natural-edge form. It is mounted in crossgrain orientation, first between centers, then, after a tenon is turned, in a four-jaw chuck.

Turn and hollow incrementally



Turn the outside of a short section, then hollow only that section. This approach leaves more solid wood, which adds stability farther from the chuck. Drilling a center hole aids in hollowing.

long. The blank needs to be significantly bigger than the intended finished piece, as will be explained later.

Mount the tube blank between centers (*Photo 2*), with the natural edge (bark) on both ends. Remove the bark if needed to ensure a firm grip by the spur drive and live center. I place the edge with the least curvature on the tailstock end, as this is where I will turn a tenon for the chuck.

Turn the block down to a round shape. At this point, it is fine to just approach a round shape and not refine the form—it just needs to be trued enough to minimize vibration due to the piece being

out of balance. I turn a long tenon for the chuck, as big in diameter as my jaws will allow. I use the long serrated jaws from the large Vicmarc chuck. Remember, the wood is in crossgrain orientation, so it is fragile and could snap right in front of the jaws. The longer and bigger in diameter the tenon is, the stronger it will be (*Photo 3*). The tenon also needs to be bigger in diameter than the intended finished diameter of the tube, if you want to take full advantage of the total length. I mount the workpiece in the chuck (*Photo 4*), and from this point, I work on the tube using a bowl lathe, as

it is much more comfortable when hollowing for hours.

Turn and hollow

I start by turning the outside back to round to avoid vibration, but only removing as little material as is necessary. Working to the maximum diameter (in this case, around 2¾", or 7cm) will add to the rigidity of the piece. Then I start from the end of the piece and turn the outside to the finished diameter, but on a limited length (around 1", or 25mm), as shown in *Photo 5*. Keeping the rest of the wood at the maximum diameter helps to avoid vibration.

Continue in sections



Continue turning and hollowing in short sections, gradually moving toward the headstock. After the first section, it will become necessary to use dedicated hollowing tools to accommodate the longer reach. Chalk marks indicate the current point of progress and necessary tool reach.

Hollow the inside of this first portion with a small gouge (*Photo 6*). Of course, all tools used for this project need to be very sharp, as any constraint on the wood is a risk to break the piece, especially working at the end of a long piece. Moreover, here I am shooting for a wall thickness of about $\frac{3}{32}$ " (2mm). I also drill a center hole, which will ease the hollowing job (*Photo 7*).

Once this first section is hollowed, I move back to the outside and turn another section, about $1\frac{1}{4}$ " (3cm) long, to the finished diameter (*Photo 8*). Then I hollow this section. When the tube becomes too deep for the bowl gouge, I use a dedicated hollowing tool (*Photo 9*).

The process of turning and hollowing one small section at a time is repeated as I move toward the chuck. For each section, I monitor wall thickness using calipers. By working on limited lengths, I do not have problems with excessive vibration and do not need a steady rest (which would be difficult to use on my bowl lathe). I have turned tubes up to 16" (41cm) using this process.

To know where I am in the hollowing process, I use chalk marks on the workpiece and on my tool. I mark the outside of the tube where I need to hollow, then position the cutter to this mark and put a mark corresponding to the toolrest on the tool shank. This way I am sure that my tool is cutting in the correct area (*Photo 10*).

Final steps

I turn the whole piece until I come very close to the chuck jaws (*Photo 11*). You now have two choices: either part the piece off or turn and hollow farther. I usually choose the second option. To continue, reposition the piece in the chuck so that the work is held using only a limited length of the tenon (about $\frac{1}{2}$ ", or

13mm). Since the piece is very light after being hollowed, rigidity in the chuck is not an issue anymore. I use the marks left by the serrated jaws to center the workpiece as well as possible (*Photo 12*).

I continue to turn the outside up to the jaws (*Photo 13*), then hollow the inside. I hollow through the bottom but not to the final inside diameter, as that would weaken the wood under the jaws. I then remove

the piece from the chuck and finish shaping both the inside and outside by hand using rotary tools (*Photos 14, 15*). *Et voilà!*

Pascal Oudet is a professional turner living near Grenoble in the French Alps. His signature work of lace-like pieces is held in private collections in the United States, Europe, and Asia. He has demonstrated at various AAW and European symposia. For more, visit lavieenbois.com

Approaching the end



You can part off your tube any distance from the chuck you want, but it is possible to work the entire length of the blank. Reposition the blank in the chuck and hollow all the way through but leaving ample thickness under the chuck jaws.

Finish by hand



Finish shaping the final section by hand using rotary and/or hand shaping tools.

JOURNAL ARCHIVE CONNECTION

For a different take on straight tubes that involves hollowing with a drill bit, see Joshua Friend's 2010 AW article, "Wooden Tubes, Cigars, and Treasure Maps" (vol 25, no 4, page 23). AAW members can access all past journal articles online at woodturner.org.



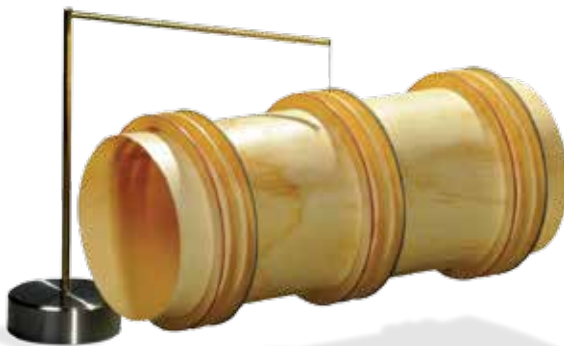
Turning TUBULAR

Richard Raffan,
Rusty-verdigris Tubes,
2015, Blakeley's gum,
verdigris, rust, acrylic,
tallest is $4\frac{15}{16}$ " \times $1\frac{9}{16}$ "
(13cm \times 4cm)



