A NEW APPROACH TO A SIMPLE PLATE • "SEGMENTED" EPOXY FORMS • TURN A TRIANGULAR BOWL

AMERICAN WOODTURNER

Journal of the American Association of Woodturners
October 2021 vol 36, no 5 • woodturner.org

ENA DUBNOFF:
IN GOOD FORM

DANCING ORB:
AN INSPIRED DESIGN

WORKING WITH
WATER-SOLUBLE DYE

ELEANOR LAKELIN
INSPIRED BY THE ELEMENTS

Andrew Potocnik

Victoria, Australia

When I began working with wood in my teens, I would never have dreamt of burning or painting such a wonderful material—sacrilege! I loved its intrinsic qualities—its color, texture, and scent. But over the last forty years, I've grown to realize that by cutting and carving turned forms, burning the wood to expose its internal structure, and in some cases applying color, I can expose the very things that drew me to wood all those years ago, but in a different way.

Dissecting a turned form and observing the fall of light on it taught me to see things from a different perspective. The sharp overhead lights of the workshop at night give way to softened morning light streaming through a window, revealing an aspect I hadn't seen before.

I tend to work in cycles. I get an idea, work through several similar pieces, then move onto something else until another distraction pops up and leads me in another direction. Eventually, I'll return to previous ideas for further exploration. This way of working means it can take months or even years to bring pieces to completion, but I have found that the circuitous nature of my journey usually results in more ideas and possibilities.

For more, visit andrewpotocnik.com. ■

Chiaroscuro, 2019, Pin oak, Douglas fir, 15¾" × 15¾" × 1" (40cm × 40cm × 25mm)

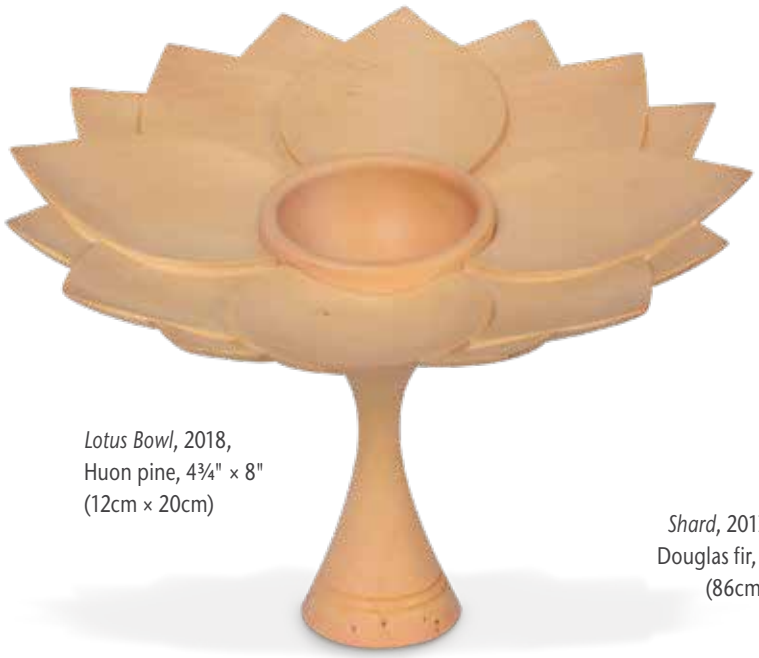
Turning *Chiaroscuro*

Four squares are mounted in a shopmade chuck, turned to profile, then rearranged in the final piece.

From bowl to sculpture

The author, being the son of World War II refugees, hates to waste anything, let alone beautiful wood. Having turned the base of a bowl too thin, he cut segments from its walls to make *Shard*.

Shard, 2017, Red ironbark, Douglas fir, 34" × 6¾" × 2" (86cm × 17cm × 5cm)



Lotus Bowl, 2018, Huon pine, 4¾" × 8" (12cm × 20cm)

Red Cedar Bowl, 2020, Red cedar, 2¼" × 17" × 9" (6cm × 43cm × 23cm)

AAW | AMERICAN ASSOCIATION OF WOODTURNERS

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COVER

Cover – Eleanor Lakelin, *UnEarthed, Column Series: Pillar I & II*, 2021, Horse chestnut burr (burl)—sandblasted, bleached, and white-oiled, each: 67½" × 17½" (171cm × 44cm)
Photo: Michael Harvey

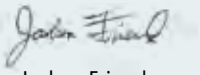
Back Cover – Sally Burnett

Editor's Note

I continue to be amazed at our woodturning community's generous desire to share information freely, not to mention your seemingly endless creativity and ingenuity. As you might imagine, what keeps an editor up at night is the fear of not having enough material to publish. I've been at this for more than seven years now, and AAW members have always come through. You constantly find new ways to tackle challenges—new ways to embellish work, sharpen tools, organize accessories, hold work on the lathe, use materials, design projects—*and* you want to share it with your fellow woodturners.

The journal is truly *by* and *for* woodturners, and on that note, what have you been up to lately? Which journal articles have prompted you to try something new? Which turners have inspired you to explore further? Please send me an email and let me know.

As I write this note, it is early September, so our What's Funny About Woodturning cartoon punchline contest (announced in the August 2021 issue) is still in progress. Look in this space in the December journal for a listing of the winners!



—Joshua Friend

From the President

Some things change, some things stay the same

As I write this, the pandemic is continuing, fueled by an aggressive Delta variant. The last 18+ months have accelerated the evolution of how we interact and provide service to the AAW membership, and many of these changes will continue, even as we cautiously return to in-person events. We have continuously improved our website offerings, and our remote programs such as AAW Presents, Women in Turning, and Turners Without Borders have reached new audiences. Once again, we had to cancel our annual Symposium this year, but our Virtual Symposium in July reached over 3,000 registrants. Although there were some technical difficulties, the overall experience was positive, and we are learning how to use various conferencing programs more effectively. There will be another Virtual event this November with a somewhat different focus, so stay tuned.

These remote programs have helped keep the woodturning community together. We recognize the AAW has not been and will not be the only provider of content for interested woodturners. There are many other remote offerings that have come "online" in recent years, many of excellent quality. Our goal, however, is to provide a premier tier of services to the membership and woodturners in general. Our bimonthly journal, *American Woodturner*, and online offerings like *Woodturning FUNdamentals* are some examples. These services go well beyond remote screen time, and I encourage you to browse the AAW website for other information and programs available to you, such as our printed and video archives.

As we plan for 2022, the annual Symposium in Chattanooga (June 23-26) promises to be a great event, with record participation from members, artists, and vendors. The Symposium Committee is already working vigorously to ensure an outstanding experience for attendees.

As we all cautiously return to in-person gatherings, we continue to be interested in collaborating with local clubs and regional event organizers to enhance their events and avoid significant scheduling conflicts. We will continue our remote programming options next year, but the frequency of offerings and scheduling will likely change. We are working on a master woodturning event calendar, and event organizers are encouraged to watch for updated information from the AAW about program scheduling.

Leadership changes

By the time you read this, you will have elected new Board members, whose three-year terms will start in January. As part of their orientation, they will attend Board meetings for the rest of this year and will begin their service in earnest after the New Year. These are just some of the many folks who volunteer many hours to make your organization work. There are at least nineteen Board committees, and various ad-hoc groups that form to make things happen for the AAW. Please consider volunteering to serve on a committee for the AAW or become active in your local club leadership. As they say, "Many hands make light work."

At the end of 2021, we will say goodbye to Andy Cole and Joe Dickey, who will have completed their Board terms. We thank them for their energy, time, insight, and commitment. Lastly, I would be remiss if I did not recognize and thank Greg Schramek, who served as Board president for more than five years, and as treasurer before that. He dedicated countless hours to the organization, and his leadership was key in improving its finances, programming, and services to the membership. We all wish him well in his "retirement."

Keep turning,

Mike Summerer
President, AAW Board of Directors

SAVE THE DATES!