Keith Tompkins,
Rolling in Deep Time,
2011, Black walnut,
12" \times 5" (30cm \times 13cm)

Photo: On Location Studios



Steve Sinner,
Show the Colors, 2011,
Sugar maple, cotton
embroidery floss, stainless
steel, brass tubing, Spectra®
fiber, $4\frac{1}{4}$ " \times $7\frac{1}{2}$ " \times $2\frac{3}{4}$ "
(11cm \times 19cm \times 7cm)

(Left) **Michael Foster,**
Vortex, 2011, Red maple,
acrylics, 9" \times 9"
(23cm \times 23cm)

(Right) **Bill Luce,** *Skeleton
Tube Series #2,* 2010, Turned
and sand-carved Douglas fir,
 $20\frac{1}{2}$ " \times $5\frac{1}{4}$ " (52cm \times 13cm)



Post-Millennial **Standout:** **KAYLA DEAN**

David M. Fry

Have discarded vocational tracks, student indifference, and inhouse robotics labs and 3-D printers made traditional industrial arts obsolete in high school? Certainly not in Mustang, Oklahoma, where Kayla Dean spent four years learning basic woodworking skills and making a customized classical guitar, lyre base writing desk, and mahogany spindle cradle. In fact, the cradle won second place in the open division of the 2015 Association of Woodworking Furnishings & Suppliers Fresh Wood Competition, which attracted almost 170 secondary and postsecondary student entries.

Kayla's accomplishments reflect the extraordinary depth of woodworking instruction at Mustang High School, which employs three teachers for a woodshop serving 200 students, including many girls. Projects range from furniture and musical instruments to boats and pool tables. Mustang's program goes so far beyond the basic training offered in other schools that national awards and local commissions are not uncommon.



This closeup captures the clean execution and range of joinery in the cradle. Waxed dowels through the end posts allow smooth, quiet rocking.

Photos: Alan Harp



Such success speaks not only to the talent and industry of the students, but also to the abiding guidance of veteran teachers like Mike McGarry, Kayla's shop instructor and most important influence.

Getting serious

As a ninth-grader headed into the sciences, Kayla enrolled in woodshop as something of a lark with friends. By late spring, though, she was hooked, with enough hand and machine tool experience to look beyond pens and jewelry boxes toward more ambitious work in the advanced classes. The cradle project of her senior year proved to be her favorite, she recalls, because "I could combine turning with the general woodworking skills I had already learned." It was something of a gamble, because "I came to [larger scale] turning late and was initially not that great at the lathe." Even with the demanding frame-and-panel fabrication of the end boards, "Making the spindles uniform was definitely the hardest part of building the cradle."

Relying on available work plans meeting government safety specs, Kayla tweaked various design elements, including the shape of the spindles. She used the school's 4'- (1.2m-) bed lathe to turn the two large end posts and took



Kayla made and sold pens to finance her church activities abroad and the trip to the AWFS Competition in Las Vegas.



Photo: Jeff Marzec

The award-winning cradle with maker Kayla Dean and mentor Mike McGarry, who also coached Kayla's close friend and AWFS first-prize winner in seating, Brittany Hoffmeier, for her Maloof style rocker.

a mini-lathe home to speed up production of the twenty-two short spindles. After developing master spindles, she carefully refined duplicates by eye, using calipers and standard spindle chisels. All together, the project wound up consuming five to ten hours a week outside class, and in the end conveniently yielded a functional, rocking cradle two weeks before her niece was born.

Family followers

Reflecting on an unexpected dividend, Kayla notes, "The coolest part of my woodworking is that I have been able to get my whole family involved." Mom Jennifer makes pens and seam rippers, while dad and brother also occasionally turn at the high school, where Jennifer works and has ready shop access. And a new, lightweight lathe now fills out the home woodshop, where small projects can be completed independently of school equipment.

Beyond school

Now a sophomore at Northeastern Oklahoma State University, Kayla finds time for woodturning only when she comes home. "At this point, it's definitely more of a pastime," given the demands of classes. But a strong interest remains: "I want to become an optometrist so that I can afford my hobby." And, conversely, who can doubt that the absorbed rigors of the woodshop—detailed planning, precise measurement, and polished completion—will ultimately make her a better health professional?

David M. Fry turns wood and writes near Washington, D.C.

The freestanding vessels here present conical and pseudospherical profiles typical of Phil Brown's work. Reflecting his native team spirit, he provided more than a dozen handmade pedestals for exhibitors in this group show at the BlackRock Center for the Arts in Germantown, Maryland.

Photo: Tim Aley

Phil Brown

ON UNTRAVERSED SLOPES

David M. Fry



In both the flaring beauty of the lily and the brute power of the tornado, the funnel commands our attention among the primal forms of nature. Oddly, this simple vessel shape fitting the lathe so comfortably seldom emerges from the chips, judging from a Google search of images for “turned wood bowl.” Of the first two hundred shown, all but six have convex external curvature, and only one thrusts inward from foot to rim. It’s true, a few well-known turners have frequently exploited the vortex, although the ones that come to mind—Virginia Dotson, Michael Mode, and Michael Shuler—may have done so partly because of the mechanics of laminating their pieces. Meanwhile, the rest of us have probably veered toward concavity when attempting to cut beyond a crack or knot on the outside of a bowl. But where do we find outright celebration of negative curvature in solid-wood vessels, in forms

that suggest the plummeting imprint of weight on a suspended membrane?

A good place to start would be the Smithsonian’s Renwick Gallery and Boston Museum of Fine Arts, where the sweeping funnels of Phil Brown reside in permanent collections. Perhaps no other American turner qualifies as perennial champion of this distinctive design. The long-time Maryland resident has also racked up a parallel record of accomplishment by catalyzing and channeling a vast whirlpool of activities engaging amateurs and professionals, collectors, students, and the general public in the greater universe of woodturning.