AAW'S FALL 2021 VIRTUAL SYMPOSIUM

November 6-7, 2021

- Whether you're starting a new hobby or plan to become a pro, the projects, techniques, and tips from this Virtual Symposium will help you build *foundational* woodturning skills.
- This online event will focus on beginner and intermediate instruction and projects.
- Learn from the best woodturning instructors from around the world, right from your own home.

DETAILS COMING SOON! Please visit tiny.cc/AAWVirtual or scan the QR code to find the latest information and to register for the event.

Mark Dreyer demonstrates pen making at the AAW Virtual Symposium, July 2021.

AAW'S 36TH ANNUAL INTERNATIONAL SYMPOSIUM

Chattanooga, Tennessee
June 23-26, 2022

AAW Symposium Youth Program, Kansas City, 2017. Photo: Andi Wolfe

See world-class demonstrations. Trent Bosch, Kansas City, 2017. Photo: Andi Wolfe

REUNITING IN PERSON!

Did you know Chattanooga is located within a day's drive for more than half the population of the United States? The Chattanooga Convention Center is centrally located downtown and attached to the host hotel, Chattanooga Marriott Downtown. Just minutes from the Chattanooga Riverfront, Tennessee Aquarium, and other area attractions, Chattanooga is the perfect location for an in-person woodturning reunion and a vacation for the entire family.

Join woodturners from around the world for the valued Symposium experience you look forward to:

- Learn from world-class demonstrators, live and in person
- Evaluate and buy the latest tools/ accessories at the vendor tradeshow
- Share your work in the Instant Gallery
- Get inspired by professional and AAW member exhibitions
- Collect gorgeous, unique work from the auctions
- Connect with members with similar interests
- Youth program

Symposium Venue
Chattanooga Convention Center
One Carter Plaza
Chattanooga, TN 37402

Host Hotel
Chattanooga Marriott Downtown
Two Carter Plaza
Chattanooga, TN 37402

MORE DETAILS TO FOLLOW

Many more details to follow. Please watch this space in future issues of *AW* and visit our Chattanooga Symposium webpage, **tiny.cc/AAW2022** for the latest info!

Attendee Feedback

"This was the first one I have ever attended. I wanted to just experience what this was all about. For me, the vendors are the highlight. I love to hear about tools and how they use them."

"Seeing the different turners' styles was inspiring and gave me fresh ideas. Although an in-person Symposium is a great networking and social event, with in-person you cannot attend all sessions you want to since some run at the same time. I like the ability to view all sessions I would normally miss. I hope future Symposia will record sessions and make them available to review as well."

"The demonstrations I attended were awesome, and I liked the easy access to being able to ask questions and get responses. I like the virtual format much better than having the expense and hassle of having to travel and stay in hotels. That left me with more money to spend on tools!"

Virtual Symposium Spurs Lively Interaction and Learning

VIRTUAL SYMPOSIUM

While another summer passed without an in-person AAW Symposium, AAW brought woodturning from around the globe directly to you for the 2021 Virtual Symposium, July 17 and 18. This summer, more than 3,000 woodturners participated in the event, which featured two tracks of demonstrations, panel discussions, a tradeshow with vendor demonstrations, a virtual instant gallery and critique, and special interest sessions.

The July Virtual Symposium was lively, with more than 8,000 chat messages sent during the event—questions and suggestions submitted during demos as well as attendees helping each other understand concepts and even helping troubleshoot the technology. The spirit and camaraderie of the woodturning community was evident.

Many attendees took advantage of watching the video replays in the weeks following the Symposium—more than 6,000 replays! We heard from attendees that the replays were very valuable, especially for beginner turners, who valued taking the time to stop and replay new concepts or techniques, even stopping to try new techniques on the lathe before continuing to watch.

Individual attendee experience ranged based on Internet bandwidth, type of technology access, and experience with online conferencing platforms. We apologize to all who struggled with access during the event. AAW is striving to get better at virtual learning and bringing woodturning directly to your home.

Thank you to all of the attendees and nearly 140 volunteers, demonstrators, Q&A moderators, panelists, vendors, committee, and AAW Board members and staff, who worked behind the scenes to make this virtual event a reality. As we refine the AAW's series of online learning opportunities, we continue to explore ways to give more access to members who find it easier and more affordable to participate in a virtual event.

Nick Agar demonstrated a platter with decorated rim.

Dixie Biggs shared her expertise in relief carving.

Call for Online Presentations: "AAW Presents"

Are you demonstrating online? If you have experience creating high-quality, effective, and interesting demonstrations, have access to the technical capability for a live interactive presentation, and would like to reach a large and enthusiastic audience, we want to hear from you. Consider applying to be part of the AAW's online series, AAW Presents. For full details and application, visit tiny.cc/Calls. Questions? Contact Tib Shaw, tib@woodturner.org.

Call for Entries
Bridging the Gap: The Craft and Art of Turning
2022 AAW Member Exhibition

Application Period: January 1 to March 15, 2022

The theme for the 2022 AAW member show is *Bridging the Gap: The Craft and Art of Turning*. The themes for the annual member show traditionally draw from the host city or state where the AAW will hold its Symposium. Next year, the Symposium will be held in Chattanooga, Tennessee, a city of many bridges. The 2022 theme also refers to the continuum of work being created by our members, from primarily functional to completely sculptural, and all points in between.

As always, the theme is open to many interpretations, whether your motivation is metaphor, material, techniques, or just the pleasure of turning! This year's theme opens the door to creating a Symposium exhibition that showcases the full scope of excellent work being created by woodturners, and we hope you will apply.

There are two cash prizes for this exhibition: $300 Masters' Choice, selected by the jurors, and $200 People's Choice, selected by Chattanooga Symposium attendees.

Application details

- Full application/submission details can be found in the August 2021 issue of *American Woodturner* (vol 36, no 4, page 8).
- Apply online at tiny.cc/Calls between January 1 and March 15, 2022, 11:59 p.m. CST. All artists will be notified by March 31, 2022.

For more, check the woodturner.org Calls for Entry page, tiny.cc/Calls, or contact Tib Shaw at gallery@woodturner.org. To see past exhibition catalogs, visit galleryofwoodart.org.

AAW Board of Directors Election Results

On behalf of the Board, Nominating Committee, and staff, I would like to congratulate Mike Summerer and Kimberly Winkle, who have been elected to three-year terms starting January 2, 2022. I would also like to announce Chuck Lobaito has been appointed to a three-year term starting January 2, 2022, and Sally Burnett has been appointed immediately to fill the remainder of an unexpired term ending in December 2022 and is now a full Board member. A total of 5,076 votes were cast via 1,802 online ballots, and the results of the 2022 Board election were validated by Olsen Thielen, our external auditors.

These Board changes are in keeping with the AAW bylaws, which state: "In each election, the two candidates receiving the most votes by those casting ballots will serve for three years. The third Board Member will be appointed by 2/3 majority vote of the Board of Directors." The ability to appoint one Board member helps to ensure a healthy diversity of talent, so that all areas of expertise remain fulfilled. Also consistent with our bylaws, the Board appoints members to fill and complete unexpired terms as needed.

Respectfully,
Phil McDonald
AAW Executive Director

Call for Entries
The Space Between:
2022 POP Exhibition and Auction

Application Period: December 1, 2021, to January 15, 2022

The Professional Outreach Program (POP) is pleased to announce its 2022 exhibition and auction theme, *The Space Between*. As POP brainstormed ideas for the 2022 show, the theme of "negative space" was a popular one. At its most basic, negative space is the space between, within, and surrounding an object in an image. Sometimes it is subtle, sometimes obvious, sometimes playful. The theme allows for a wide range of interpretations. It could be applied to personal relationships, social distancing, politics, generational differences, the passage of time, juxtapositions of form and color, or a striking silhouette, just to start.

As always, the POP exhibition is small scale, with a 6" × 6" × 6" (15cm × 15cm × 15cm) size limit.

Application details

- Full application/submission details can be found in the August 2021 issue of *American Woodturner* (vol 36, no 4, page 9).
- Apply online at tiny.cc/Calls between December 1, 2021, and January 15, 2022, 11:59 p.m. CST. All artists will be notified by January 31, 2022.

For more, check the woodturner.org Calls for Entry page, tiny.cc/Calls, or contact Tib Shaw at gallery@woodturner.org. To see past exhibition catalogs, visit galleryofwoodart.org.

FROM THE EDITOR'S INBOX

Send emails to editor@woodturner.org

Thank you AAW journal staff for working with the Atlantic Shore Woodturners (New Jersey) to publish our article on turning wig stands for cancer survivors (August 2021—vol 36, no 4, page 14). One of the things we were hoping by attempting to get the article published is that it would drive other chapters to seek out cancer-care service providers in their area to see if the project would be something they could replicate locally. Our hope has been fulfilling itself each week, as I have answered numerous requests from around the country for the wig stand plans. Our club is planning to repeat this challenge project again as a growing part of our efforts to support various charities in our area.
—Kevin Seiler, President, Atlantic Shore Woodturners

A high percentage of woodturners are seniors, and that brings with it a high susceptibility, as a group, to various medical issues. Plus, most of us turn in our shops alone, even though woodturning is inherently dangerous. People have died while woodturning, some from accidents at the lathe or other equipment, and some from medical events such as heart attacks and strokes. Potentially, someone could lie on the floor for hours or even days before being discovered. I have discussed this concern with my turning friends and asked, "Who will know if you fall?"

About two months ago, I had a serious fall in the shower and hit my head hard. I was home alone lying on the floor, badly stunned. After a long while, I was able to get up. In the days following my accident, I discussed what had happened with some turning friends. I learned that several of them also had dangerous falls. I decided to find a solution to find a way to get help if I ended up unconscious on the floor. I wanted to find a device that would automatically call for help if I went down. It had to be something I could wear in the shower, and that I could wear with minimal chances of catching on shop machinery. The emergency call buttons on a cord around the neck were out of the question.

I discovered the Apple watch would fit the bill. If I fall, the watch will sense it. And if I don't tap an icon on the screen to acknowledge that I am okay, it will automatically call emergency services and all of my emergency contacts, telling them I am in trouble and where I am located. In addition, it monitors heart health, such as sinus rhythm, and checks for signs of atrial fibrillation. For those with COPD or other breathing issues, the watch constantly monitors blood oxygen levels. It is not a substitute for actual medical equipment, but it can help you in case of an emergency.

This is not meant to be an endorsement for Apple products; there are other "smart watches" available that might do similar things. I am merely sharing a solution I have found. The dynamics of each fall are different, so there is no guarantee a fall will trigger an alarm, but anything that increases the odds of survival is a good thing.
—Ric Taylor, Texas

The Cumberland Woodturners (Crossville, Tennessee) have accepted another unusual challenge. Angela Witzel of Dogwood Exchange Artisan Market (dogwoodexchange.com) challenged us to use curtain rods provided by Angela to make walking sticks. The walking sticks would be auctioned, with all proceeds going to Hill Toppers, a local charity benefitting people with special needs.

This challenge followed an earlier one that involved converting bowling pins to usable art. We generated $900 using the same auction process.

The Cumberland Woodturners have been fortunate to team up with a local artisan market that not only challenges the membership but assists in the sale of the product by providing a retail location. All challenges and auctions that took place during the pandemic helped keep our membership active and connected.

Our next club project is the making and sale of Christmas ornaments, which we've been doing for ten years now. All members contribute in some way to make the ornaments and market them through Facebook, mall sales, and artisan markets. Our record sales year was 2020, with over 500 ornaments sold, generating $6,700—all of which was donated to a local charity.
—Thomas Neckvatal, President, Cumberland Woodturners

Members of the Cumberland Woodturners made walking sticks to benefit a local charity.

In Memoriam: Dick Gerard, 1947-2021

Richard (Dick) L. Gerard was *the* quintessential AAW member. He was a natural at networking and enjoyed bringing people together to form woodturning communities, small and large. In fact, Dick is credited with helping establish the AAW itself. David Ellsworth tells the story:

Few today will remember the guy at the 1985 Vision & Concept conference at Arrowmont who brazenly walked onto the stage with an armload of papers designed to figure out how to start a non-profit organization. I remember because he interrupted my introductory remarks to the throng before us. Bless your heart, Dick Gerard! And it was those papers that helped form the groundwork for the organization we now know as the American Association of Woodturners.

Dick Gerard followed through the decades with a career of volunteerism that started out with him being on the first Board of Directors as our treasurer, and culminated when he was given the Honorary Lifetime Member Award in 2004. Well done, Dick... What you did for all of us will forever be remembered.

Dick lived most of his adult life in Indianapolis, which is where I first met him when I moved to Indy in 1986. Dick called to see if I would be interested in helping form a local chapter of the AAW. I had joined the AAW earlier that year, so my name was in the national directory. A small group of woodturners met at his house and agreed to start a local chapter. Dick proceeded with the paperwork. I had assumed Dick would want to head up the new chapter, but he always seemed to prefer participating from the sidelines.

And participate he did, especially after retiring from his fulltime civil service job as an accountant/auditor at Fort Benjamin Harrison (Indianapolis). One of the highlights of Dick's longtime teaching activities was as an assistant in 1994 during Michael Hosaluk's woodturning class at Arrowmont. Michael


Photo: Andi Wolfe

notes, "Dick was always a positive force to challenge the rules of interpretation in turning. He was fun to be with, always a smile, and would go out of his way to make you feel welcome. Will miss him."

Jennifer Shirley was living in Indianapolis when she started woodturning, and within a few years, she, too, joined our local chapter. For many years, she, Dick, and I were regulars at club meetings and gatherings. Jen recalls, "[Dick] was a gentle soul with a tender heart. He loved being a maker and he loved the process of learning how to make things. He was a dear friend and neighbor, and we will miss him here in our circle of local woodturners."

The woodturning community thrives in good measure because of people like Dick Gerard. Dick passed away peacefully on July 27, 2021. He is survived by his wife Nancy, a stepdaughter, brother, and numerous relatives. He will be missed. ■

—Betty J. Scarpino

Left: A scan of a drawing from one of Dick's sketchbooks. The drawing, complete with the names of wood artists who influenced Dick, shows his love of community and connections within the wood-art field. *Right*: Dick's concept in physical form, made in 2017: *Sphere of Influence*.


Photo: Andi Wolfe

Bowl of Spheres, 2014

FOR FURTHER READING...

To read about Dick's AAW Honorary Lifetime Member Award, log on at woodturner.org and use the Explore! search tool to find this article in the archives: "Dick Gerard: 2004 Lifetime Honorary Member," Summer 2004 *American Woodturner* (vol 19, no 2, page 28)

GoFundMe Initiative

John Jordan has set up a GoFundMe account for Dick's wife Nancy. Please consider contributing at **gofundme.com/f/jcv59c**. Any amount would be appreciated—every donation helps. Thank you!

Tips

"Antigravity" finishing machine

I use a shopmade "antigravity" machine to slowly spin a workpiece while the finish is drying. I finish bowls with two-part epoxy, and the slow rotation prevents sags and drips in the finish.

My setup is based on a heavy-duty barbeque rotisserie motor, which can handle large bowls. The motor drives a 1¼" × 8 tpi spindle adapter on which I can thread a chuck to hold the bowl. The spindle adapter/spindle is mounted through two pillow block bearings. All of these parts are readily available for purchase via online sellers.

—Ken Gunnell, Tennessee

Darken embossed numbers

I was trying to index a turning using my lathe's index marks. On my lathe, the index pin is positioned such that the numbers on the indexing head aligned with the pin are almost out of view. Plus, the numbers do not stand out, as they are the same color as the wheel itself. So it was almost impossible to see the indexing numbers and accurately accomplish my goal. To remedy this problem, I used a permanent marker to darken the embossed numbers. With the lathe running very slowly, I just touched the marker to the index numbers. *Voila!* Suddenly, I could see them.