Beginnings

Growing up mid-century in Denver, Phil struck a far-reaching bargain with his mother to conserve limited family resources: “She’d buy the wood for me if I’d make household furniture with the

table saw, jointer, and drill press purchased with my earnings as a sweeper boy at school.” With precocious attraction to Scandinavian Modern, the self-taught teenager produced a suite of furnishings, including a large walnut credenza, that his mother used for more than forty years and that decorates his own living room today.

After Phil finished college and started a family and job as an agricultural economist at the U.S. Department of Agriculture, his woodworking fell by the wayside, only to resurface in the 1970s after a tour of craft shops in Maine. When friends offered him apple trees from their farm, he took some logs to mill for lumber and shorter pieces to turn. He then purchased a small second-hand lathe to make bowls from the wood. Relying on Frank Pain’s 1959 classic, *The Practical Woodturner*, Phil sharpened his technical skills at the



Untitled, 2014, Spalted maple, $4\frac{3}{8}$ " \times $13\frac{5}{8}$ " (11cm \times 35cm) with a $2\frac{3}{8}$ " - (6cm-) diameter base

A few years ago, Phil started turning conical funnels with thickening convex interiors. Such shapes require thorough wood drying before turning.

Collection of Robyn Horn



This 6" \times 19" (15cm \times 48cm) funnel in paulownia (2015) weighs less than one ounce per inch of diameter.

lathe over the next few years, while refining his design sense through exposure to a variety of influences, especially Bob Stocksdale's simple and delicate fusion of Scandinavian and Asian forms. The pre-AAW symposia hosted by Albert LeCoff and Palmer Sharpless outside Philadelphia also had a major impact on him during the early years of the woodturning revival.

From cone to pseudosphere

Phil's interest in funnel shapes crystallized sometime during the 1980s, around the time Preston Singletary's vortex forms were emerging in the world of art glass. After stumbling across a wedge-shaped poplar slab, Phil realized that without much reshaping, he "could turn a large-diameter, $\frac{3}{16}$ " - (5mm-) thick bowl from it that would catch people's attention." Over the next thirty years, he has explored this basic form, from straight conical sides to deeply concave ones on the exterior (what mathematicians call a pseudosphere). As the inward curvature becomes more severe and the foot smaller—no greater than twenty percent of the rim diameter—more of the blank's top surface is retained outside the plunging center. The pseudosphere may thus represent the best solution for preserving maximum crotch feather, curl, or quarter-sawn flake in a blank, short of resorting to a two-dimensional platter.

With its interior largely preempted by design, the funnel also draws the bowl away from its traditional container function toward the realm of sculpture.

In the shop

One machine dominates Phil's modest workroom, and it's not a lathe. An old 20" (51cm) bandsaw stands by not only to bring his slabs into round, but also to remove considerable material underneath through robust angled cuts on a jig. Its slot key and swivel pin help him control the otherwise-awkward operation.

The real surprise is the apparent idleness of a beefy J-Line trade shop lathe, standing just a few feet from Phil's first and (still) principal lathe, a Delta Homecraft that came with an 11" (28cm) swing over the bed and 14" (36cm) over the gap. Long ago, he had a machinist fabricate 5" (13cm) riser blocks for the headstock and tailstock, as well as a new banjo with a toolrest riser and 11" horizontal reach to extend the Delta's turning clearance beyond 20". But the lathe retains its original lightweight ways. "I'm lucky the bed casting has never broken," Phil muses, "since it has been really stressed and has flexed a few times. Fortunately, the headstock is bolted to two boards, $1\frac{3}{4}$ " (44mm) thick and 11" wide, that are anchored to the floor and ceiling. ►

The pseudosphere may represent the best solution for preserving maximum crotch feather, curl, or quarter-sawn flake in a blank, short of resorting to a two-dimensional platter.



Phil with a trademark trumpet form on his Delta Homecraft lathe. Five-inch risers and a custom toolrest give this machine exceptional capacity for its mass.

Phil's pieces often span years in the making. "One of the things I've learned is to be patient."



Otherwise, the big 100-pound-plus pieces I sometimes turn would probably tear the lathe apart. I start such heavy pieces at low rpm, with the aid of a jack-shaft/speed reducer. The setup is quite crude by today's standards." Crude, perhaps, but effective.

Phil usually chainsaws his raw material in the field to manageable 3" to 5"- (8cm to 13cm-) thick slabs and carts them to his van on a handtruck. Depending on his interest in the species and figure, the wood may be worked at his shop in short order, set aside to dry for months or years, or placed in plastic to induce spalting. Once he bandsaws it into a blank, rough-turning with a bowl gouge proceeds down to about 1½" (38mm) even wall thickness. The piece is completely waxed and set aside for at least a full year of hot-and-cold-weather cycling. While this schedule may strike many turners as needlessly long, it makes sense for large funnel shapes, which show warping perhaps more than any other vessel form does. Although a completed but distorted hemispheric bowl can often be remounted on the lathe and gingerly trimmed flat at the rim, a warped pseudosphere lip cannot be flattened once turned thin.

Finishing

After drying is complete, preparation for finishing begins with warp removal during re-turning, which usually leaves the piece around ½" to ¾" (13mm to 16mm) thick. At this point, Phil takes an unusual step, coating the wood with epoxy paint

to harden any soft spots and reveal the true color of the final surface. Set aside, the bowl continues to stabilize on his bench over the next few weeks or longer. He then returns it to the lathe for final thinning—usually to a uniform ⅜" (although in recent years, he has made a number of funnels with walls tapering to substantial thickness, producing an entirely different look and feel). Phil is not afraid to break the rules during the last passes as he cuts downhill on exterior sidegrain. The wood is now ready for sanding, starting with 150- or 180-grit hook-and-loop disks and ending with 600-grit handheld sheets.