—Jim Meizelis, Illinois

Welder's beanie for woodturners

After emerging from the workshop more than once with what appeared to be a serious case of dandruff and bed head, I decided to do something about it. I've observed that welders use a close-fitting cap under their helmets to protect their hair from sparks. It occurred to me that this would be the perfect solution for me while woodturning. I have worn a welding beanie under my faceshield ever since. It keeps all the dust and chips out of my hair, and makes the faceshield that much more comfortable. It is also quite cool in summer, even on a hot day. Even better, they are cheap as chips—you can buy one online for only a few dollars.

—Silas Wareham, New York

Homemade rubbing-out compound

You have likely heard the term "finish the finish"—the process of improving the look and feel of film-coat finishes like varnish, shellac, or lacquer. When I first apply a finish, I love the way it makes the grain pop. But, after applying several thin coats the surface often feels slightly rough and somewhat uneven. I correct this by rubbing it out with a simple compound I make myself. This step makes the finish feel silky smooth.

My rubbing compound recipe is one part petroleum jelly, one part mineral oil, one-half part rottenstone, and one-half part liquid dish soap. Stir everything together until it has a consistency of creamy peanut butter.

After my last coat of finish is completely dry, I apply and rub the compound using steel wool. Use only moderate pressure because you don't want to cut through the finish to the raw wood. I know I've rubbed enough when the finish looks soft, feels smooth, and has a satin sheen. Wipe off any remaining compound with a soft damp cloth.

—Tim Heil, Minnesota

Centering jig for segment rings

I have always had problems keeping rings centered while assembling a segmented blank. They tend to drift as you add more segment rings, and they slide out of position when clamping with slippery wet glue. To solve the problem, I built a simple jig that aligns each new ring with the central axis of the lathe and automatically corrects for slight errors. As an added benefit, the jig allows me to make narrower rings when segmenting and to cut much thinner rings when using "bowl-from-a-board" methods. It also allows for good visibility and easy patterning of segmented joints. It takes about fifteen minutes for the glue to grab sufficiently—about the time necessary to prepare the next ring.

Make the jig

Make a plywood disk, ¾" (19mm) thick and wider in diameter than the widest ring you plan to glue up. Drill a hole in the center of the disk, 1" (25mm) in diameter. This disk will be mounted in your tailstock, so turn a peg of hardwood with a Morse taper to match your tailstock quill, and glue this peg in the center hole of the disk (*Photos 1, 2*). When the glue is dry, check the fit in the tailstock and sand to a somewhat sloppy fit so the end of the quill abuts the plywood disk.

To draw concentric circles on the disk, I mounted the jig in the headstock spindle and brought up the tailstock to hold it in place. Draw circles of various colors, spaced every half-inch. You can spin the lathe by hand or run it at a very slow speed when drawing the circles. Then mark three radii on the disk, 120 degrees apart. On each colored ring, drill a 5/16"- (8mm-) diameter hole, ½" (13mm) deep. Stagger the holes a bit so as to not weaken the disk. Cut three 1"-long pegs from 5/16" dowel and you are ready to use the jig.

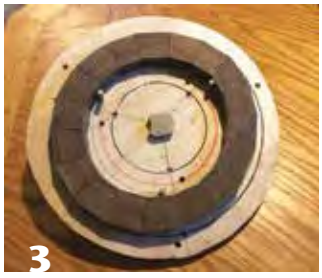
Glue segment rings

To use the jig, place your new segment ring on the disk, find the closest holes (either inside or outside the ring), and peg it in place with a dowel (*Photo 3*). With your segmented blank already mounted on the headstock, add glue to your new ring and mount the jig in the tailstock. Advance the tailstock and jig forward, adjust the joints or pattern in the rings as you like, and crank the tailstock tight, applying gluing pressure (*Photo 4*). The joy of this method is that each succeeding ring is centered on the form's base, even if the previous ring is a little off, so you won't keep compounding errors as you add new layers.

—John Layde, Wisconsin


1


2


3


4

Tool rack from dairy crates

There are all manner of Tips that describe various ways to hold turning tools safely and conveniently at the lathe. Many of these involve attachment directly to the lathe or resting on the ways. I have more than one lathe and often remove the tailstock for safety or access, so these did not work for me. My solution was to screw a dairy crate to a small dolly (I got one from Harbor Freight for less than $10) and stack on two more crates for height.

I added a pine tool board with cleats that fit into the top crate to prevent the board from sliding. To create recesses for the tools, I drilled a row of 1½"- (38mm-) diameter holes in a maple board, and then cut the board in half lengthwise. I attached these to either side of the pine board and connected them with wood strips to keep smaller items from rolling off the rack. Obviously, the dimensions are not critical.

Now I can roll the rack from lathe to lathe and position it in a convenient location. As a bonus, the storage space in the crates is easily accessible and can be used to store cutoffs, spring clamps, or other turning supplies. ▸

—Andrew Kuby, Illinois

TIPS

Shopmade power-sanding mandrel

I decided to turn my own mandrel for power-sanding at the lathe (*Photo 1*). You can make a mandrel for any diameter abrasive disk, but I find 2" (5cm) disks work well for most applications. The overall length of my mandrel is 2½" (6cm), and the stem is ⅜" (10mm) diameter for use in my corded drill (*Photo 2*). Be sure to use a straight-grained hardwood such as maple or ash.

After I turned the wood mandrel, I glued on a foam backing pad (available at fabric or upholstery stores). In my experience, any type of dense pad will work well, as long as it is at least ¼" (6mm) thick (*Photo 3*). When the glue is dry, remount the mandrel on the lathe and trim the foam flush with the edge of the mandrel.

I cut sanding disks from sheets of sandpaper and attach them to the mandrel using heavy-duty 2"-wide double-stick tape.

—Tim Heil, Minnesota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More ideas for sharpening three-point tool

In the April 2021 issue of *American Woodturner* (vol 36, no 2, page 15), Dex Hallwood published a Tip on using a triangular jig to sharpen point tools. I tried it but found it was next to impossible to get a tight fit of the tool shaft in the jig after drilling the hole. A tight fit is key to indexing the tool for sharpening. My solution was to use a screw to lock the tool, preventing it from rotating during sharpening.

Then I had the idea to make the tool handle from triangular wood stock to make the indexing function built in and permanent. In my first attempt, I made the handle from 1¼" (32mm) stock, but the next one will be from 1½" (38mm) stock to provide a better grip.

Both of these ideas resulted from Dex's original Tip. My solutions were crude but worked successfully.

—Thomas Canfield, Texas

Safety reminder sign

Sometimes I get in a rush and forget something before or when beginning to turn. I came up with this sign as a reminder.

—John Torchick, Tennessee

Brass brush cleans sanding disk

When power-sanding, I have had a problem with sawdust quickly loading on the sanding disk. One day when I was exchanging the loaded disk with a fresh one, I happened to notice a brass wire brush nearby. I tried cleaning the sanding disk with it and found that it was the perfect solution to my problem. Just a few light strokes across the loaded sandpaper removed the clogged sawdust, doubling the life of the abrasive.

—Mark Heatwole, Virginia

Rice indicates volume for epoxy pour

More than once, I have tried to guess how much epoxy to mix for a particular project. In an effort not to mix too little and have to do a second batch, I have generally overshot the amount and ended up wasting the expensive stuff. A very accurate way to get a volume measurement prior to mixing the epoxy is to fill the recess to be poured with dry rice. Once you have done that, pour the rice into a graduated container, and you'll see exactly how much epoxy you have to mix up. ■

—Silas Wareham, New York

Calendar of Events

Send event info to editor@woodturner.org. December issue deadline: October 15. See AAW's online Remote Demonstration Event Calendar at tiny.cc/IRDCalendar.

England

October 13-16, 2021, Wizardry in Wood 2021, Carpenters' Hall, London. A public exhibition (10:00 a.m. to 4:00 p.m. each day) of some of the UK's leading woodturners, including Jason Breach, Sally Burnett, Ron Caddy, Angus Clyne, Margaret Garrard, Phil Irons, Tobias Kaye, Carlyn Lindsay, Stuart Mortimer, Gary Rance, Joey Richardson, Mark Sanger, Les Thorne, and Colwin Way. Event to include special exhibitions, curated talks, and demonstrations. For more, visit turnersco.com/turning/wiw.

Florida

February 18–20, 2022, Florida Woodturning Symposium, RP Funding Center, Lakeland. National demonstrators to include David Ellsworth, Mark Gardner, Carol Hall, and Avelino Samuel. Regional demonstrators to include Kent Hariss, Keith Larrett, Jack Roberts, and Kent Weakley. New venue this year. For more, visit floridawoodturningsymposium.com.

Illinois

September 22–25, 2022, The 7th Segmenting Symposium, Crowne Plaza Hotel, Northbrook. Demonstrators to include Malcolm Tibbetts, Jerry Bennett, Curt Theobald, Tom Lohman, Robin Costelle, Jim Rodgers, and Bob Behnke. Event to include instant gallery, companion activities, and tradeshow. For more, visit segmentedwoodturners.org.

Minnesota

Multiple exhibitions, AAW's Gallery of Wood Art, Landmark Center, Saint Paul:

- September 5–December 30, 2021: *Finding the Center* (AAW member show)
- Ongoing displays: *Touch This!* family-friendly education room; gallery gift shop; and vintage and reproduction lathes.

For more, visit galleryofwoodart.org or email Tib Shaw at tib@woodturner.org.

New York

March 26, 27, 2022, Totally Turning Symposium, hosted by the Adirondack Woodturners Association, Saratoga Springs City Center, Saratoga Springs. Demonstrators to be announced. For the latest info, visit totallyturning.com.

North Carolina

November 5–7, 2021, 7th Biennial North Carolina Woodturning Symposium, Greensboro Coliseum, Greensboro. Event to offer forty-eight demonstration periods in eight rotations, a large tradeshow, instant gallery, and more. For more, visit ncwts.com.

Pennsylvania

September 10, 2021–February 6, 2022, *Daring Design: The Impact of Three Women on Wharton Esherick's Craft*, James A. Michener Art Museum, Doylestown. Curated by Laura Turner Igoe, Ph.D., and Mark Sfirri, this exhibition will explore the significant impact of three women—Helene Fischer (1879-1970), Hanna Weil (1900-1985), and Marjorie Content (1895-1984)—on the artistic development and career of sculptor and studio craftsman Wharton Esherick (1887-1970). For more, visit michenerartmuseum.org.

September 23–25, 2022, The Mid Atlantic Woodturning Symposium, Lancaster Marriott Hotel and Convention Center, Lancaster. For more, visit mawts.com.

Tennessee

January 28, 29, 2022, Tennessee Association of Woodturners' 33rd Annual Woodturning Symposium, Marriott Hotel and Convention Center, Franklin. Featured demonstrators to include Mike Mahoney, Jason Swanson, Kimberly Winkle, and Lyle Jamieson. Now in its 33rd year, this event is one of the longest-running and most successful regional symposia in the U.S. The 2022 Symposium will feature a tradeshow, instant gallery, people's choice awards, and Saturday-night banquet with auction. For more, visit tnwoodturners.org or email Greg Godwin at tnwoodturningsymposium@gmail.com. Vendors, contact Grant Hitt at tawvendorinfo@gmail.com.

AAW PRESENTS/ VIRTUAL EDUCATION

AAW Presents

View interactive demonstrations from the comfort of your own home. Visit the AAW Presents webpage, tiny.cc/AAWPresents, for more details and to register for upcoming sessions.

2021 DATES

October 23: Beth Ireland – Lathe-Turned Stringed Instruments

November 6-7: AAW Virtual Symposium

Dan Kvitka, *Elevated Pot*, 1998, Macassar ebony 8" × 10" (20cm × 25cm)

AAW Permanent Collection, donated by Jane and Arthur Mason

Photo: Tib Shaw/AAW

A NEW APPROACH TO A SIMPLE PLATE

Terry Martin

Queensland beech plate, ¼" × 7½" (6mm × 19cm), with (left to right) sushi with egg and seaweed, salmon, and kingfish.

To become a proficient turner, constant repetition is required to create muscle memory, the key to speed and accuracy. *How* you turn will determine efficiency, accuracy, and, most importantly, safety. Add all of these up and you have *skill*. However, in extreme cases, habituation can lead to a kind of blindness to any other way of working. I once discussed Japanese turning with a famous production turner and he astonished me when he dismissed over a thousand years of turning heritage by saying, "The Japanese have nothing to teach us about turning!" I want to give an example of how to approach something familiar in a new way, so I have chosen a very simple object that I've made many times before.

What Is Quartersawn Wood?

There is a range of interpretations of what *quartersawn* means. Generally speaking, when viewed from the end of a plank, the growth rings appear about 75 to 90 degrees to the surface of the plank. This means the wood is less likely to cup as it absorbs moisture or dries.

Photo: Stephen Ondich - commercialforestproducts.com/quartersawn-maple, CC BY-SA 3.0, commons.wikimedia.org/w/index.php?curid=82743303

I love Japanese food, and sushi is my favorite dish. There are many kinds of sushi, but often it is a simple, hand-formed ball of vinegared rice topped by a single ingredient, such as fish (often raw), egg, or vegetable. It is usually served on a very simple plate because nothing should distract from the simple elegance of the sushi itself. With an extended Japanese family and many friends who love Japanese food, I recently decided to do a production run of sushi dishes as gifts.

Material prep

The starting point is the wood. It needs to be plain so as not to distract from the food, and because it will be turned quite thin, it also needs to be hard and stable so it will sit flat on the table. Quartersawn wood is best, though it is not always easy to find. (*See What*

Is Quartersawn Wood? sidebar.) I cut my own turning stock from the log. I selected Queensland beech, a timber traditionally used for picture frames, carving, boat building, and more, so it has the characteristics I needed, as well as a light straw color that would not overwhelm the sushi. If you want to try this project, you could seek something local with similar qualities.

I wanted to turn undecorated, flat plates, 7½" in diameter and ¼" thick. Depending on the thickness of the blank, there are several ways such a piece can be held on the lathe. In the past, I have used a spigot, removed it off the lathe with a mallet and carving gouge, and then sanded the underside. I have also used a chuck in expansion mode, but with such a thin piece, the recess would need to be very shallow. One of the best ways would be to use a vacuum chuck, as long as you can center the piece, but I don't own one. When you are turning plates this thin, there can be a problem with flexing or chattering, although this can be reduced by supporting the back of the work with your gloved hand as you cut. While you can use any of these methods, they each have other shortcomings. I was looking for a simple way to hold the piece quickly and support it to reduce chatter. It is also useful if you can quickly reverse the plate to turn both sides, so I decided to use what are commonly called "bowl jaws" (because most people use them for completing the bottoms of bowls). They are also known as plate jaws or jumbo jaws.

First, I cut ¾"- (19mm-) thick planks into forty blanks 8" (20cm) in diameter on the bandsaw. Then I mounted the first blank in my 11" (28cm) Vicmarc bowl jaws (*Photo 1*). The dovetailed plastic buttons ensure the blank is pulled up tight against the surface of the jaws. The manufacturer's recommendation is not to turn bowl jaws faster than 500 rpm, but for smaller pieces like this, I push that to around 750 rpm.

I see the toolrest as a boundary that I must not cross.