The application of a spray finish is preceded by two coats of sanding sealer to smooth irregularities, prevent subsequent wood discoloration, and detect any flaws that may have escaped notice. Small cracks and voids need not spoil the perfect surface if they can be filled and camouflaged with sanding dust and, occasionally, watercolors in epoxy glue. It has proven helpful to keep sawdust samples of different wood species on hand to match ambient colors when defects come to light.

Phil lacquers most of his vessels with a conventional spray gun. His standard recipe is two coats of gloss plus one flat coat. He notes, "I create a dead-flat top coat by refraining from stirring a new can of flat lacquer. Instead, I spray thirty to forty percent of the can as gloss and then stir the remaining lacquer, which contains a much higher concentration of [light-scattering] stearates." The final application gets lightly rubbed down off the lathe with ultrafine abrasive pads. By this time, the accumulated hours devoted to finishing—applying epoxy paint, touchup, sanding sealer,



Funnel closeup. No one surpasses Phil in the finishing room. His satin surfaces show no traces of the making or surface irregularities, even in punky wood.

and lacquer—almost equal the number involved in the turning itself.

Marketing

At one time, several galleries in the Capital area, Chicago, and California carried Phil's work. Since the Great Recession of 2008, however, most have closed or lost contact with him, shutting off a steady stream of income. These days, sales of his bowls largely take place through local juried exhibitions and direct customer purchases around metropolitan Washington. Occasionally something sells on the Internet. But the market for bowls in his typical retail range (\$500 to \$1,200) seems to have declined overall. In addition, he notes, "I haven't increased my prices in twenty years despite [fifty-percent] inflation," an allusion to the span of his retirement from USDA.

An opportunity arose recently to explore a different pricing niche. When Phil brought home some small oak logs from Tudor Place, the Georgetown estate of Martha Washington's descendants, he decided to turn a few bowls that might interest patrons and visitors. "I didn't want to put in too much time for inexpensive gift shop items. So I decided to switch from lacquer to simpler oil-finished, natural-edge pieces that could retail under \$200. The staff liked what I brought in but wondered whether even \$200 was too steep for the typical customer. I said, 'Why not go ahead and double my wholesale prices just to test the market.' Twenty-six hours later I received an e-mail saying five of six bowls had sold. I've delivered more since and occasionally receive a check from ongoing sales."

Networking

Early on, Phil realized that selling one's work goes hand in hand with networking and learning the larger craft scene. When he joined the James Renwick Alliance, the outreach and fund-raising

auxiliary of the Renwick Gallery, his aim was primarily to educate himself. Through that connection, however, first as a member and eventually an officer, he developed invaluable relationships with curators, gallery owners, collectors, well-known artists, and public-spirited individuals. In return, he has reached out to other makers to alert them to local happenings and build critical mass for group shows. He developed an equally productive relationship with the Woodturning Center (now Center for Art in Wood), hosting visits of its international fellows and arranging tours of private collections for them. And he has made himself a pivotal resource for other organizations looking for new artists to exhibit, demonstrators for their events, and even pedestals for show installations.

After helping start the Capital Area Woodturners and Chesapeake Woodturners in the 1980s, Phil eventually took it upon himself to found another AAW chapter that would shorten driving time for many within the congested metropolitan area. He recalls that he "got in touch with those on the AAW Maryland member list within a reasonable distance of Rockville and invited them to a meeting; twenty-three people showed up." Today, Montgomery County Woodturners has about eighty members and numerous mentoring

and public service programs. Thanks to Phil, the club also circulates an exhibit of member turnings among a half-dozen county libraries.

Collecting

The Washington, D.C., area can claim at least five internationally known collectors of woodturning, and Phil has personal relationships with all of them. It is therefore not surprising that he has built a collection of his own, in tandem with his wife, Barbara Wolanin, longtime curator of the U.S. Capitol's vast art and archival holdings. Many of Phil and Barbara's own acquisitions reflect extended interactions with the artists. Often, a story is associated with a particular piece. He remembers, "Around 1990, Bob Stocksdale walked into a Capital Area Woodturners meeting hosting a Bonnie Klein demo. He had a box of bowls that he laid out on a table, priced at \$500 each. Most had sapwood cracks, but I managed to buy a flawless kingwood piece, which is now in our collection. Fortunately, I had a check with me that day." It's safe to say that at some level, Phil is usually thinking ahead, aware that if a golden opportunity for others or himself suddenly arises, knowledge of the slopes may funnel good fortune to within reach. ■

David M. Fry turns wood and writes near Washington, D.C.



Part of the Brown-Wolanin collection, which contains many works in glass, clay, and fiber, as well as the output of world-renowned woodturners.

NEIL SCOBIE A TURNER FOR US ALL

Terry Martin

Neil Scobie, *left*, in a teaching moment with student Kevin Ingersol. *A quiet word, a soft suggestion, some reassurance.*

Photo: Terry Martin

In mid-1988, I was traveling the rural New South Wales countryside in eastern Australia and I happened upon a small craft gallery in a tiny village. There I found a small natural-edged bowl turned in rosewood, a delightful piece that was so well-crafted, I immediately bought it for my newly started collection. The name on the bowl meant nothing to me at the time, but Neil Scobie would become one of my most valued friends and someone who has earned my deepest respect. Now, twenty-eight years on, I want to introduce Neil to all those who do not yet know him. As I describe how Neil has become such a respected and well-liked man, I hope his story will have meaning for others and echo the friendships and shared experiences that are at the heart of the woodturning revival.

I started to hear more about Neil after I bought the bowl, but we did not meet until 1995, when I drove to his home. His reputation intrigued me, and I was filled with interest to meet another turner like me—a reinvented professional who wanted to make a living turning wood. Those were the “good old days” for turners, although most did not know it at the time. Sales were good, ideas were exploding, and it seemed there was a viable future for us all. Today, turning is less about making a living and more commonly a way for people to find new meaning in life and to engage with a sharing community. Neil has negotiated this change more successfully than most, so in a sense his story also echoes the new direction of the whole turning movement.

Today, turning is less about making a living and more commonly a way for people to find new meaning in life and to engage with a sharing community. Neil’s story echoes this new direction.

On that first trip, after a six-hour drive from my home in Brisbane, I arrived at the house Neil had built near the beachside resort town of Coffs Harbour. It is among the

most beautiful places in Australia, rimmed by perfect beaches and backed by forested mountains. I have made the same trek many times since then, and the sense of welcome, peace, and contentment I always feel when I am there goes a long way toward explaining why so many people have traveled to Neil's home to renew their energy and find new meaning in their lives. Neil has, quite simply, lived the woodturner's dream life, and he has dedicated much of his life to helping others find their own share of this dream. How he arrived there is a simple story of hard work, dedication, and knowing what is really important in life.

Background

Neil was born to farm life near the wonderfully named Australian town of Wagga Wagga. It seems farm life is the perfect training for a creative woodturner, as it fosters the ability to turn a hand to any task, to work hard over long hours, to maintain machinery, and to find simple and practical solutions to everyday problems. All of this was reinforced at the school Neil attended, as he explains: "We were mostly farm boys, so we did a subject called Farm Mechanics. We learned to work in wood and metal, to forge, fix motors—things like that." This practical background is invaluable, but to make a really creative turner you need that little extra, the curiosity to try new ways, the cleverness to see new solutions. This curiosity led Neil away from the farm life to train as a woodworking teacher.

In his first year of study, Neil met the most important person in his life, his wife and life partner in every way, Liz. If you get to know enough successful woodturners, you almost always discover they have a strong partner who supports the unpredictable life

of making a living in this financially precarious occupation. Liz makes her own living as a textile artist and designer and has always worked on equal terms with Neil. So, by introducing Liz Scobie, I hope I am also acknowledging those partners who may not be so well known to the woodturning community, but who deserve at least as much respect and acknowledgement.

Early turning days

Neil studied industrial arts and one of his teachers started his interest in turning, although he also credits three others for inspiring him: "During the 1980s, several influential turners visited Australia," he says, "but Del Stubbs and Mike Hosaluk impressed me the most. Among Australian turners, it was Richard Raffan who I was most influenced by." After they graduated, Neil and Liz spent twenty years teaching in high schools in rural Australia, and in his spare time Neil applied his metalworking skills to build his own lathe, which meant he could start selling his turnings as a sideline. That was when he made the bowl I had bought. It was a comfortable and meaningful life, and many might have been content to devote their whole working lives to it, but times were good for independent makers and eventually they decided to make the break and start their own business. Both Neil and Liz are perfect examples of the old adage that the best way to learn something is to teach it, so it is not surprising that after twenty years of teaching, when they decided to start their own business in 1990, they were masters of their crafts.

A new life

Neil and Liz built their home themselves, using old bridge timbers to create enormous open spaces filled



Neil and Liz Scobie

Photo: Anna Scobie

with light from twenty-foot-high windows. From every direction of their eight-acre homestead, the smell of trees and flowers fills the air, and every day starts and ends with bird-song. While Liz works in her studio in the house, not far away is Neil's 2,400-square-foot workshop. Liz explains that they never really had a master plan: "It just evolved really. Neil was making too much noise for our neighbors and his workshop was too small. We moved out of town so he could build a bigger one." I am not alone when I say that this is my dream workspace—the wide roller doors open to let the breeze gently blow through, and the mild climate means they are always open. Every tool you could ever want is laid out, ready at hand, the rack of quality local timbers seems to reach up forever, and there is space to make anything you could think of. In the workshop, Neil is in his element, negotiating designs with the students, making sure they have what they need, sharing a quiet word, and always leaving them with the impression that they themselves thought of the answer to a particular problem.

The fortunate residents of the region and those who travel far to learn from Neil are the beneficiaries of Neil's good nature and knowledge. Many times I have joined Neil and his students under the veranda outside ►



Neil Scobie (center) in his element: in the workshop with students.

Photo: Terry Martin

the workshop for a morning coffee or an end-of-day beer, and it always feels like home. Liz put it wonderfully when I mentioned to her that a lot of their students had become life-long friends: “Oh, some of them have become family,” she laughed.

Neil describes how his classes grew: “I know the classes started around twenty years ago because one student is in his twentieth year here. We began with one night class, and that eventually became four, two night and two morning classes. I also run week-long classes, and one year I ran eight of them. This year we started doing three-day weekends, which seems to be a good option because people can get a day off work and spend the weekend. I have to say that financially it’s a good idea, but it does take away time from my own work.” One indication of the quality of Neil’s classes is that he has never had to advertise—word-of-mouth brings more than enough students.

It is obvious that one of the secrets to Neil’s success is his relentless energy, as Liz explains: “People often say ‘Oh, he’s really lucky,’ but he actually works hard at being lucky. He’s always in the workshop by

eight-thirty and he works until six, then if he’s got furniture orders or classes at night, he’s back there again after dinner.” Neil is also a dedicated sportsman, as he explains: “I play in a local volleyball competition, surf regularly, and ride my mountain bike as often as I can. I love to walk on the beach and go bush-walking. It’s good to be fit, but it is as much about the friendship as the sport. I have one friend who I have been playing sport with for thirty-three years!” It’s an understatement when Liz says, “It’s often very busy, so when we have a quiet moment and sit outside with a drink, Neil will say, ‘This is such a great place, we should visit it more often.’”