I set the toolrest close to the work and carefully spun the work by hand to be sure it would clear. Before you turn anything that has protruding segments like mounting buttons, think clearly about what is spinning near your hand. I see the toolrest as a boundary that I must not cross, but I have another personal safety strategy: I always wear a glove on my left hand because if my concentration slips, it is easy for a finger to stray into the chuck. I have a permanently bent little finger on my left hand from thirty years ago to remind me of when I didn't do this, and now my glove acts as a kind of early warning system to remind me not to get too close.

Turn the bottom

Using a pull cut, I started truing the surface. I couldn't cut all the way to the edge, but I didn't need to because I only wanted to turn a spigot. I like the pull cut because by dropping the handle, the blade slices very efficiently (*Photo 2*). If you don't like using a pull cut, simply reverse the ▸

Turn the bottom


1


2

With a precut ¾"-thick blank mounted on bowl jaws, true the surface using a pull cut.

Mark spigot size


3


4

Making a 7½"-diameter plate, the author chooses his largest chuck jaws for remounting the work. Using dividers, he marks the necessary spigot, or tenon, size on the bottom of the plate.

Form spigot, remount work

Using a skew chisel presented flat on the toolrest, the author forms a shallow spigot. Just ⅛" depth is enough with a tenon this wide.

The workpiece is remounted in the chuck, so the top of the plate can be addressed. Note the small amount of overhang beyond the chuck jaws, which results in ample support and reduces vibration.

Turn the rim

True the outer edge, or rim, of the plate.

lathe direction and cut away from yourself in the more traditional way, but be careful because if you turn in reverse at high speed, inertia may cause the chuck to unwind from the lathe and become a safety hazard. You should have a way of securing your chuck to the spindle, such as with set screws, to avoid this threat.

For maximum support, I used a large chuck with 5" (13cm) jaws, the widest diameter I have (*Photo 3*). When the bottom wood surface was level, I used dividers to mark out the 5" spigot, or tenon (*Photo 4*). *Safety Note: When using dividers to mark the spinning wood, make contact with only the left leg, or the dividers could spin from your hand and become an instant hazard*. I then used a skew chisel in scraping mode to form the slightly dovetailed spigot for my chuck jaws (*Photo 5*). With such a wide spigot, just ⅛" (3mm) depth will do and it is easy to remove later. Because I was doing a run of plates, this was where I removed this first blank and repeated the above steps until all the blanks were ready for stage two.

Turn the top

The author shear-scrapes the top of the plate using the left wing of a bowl gouge and the tool handle held low.

Turn a chamfer

A small chamfer cut on the underside of the rim allows for easy gripping of the plate when in use.

Turn the top

When I reversed the blank in the chuck, the plate was supported to within around 1" (25mm) of its final diameter, so there was almost no chance of flexing or chatter (*Photo 6*). Next, I reduced the rim of the plate to its 7½" diameter. To ensure the diameters of the whole set would be the same, I marked the rim diameter with dividers, just as I did with the spigot above, then turned it down to size and cleaned up the rim (*Photo 7*). Then I cut and shear-scraped the top of the plate to true the surface (*Photo 8*). I checked for flatness with a straightedge before finally sanding and, with that, the top of the plate was completed.

Complete bottom

The work is remounted in the bowl jaws, so the shallow spigot can be removed and the bottom completed. Here, the author reverses the lathe direction and cuts wood right of center.

Sand the bottom

Take great care when power-sanding the base near the buttons of your plate jaws. These are slightly angled, allowing the author just enough access to sand that area.

Next, as far as I could safely work near the chuck, I cut the underside of the rim to its final thickness of ¼". Then I used a pencil to mark the rim ⅛" from the top and ⅛" from the rim on the underside. These marks guided me when cutting a small chamfer that would create a space between the outer edge and the table surface the plate will rest on—making it easier to pick up the plate. In this way, every plate would have an identical chamfer (*Photo 9*). Again, for the production run, after I sanded the rim, I removed the plate and repeated those steps for the rest of the set.

Complete the bottom

Next, I remounted the blank in the chuck jaws, bottom side out once again, to remove the spigot (*Photo 10*). This time with the lathe running in reverse, I blended the whole surface to the ¼" thickness I had already turned at the rim (*Photo 11*).

After testing for flatness with a straightedge, I sanded the bottom surface. With wood I was using, I sanded to 800 grit for a silky-smooth finish. Because the arbor in my hand drill is tapered, I could carefully sand under the dovetailed buttons to match up with the area near the rim that I had previously turned (*Photo 12*). If you do this, make sure you have a good grip on the drill and a view of how close it is to the buttons. And with that, the first plate was completed and I went on to finish the rest.

Closing thoughts

What I am loosely calling a "production run" has always been daily work for true production turners, who make thousands of identical pieces in one run. However, even after this limited run of forty plates, I worked noticeably faster and became more efficient by the end. That's what muscle memory does. Even better, I challenged my mind memory by thinking of several new uses for my bowl jaws. You may not own a set of bowl jaws and I am not suggesting you rush out to buy a set. Any tool can be repurposed, and I hope this article inspires you to try new ways of thinking through a project.

I applied a hardening polyurethane finish to the plates. The smell it makes when it is drying is often taken to mean the finish is toxic, but that is only the volatile organic compounds (VOCs) in the finish evaporating. It is totally food safe when it is cured. I sprayed a coat on each side and then wiped it off with a clean cloth. After a day's time, I repeated the process and did that as many times as needed to get a good finish. However, I wanted the plate to still feel like wood, so I didn't build the finish to a glossy sheen. I do my finishing outdoors with a mask on and the breeze at my back, and you should take similar care to avoid breathing the fumes and spray. The plates can be washed in soapy water, but don't leave them to soak and don't put them in the dishwasher, or you may find they warp.

The reason for the simplicity of the plate becomes clear when it is used to serve three individual sushi, as shown in the *opening image*. This is a project to be savored with many fine meals. ■

Terry Martin is a woodturner and writer working in Ipswich, Australia. Visit his website, terrymartinwoodartist.com, or contact him at tmartin111@bigpond.com.

FOOD-SAFE FINISHES

EXPLORE!

To read more about wood finishes that are suitable for use with food, read Bob Flexner's Spring 2008 *AW* article, "Food-Safe Finishes" (vol 23, no 1, page 36). Log on at woodturner.org and use the Explore! search tool!

Turn a Triangular Bowl

Michael Hamilton-Clark

Recently, I was tidying up my shop and came across a cube of maple burl roughly 3½" (9cm) on each side. As I was idly gripping it by the corners between finger and thumb on one hand and turning it with the other, I wondered what sort of shape could be made if a cube was held this way on the lathe.

A cube between centers

Before mounting the cube on the lathe, I trimmed it true, making sure all the sides were the same size. I decided to mount the work between centers, using a drill chuck as the drive and a live center (with the point removed) in the tailstock. As my drill chuck has three jaws, I opened it fully to better accommodate the three-faceted corner of the cube (*Photo 1*).

Initial mounting between centers

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The cube is mounted between centers, corner to corner, using a drill chuck in the headstock as a drive and a live center cup in the tailstock.

Turn the bowl's profile

3

Cutting "downhill" toward the headstock, the author forms the outside profile of the bowl. Since the initial block was a cube, three flats remain. A small tenon is formed at the base, and waste wood at the tailstock end is turned away.

Remount, hollow bowl

The work is remounted in a chuck, so the supporting waste wood can be cut off and the bowl hollowed. When making hollowing cuts, be sure to follow the angle of the flats in the outside profile.

Since the piece was held securely and I'd initially be cutting across protruding corners, I set the lathe speed at 2,000 rpm to avoid tearout. As the piece was spinning, I saw that in fact there were two sets of corners (*Photo 2*) and realized that to get a well-proportioned bowl, I'd need to remove waste wood from the tailstock end to around the mid-point of the cube. I did this using a bowl gouge (*Photo 3*).

Deciding that the base of the bowl would be at the headstock end, I took a light cut right down to the drill chuck to round off the three edges on the lower part. I realized that to hold the bowl for hollowing, I'd need to turn a tenon at the base sized for the finger jaws of my chuck (as seen in *Photo 3*).