An international reputation

It is hard to imagine how Neil finds the time, but he has also developed a solid reputation abroad. “I first demonstrated in the U.S. in 2004 in Orlando, Florida. That was enjoyable, but I was quite nervous—the boy from the bush in the big city. But once I looked at some other demonstrators, I realized they didn’t really know any more than me,”

he says. “I’ve also demonstrated in Los Angeles and San Jose, and Liz and I both went to the Utah symposium in 2005. In 2006, I did the ITE [International Turning Exchange] with what was then the Wood Turning Center, and I demonstrated at the Louisville, Kentucky, [AAW] Symposium. Since then I have been to the Phoenix Symposium and last year I went to the Ohio Valley Woodturners. I’ve also demonstrated in Hawaii twice and that’s really enjoyable.”

Neil also taught in France at Jean-François Escoulen’s school, and he says those classes were a real highlight for him: “I liked the students very much and when Jean-François said his students were very happy, I was pleased.” Add four trips to demonstrate in New Zealand and it is not hard to see why Neil has such a good international reputation.

Normally, I like to explain the way people I am writing about work, but Neil recently wrote an article, “Concept Development: Going from Idea to Finished Form,” for the February 2016 issue of *American Woodturner*, so I don’t need to explain his thoughtful approach to creation. The story is a gem of concise guidance and reveals all the elements that make him not only a master craftsman, but also a master teacher.

JOURNAL ARCHIVE CONNECTION

Neil Scobie’s “Concept Development” article can be found in the AAW’s online journal archives (vol 31, no 1), along with all past journal articles. Visit woodturner.org for more.



Meaningful collaboration

Among all the achievements, there is one aspect of Neil's work that stands out: his collaborations with Liz. They have sold so many pieces they made together that I suspect they are the most successful turning-based collaborators in the world. In their house you are surrounded by their work—wooden screens filled with Liz's voluptuous textiles, bowls painted in swirling patterns, functional wooden objects with that extra touch of Liz about them. Liz explains best how they work together: "Making a living in the woodworking industry is not an easy thing to do if you don't diversify. It's the same for me and I think that's the main reason the collaboration started. We've been doing this since our children were young. We had to educate them and we still needed to make a good living. Also, Neil likes the variety."

“

IT SOUNDS EASY TO SAY
THAT NEIL MAKES THE
BOWLS AND I PAINT
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UNDERSTANDING AND
COOPERATION TO GET
A BALANCED RESULT.

— LIZ SCOBIE

The distinctive bowls they have made together glow with beautifully chosen tones that enhance the wood colors. Neil takes into account that Liz will work on the bowl, so he leaves a clear palette for her

work. She, in turn, is able to transform a simple bowl into a work of art. Once more, she explains it best: "I call myself a patternist, not a painter. I think it shows in the designs I use on Neil's bowls. It sounds easy to say that Neil makes the bowls and I paint them, but it takes understanding and cooperation to get a balanced result."

This process of working meaningfully with someone else is also part of their teaching life. "We sometimes do collaborative classes," says Liz. "If we are doing lamps, one partner will do the timber work and the other will do the textile work. By partner, I don't always mean husband and wife. Sometimes we've had mothers and sons and we've had all sorts of combinations. We've even had a wife say, 'You'll have to go down and do the sewing because I'm doing the woodwork!'" ▶



Textile Lidded Box, 2014, Sheoak, textile, $6\frac{3}{8}$ " \times $4\frac{3}{4}$ "
(16cm \times 12cm)

Neil has left this box simple for Liz to play with. Her textile work peppers this lid with texture and flashing light.



Texture Platter, 2012,
Blackwood, 2" \times $11\frac{7}{8}$ "
(5cm \times 30cm)



Nautilus, 2013, Red cedar,
 $2\frac{3}{8}$ " \times $6\frac{3}{4}$ " (6cm \times 17cm)

A collaboration with Liz Scobie, whose work can transform a simple surface into a wonderland of texture and light.





Varied output

As if all this was not enough, Neil has played a significant role in the Australian furniture scene for many years, not only as a teacher, but also as an accomplished maker. Neil's work is so respected that he was commissioned to make furniture for the residence of the Australian Prime Minister. He also writes prolifically about furniture making and even sells full-scale plans of his projects. So how has he balanced this life as a furniture maker with his turning career? "When I stopped teaching, it was all about woodturning," Neil explains. "You could just about sell anything you made. I was turning about three or four days a week and maybe only making furniture for one day. I was selling about \$1,000 a week worth of turning in one outlet alone. That's reversed now because you can't sell as much woodturning. But my passion is designing new turnings, so on weekends I usually do something creative and that's my greatest pleasure. I like to write about it because I feel you should pass on what you know for future generations."

Ever-efficient, Neil always finds a way to squeeze everything he can out of each job. "A lot of the creative pieces I make now are material for writing and for future demonstrations. Things have changed to the point that while I am making a piece, I am thinking, 'How will this look in a magazine?' rather than thinking of selling it. I think it's a bit sad that I get paid more to write about a piece than I actually earn selling it."

Reflections

Just a few months ago, I sat with Neil on a warm summer evening outside his home while frogs chirped around the house and kookaburras called to each other across the valley. With glasses of wine in our hands, we were both feeling contemplative, so putting all thoughts of woodwork aside, I asked Neil what he thought his biggest achievement was. He didn't hesitate: "It's how you treat people and how people treat you. Money's not going to make you happy, but having a good family and a good set of friends, that's the most important thing."

When I asked Neil what advice he would give those who seek success and balance, his reply supported what Liz

(Above) *Collector's Drawers*, 2013, Blackwood, red cedar, 53" x 21½" x 17¾" (1.35m x 55cm x 45cm)

Neil is celebrated as both a furniture maker and woodturner.

Photo: Ian Spagnolo

(Right) *Family Values*, 2012, White beech, Largest is 15" x 4¾" x 2¾" (38cm x 11cm x 6cm)

One of Neil's interactive pieces; the relationships change as you rearrange the pieces.