To lessen the amount of strain that would be exerted on the tenon, which was only 1" (25mm) in diameter, I started hollowing while the piece was still mounted between centers. Then, after remounting the work in the finger jaws on my chuck, I cut off the spindle support and proceeded with the hollowing (*Photos 4, 5*).

Hollow the bowl

As you hollow the bowl, be sure to angle your cuts inward to mirror the angle of the outside profile. I realized this important instruction just in time. I was checking the wall thickness with a caliper after hollowing to about ¾" (19mm) depth and found that I had unintentionally thinned the wall to just over 3/16" (5mm).

The rest of the hollowing to form the curved profile at the bottom was easily achieved. Several outward pull cuts with a round-nose scraper held at 45 degrees gave a smooth surface that required very little sanding (*Photo 6*). After completing the hollowing, I parted the bowl off by cutting through the tenon.

Final steps

To remove the remaining tenon waste wood and complete the base, I reverse-mounted the workpiece on plate jaws (mine are Cole jaws), as shown in *Photo 7*. Due to the shape of the bowl's outside profile, extended button grips were required. (For more on how to extend the reach of these grips, see my Tip in the December 2019 issue of the journal—*AW* vol 34, no 6, page 15.) Since the bowl is three-sided, I used only three grips installed approximately 120 degrees apart. As a result, the bowl was mounted a bit eccentrically, but with care, I was able to complete the base without incident.

Before applying a walnut oil finish, I hand-sanded the original three flat exterior faces, where saw marks remained. I realized I could have done this more easily prior to turning, after the cube was trued up. Even so, I found that translating a "what-if" thought into reality was quite satisfying. I was pleased with this small bowl, which offers an attractively different form. ■

Michael Hamilton-Clark, a retired civil engineer, has been turning wood for sixteen years. He lives in the Fraser Valley, British Columbia, and uses mostly locally available woods from felled trees, branch trimmings, and mill offcuts to produce a variety of items. He is a member of the Fraser Valley Woodturners Guild, the AAW, and the Craft Council of British Columbia. For more, visit alberystudiowoodturnings.com.

Reverse-mount, complete base

The author reverse-mounts the bowl on jumbo jaws to gain access to the base.

Shopmade Texturing Tool

John Lucas

I do a lot of texturing on my turned pieces and own several of the commercially available tools made for this purpose. The idea of these tools is that a non-powered but free-rotating cutter presented to the spinning wood will produce a consistently patterned texture. Essentially, any cutter that rotates can produce texture on wood, so I decided to make my own shopmade version. You can make one, too, with a bit of simple metal working that can be done on the wood lathe.

I already owned several ⅛"- (3mm-) shank cutters made for use in powered rotary tools (such as a Dremel). I also had a good assortment of ¼"- (6mm-) shank carving burrs. So I figured I would make a texturing tool that could accommodate both size cutters by way of bronze adapter sleeves.

Anatomy of a texturing tool

The essential parts of this tool are listed below and shown in *Photo 1*:

A tool shank of steel or brass, ½" (13mm) diameter, 8" (20cm) long. I made one shank in brass and one in steel. Brass is better because it is not magnetic, but more about that later. The shank will be drilled to accept the adapter sleeves.

Magnets. Magnets are inserted in the shank ahead of the adapter sleeve and help to hold the cutter in the tool while allowing it to rotate freely. I tried two styles of neodymium magnets—an 8mm sphere and a stack of three 5/16" × 1/16" (8mm × 2mm) disk-shaped magnets. The sphere magnet seems to be slightly stronger, but I suppose that could vary depending on the manufacturer. You could stack more small magnets if necessary for more holding power. A magnet is not absolutely necessary, but it does keep the cutter from falling out and getting lost in the shavings.

A bronze sleeve, with ¼" inside diameter (ID) and ⅜" (10mm) outside diameter (OD). This sleeve is used to accept ¼"-shank cutters and the ⅛" adapter sleeve.

A short length of brass or steel rod, ¼" diameter. This rod will be used to make an adapter sleeve to accept ⅛"-shank cutters. In use, this adapter is inserted into the larger adapter sleeve.

Drill the shank

The first step is to drill a ⅜"-diameter hole in the end of the tool shank. The depth of this hole is determined by the length of the bronze adapter sleeve plus the thickness of the magnets, all of which will be inserted into the hole. I recommend drilling to the length of the bronze sleeve, so that when you insert the magnets, the sleeve will protrude just a bit.

Mount the metal rod in a chuck outfitted with small pin jaws. The 1" (25mm) jaws on my chuck can grip down to ¼", so they worked for all tasks in this project. Start by drilling a center mark using a centering drill. Then drill with a ¼"-diameter bit, followed by a ⅜"-diameter bit (*Photos 2-4*). Make sure to apply a little oil when drilling into metal and back the drill out frequently to prevent jamming and overheating.

Anatomy of a texturing tool

The author's shopmade texturing tools comprise the following components: 1=tool shank (steel or brass); 2=magnet(s); 3=¼" adapter sleeve; 4=⅛" adapter sleeve; 5=assortment of cutters.

Drill the tool shank


2


3


4

Drill a ⅜"-diameter hole in the end of the tool shank, beginning with a centering drill and progressing up in size. The drill bits are held in a drill chuck, which is mounted in the tailstock. Apply a bit of oil, and retract the drill bit frequently to clear the metal shavings.

Drill small sleeve

After you have drilled the main tool shank, drill a ⅛" hole in the ¼"-diameter bronze rod. Mount the rod in the chuck jaws, begin with the center drill, and then drill with the ⅛" bit. I found that when drilling this hole, I had to extract the bit very frequently to avoid getting it stuck. I can't stress enough how important it is to use oil and clear the metal shavings often.

A helpful tip is to cut the adapter sleeve rod to length before drilling. This way, you can drill from both ends and then make a final pass all the way through. This makes the drilling easier, since you won't have to drill as deep.

Tool assembly and use

As shown in *Photo 1*, you can make or adapt a wood tool handle to accept the ½"-diameter shank, but the wood handle is not covered in this article.

To assemble the tool parts, simply drop the magnets into the ⅜" hole in the shank, followed by the larger bronze adapter sleeve (*Photo 5*). This is where the brass vs. steel choice in shank material comes into play. If you use steel, you'd better make sure all of your measurements are correct before dropping the magnet in; once you let go, there will be no getting that magnet back out of the hole. You won't have this issue with a brass shank, which is not magnetic. Also, brass is much easier to drill than steel.

With the larger bronze sleeve inserted, you are ready to use ¼"-shank cutters. If you prefer a ⅛"-shank cutter, you'll need to insert the smaller adapter sleeve into the larger one. I made my ⅛" adapter slightly longer than the ¼" adapter, so I could remove it easily using needle-nose pliers.

Before using the texturing tool, I put a drop of oil on the cutter shank and then wipe it off with my fingers. I prefer the smaller-shanked cutters because I find them easier to use and far less expensive. Of all the Dremel cutters I own, the two that stand out are the round-ball-shaped cutter and the parallel-sided cutter.

Present the texturing tool with the handle low and the cutter touching the wood a little above center (*Photo 6*). The cutter has to rotate to create the textured patterns, and you will have to push quite hard on hardwoods. By changing the angle of the tool as you approach the wood, you can change the orientation of the cuts. Holding the cutter horizontal produces flat lines, whereas if you angle the cutter, you'll get angled lines.

The textured appearance will also depend on whether the cutter diameter divides evenly (or unevenly) into the diameter of the workpiece.

I have found that this tool works especially well on the inside of coves, where my other texturing tools don't work very well. Also, you can achieve crisp textured lines in hardwood, while softwoods tend to tear out, especially when using the cutter at an angle.