Suspended Form, 2004, Rosewood, aluminum, 9" x 4" x 4" (23cm x 10cm x 10cm)

Neil's metal skills surface in unexpected ways.

had said: "They've got to be prepared to put the hours in. Some things just have to be *done*, even if it is just oiling pieces. One woman wanted a little side table and qualified her request by saying, 'But never mind if you're too busy.' I said, 'Well, I am busy, but I'll set time aside to do it for you.' It's about commitment. I really enjoy what I do and I have no regrets. We don't earn a lot of money, but we live comfortably. I like food, I like cooking, a good wine—we enjoy people's company and love to have people over for dinner. I just enjoy life and the friends I have."

Among all the good things I could say about Neil and Liz Scobie, I think the most important is that they have a remarkable gift for making people feel good about themselves. A few years ago, I noticed that Neil did not have any of his own very early work, so I polished up the bowl I had bought in 1988 and presented it to him as a surprise. It was a good feeling to give back to a man who has given so much to so many. ■

For more, visit neilandlizscobie.com.

Terry Martin is a wood artist, writer, and curator who lives and works in Brisbane, Australia. He can be contacted at eltel@optusnet.com.au.



Holly Nautilus, 2006, Holly,
2 $\frac{3}{8}$ " × 9" (6cm × 23cm)

Doughnuts, 2012, Blackwood, 6" × 6" × 6"
(15cm × 15cm × 15cm)



Evolution, 2014, Red cedar,
silver ash, 8" × 6" × 6"
(20cm × 15cm × 15cm)



Lidded Shell Box, 2016,
Huon pine, 3" × 11" × 3"
(8cm × 28cm × 8cm)



Ebb Tide, 2012, White beech, 2" × 27 $\frac{1}{2}$ " × 12" (5cm × 70cm × 30cm)

The turning is not obvious, but each panel was formed on the lathe before being carved.

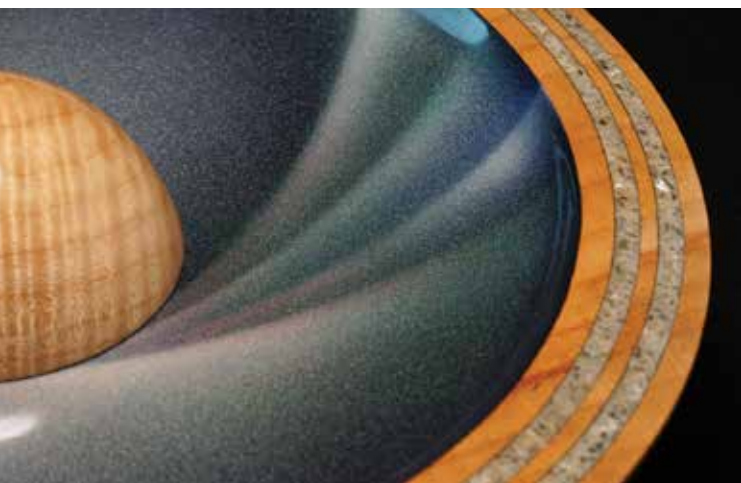
Photo: Terry Martin

MEMBERS' GALLERY

Jay Shepard, Washington

I was educated in the fine arts with a focus on painting and drawing and later became proficient in woodworking and furniture making. When I began using the lathe, I was so taken by it, I learned and produced as much as I could. I joined the Woodturners of Olympia and absorbed all the tutelage the members offered.

My current work, turned and sculpted pieces with a polychrome treatment, draws on both my woodworking and painting skills. These works are inspired by the daily shifting from day to night, the mysteries and imagery of nature, the textures, layers, and undulations of the landscape, and, most particularly, images of deep space.

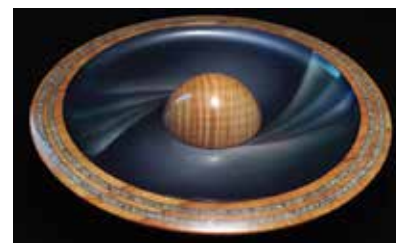


Enceladus II, 2015, Wood, acrylic paint, lacquer, calcite mineral, 3½" × 12" (9cm × 30cm)

Enceladus is the sixth-largest moon of Saturn. Its cryovolcanoes shoot geyser-like jets of water vapor, ice particles, and other materials into space. Some of the water vapor falls back as snow and the rest escapes and merges into the second outermost ring of Saturn.



Islands in the Sky
(wall hanging),
2015, Maple, acrylic
paint, lacquer, calcite,
1¾" × 14½" (4cm × 37cm)



Rick Bywater, Kansas

When springtime flowers bloom, it creates a personal sense of elation after winter's hold. *Spring Is in the Air* is a series of carved, captive-ring, steam-bent tulips. Woodturning is a visual language, and it was easy for me to use real tulips as my model and a chunk of wood as my canvas. Taking a class with Dixie Biggs (leaf carving) and a course with Michael Lee (carving and texturing) at Arrowmont in 2012 eventually led me to make *Rite of Spring*, for which I used real dogwood flowers as a guide.

I enjoy turning full-time and always strive to improve. I like to think my best work is yet to come.



Spring Is in the Air, 2015, Spalted hackberry, pear, hickory, largest is 15" × 1½" (38cm × 4cm)

Rite of Spring, 2015, Cherry,
milk paint, 4¾" × 11¾"
(12cm × 30cm)



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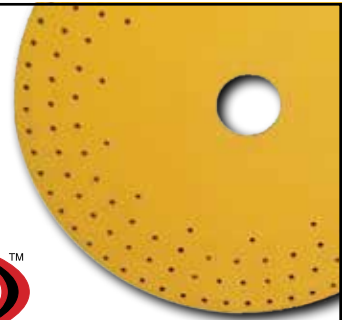
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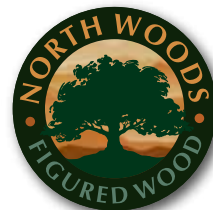


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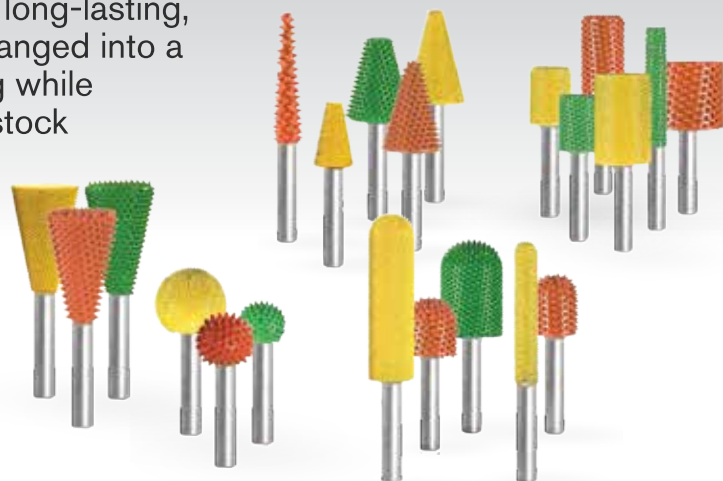
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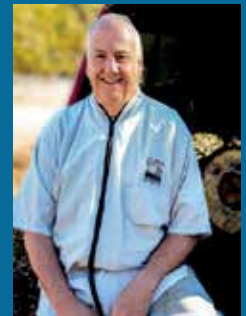
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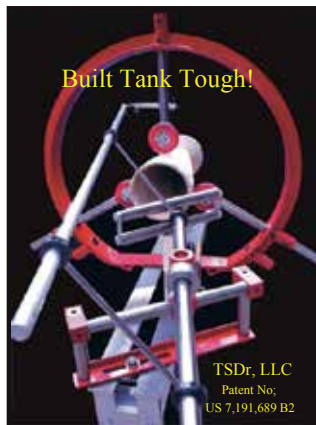


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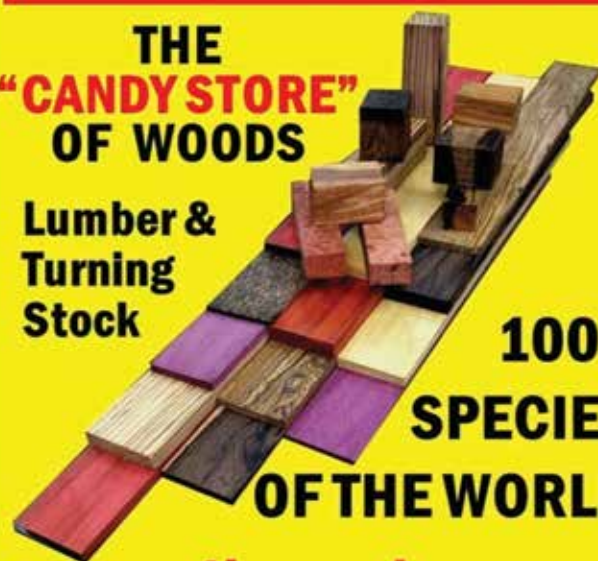
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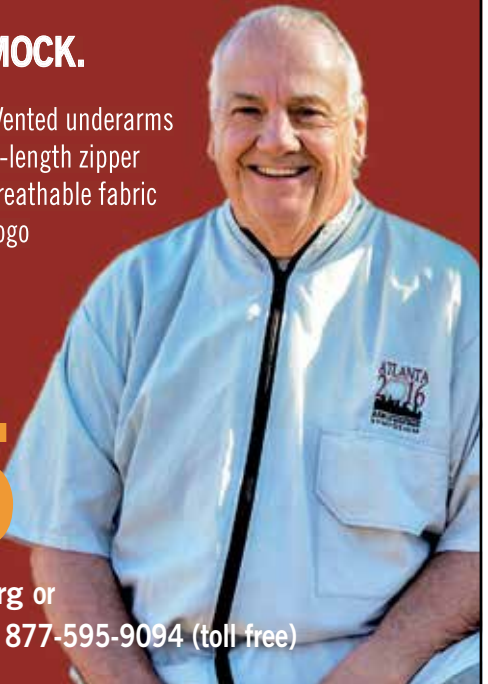
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Pieces begin as sketches on old envelopes or printed emails of commission requests. From these quick sketches, I create detailed full-scale templates or drawings.

Bliss, 2014, Turned, carved, and bleached ash, whitewash, liming wax, 4" x 9" (10cm x 23cm)

Photo: Christian Giannelli

I cut little strips of abrasive and taped them to my fingers for sanding the inside contours of *Bliss*.



I would not say at this point in my career that I could call myself a "turner." Someday, I hope that to be true. As I step to the plate, my armpits begin to sweat and I immediately have to pee. Nonetheless, I am compelled to use the lathe. I approach it with respect, curiosity, and delight in the opportunities it provides for experimentation. I have always had an affinity for things that have sensuous sweeping arcs and curves, and nostalgia for the vessel and artifact.

After designing a piece, I like to keep my mind open when making it, to imagine the ways in which the piece could evolve beyond the original concept. Once I have spent some time creating an object with my hands, I have a deeper understanding of its unique characteristics, capacity, and potential. I can then be more thoughtful in how I bring the piece to completion.

Concentra began as an exercise in flipping an object back and forth on the lathe to create a wave cross-section. *Bliss* followed with a tighter ripple and evolved once I had taken it off the lathe and realized I had no way of showing both sides other than presenting it on edge. I began to cut and carve, which led me to bleach, whitewash, and buff with liming wax.



Concentra, 2008, Mahogany, 4" x 13" (10cm x 33cm)

Photo: Christian Giannelli