I like to add a little color using markers to accentuate the textured patterns. Tombow brand markers, available at craft stores, work well. I hope you'll make one of these texturing tools and enjoy exploring the effects you can achieve with it. ■

John Lucas, a retired photographer, has been working in wood for more than thirty-five years and also dabbles in metalworking. He enjoys modifying machines, making tools, and sharing his knowledge through articles and videos. He has taught classes at John C. Campbell Folk School, Arrowmont, and The Appalachian Center for Crafts.

Tool assembly


5

To use the texturing tool, drop a magnet (or some magnets, depending on their strength) into the hole in the end of the tool shank. Then insert the larger brass adapter sleeve. From there, you can insert a ¼"-shank cutter or the smaller adapter sleeve to accept a ⅛"-shank cutter.

Easy to use


6

The cutter (in this case, a ¼" cone-shaped burr) rotates freely in the brass adapter sleeve. When pressed against the spinning wood, it rotates and creates a consistent texture pattern in the wood.

THINKING OUTSIDE *the* BOWL

Ted Beebe

Recently, I was contemplating a project that required a shape other than round, and of course I wanted to create the form on the lathe. The oblong bowls shown in this article evolved from that initial inspiration.

My approach in making an oblong bowl was to start with a hollow form that was completely enclosed—no opening at the top or base. This was accomplished by making two bowl-like forms having the same diameter at the rim, and then gluing them together. You can do this with solid wood or with a segmented blank. I then cut the hollow form down the middle, from tenon to tenon, resulting in two oblong bowls. The shape of the halved pieces is determined by the profile of the turned hollow form prior to halving it. The possibilities are endless.

Turn the form

To illustrate this article, I started with a mahogany log about 18" (46cm) long. I mounted the log on the lathe between centers and commenced to round it and remove the bark (*Photo 1*). Toward each end of the log, I started to shape the outside of what would become an oblong bowl. I formed a tenon at each end, beyond the bowl-shaped ends. In the middle of this form, about halfway between centers, I left the piece quite straight and flat. As you will see, the center area will become the eventual bottom, or foot, of the oblong bowl. With the basic shape established and a tenon on each end, I removed the workpiece from the lathe.

Halve it crosswise

To cut the form in half on the bandsaw, I wanted to be extra cautious to ensure I was working safely. Cutting a round piece on a bandsaw can be extremely dangerous. The blade can grab and pull the unsupported wood from your hands or pull your hands into the blade. I needed to make my round workpiece square so it would have a flat to register on the bandsaw table. To do this, I took two pieces of plywood, and with the workpiece sitting flat on a flat surface, I screwed through the plywood and into each tenon, as shown in *Photo 2*. Use at least two screws in each end. The longer the plywood pieces, the better, as you'll get more contact with the bandsaw table.

With the workpiece amply supported, I was ready to cut the form in half, crosswise. I could simply cut straight across the piece, but doing so would have raised two concerns—one is the challenge of matching up the grain when I glue it back together, and the other is ensuring the glue joint is strong enough. Gluing endgrain to endgrain leaves a lot to be desired. So I made a wavy cut (*Photo 2*) across the piece. (Next time, I will make a more pronounced zigzag pattern, which will result in even more gluing surface, some of which would be sidegrain.) Now, when I glue the two halves back together, there would be only one way they can go together, which will automatically line up the grain

perfectly. I'm guessing that this type of glue joint is several times stronger than a straight cut across endgrain. After cutting the piece in half, I removed the plywood from the tenons.

Hollow the ends, reassemble

The next step is to mount and hollow each end (*Photo 3*). As I hollowed each piece, I left the edges quite thick because I planned to flatten a section of the long edge to serve as the bottom, or foot, of the oblong bowl. I thinned the walls to ½" (13mm) but probably could have gotten away with ⅜" (10mm).

After both ends were hollowed, I glued them back together. I left one mounted in the chuck and attached the other to it, using the tailstock to apply gluing pressure (*Photo 4*). After the glue dried, I turned the outside again to clean up the outside of the glue joint.

I then sanded the outside, knowing that the tenons would still have to be removed. I could have removed one tenon at that point, but I wanted to keep it in place to ensure safety when cutting again at the bandsaw.

Before taking the workpiece off the lathe, I locked the spindle and used the toolrest as a guide to mark a straight line down the length of the piece. This would become my cut line.

Turn an oblong profile

Starting with a mahogany log 18" long, the author turned the outside profile of an oblong bowl, knowing the piece would eventually be cut in half to make two identical bowls. He also turned a tenon at each end.

Form base, halve it lengthwise

Before cutting the piece lengthwise at the bandsaw, I reattached the plywood to the ends for safe cutting. I put at least two screws in each tenon, one on each side of the path of the bandsaw blade (*Photo 5*). I oriented the cut line so it was facing straight up so I could see it easily.

I knew that after making this halving cut, I would end up with two oblong bowls that wouldn't have a bottom, or defined foot. So before making the cut, I created a flat that would become the bottom of each ▸

Halve it, hollow it, reassemble

The turned form is cut in half crosswise at the bandsaw. Note the square plywood pieces attached to the ends for safe cutting.

Each end is mounted on the lathe in a chuck and hollowed.

The two hollowed halves are glued back together, resulting in a fully enclosed oblong hollow form.

Make a flat, then split lengthwise


5


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Before cutting the piece lengthwise at the bandsaw, the author creates a flat, one for each bowl, that will become the foot. Careful measurements reveal how much wood removal is required for a 3"-wide foot—in this case, 5⁄16" (8mm). Make sure to leave ample wall thickness to accommodate this flat or plan for another type of foot altogether.

resulting bowl (visible in *Photo 5*). You could do this by sanding a flat on each side of the assembly using an edge sander or disk sander, or you could cut a flat surface on the bandsaw, to be sanded later.

When making a flat for the base, you run the risk of sanding or cutting through the wood if you are not aware of the thickness. To determine how much of the bowl thickness would be consumed in this process, I placed a ruler across the piece to serve as a gauge, as shown in *Photo 6*. If you want a 3"- (8cm-) wide flat, measure out 1½" (38mm) from each side of the centerline (where the ruler touches the piece). The distance from the ruler's edge to the wood at the 1½" mark shows how deep you will need to sand to get a 3" flat.

Of course, you could also opt for a different type of foot that wouldn't require sanding a flat.

After I established the base, I cut the hollowed workpiece in half lengthwise. Each oblong bowl still had a half-tenon at each end, so I cut those off at the bandsaw and sanded those areas, as well as the inside of the bowls.

Options to explore

In the mahogany sample project shown in this article, I turned the log so that both ends were the same. This meant that both ends of the oblong bowls would be the same, too. However, I could have shaped the log so that the ends were different from one another. One end could have become narrower and the other end could have been more bulbous. The result would have been very different. I suspect there are any number of options and combinations that could be utilized.

I explored this idea with a segmented hollow form, or vessel. I constructed two segmented bowl blanks, or halves. One was fairly typical, my intent being to make a resulting shape for this half of the hollow form be as rounded as I could make it. It was half as deep as it was wide. The second bowl was the same as the first from the rim down two-thirds of the way, where the arc that I had been following took a turn so that the bottom one-third was 1" (25mm) deeper. I used maple with some walnut segments positioned so they would end up as the rim of the resulting bowls (*Photos 7-9*). This odd shape offered no functional purpose, but did add interest.

Conclusion

As you can see, there are endless possibilities for bowls that aren't round, and the end product does not need to be a bowl, for that matter. One idea I plan to pursue is the making of a boat.

A segmented, asymmetrical example


7


8


9

Rather than turning the two ends the same, the author made them asymmetrical, resulting in an odd-shaped but interesting form.

There are hundreds, perhaps thousands, of styles of boats that have been made over the centuries, so I need to decide on a style to determine the shape of my vessel. Should I make a kayak, canoe, dingy, lobster boat, sailboat, rowboat? Do I use solid wood or segmented? When I get the basic shape built, do I trim it out and paint it, and how will I get it to sit on a shelf?

There are endless possibilities for odd-shaped projects—bowls, platters, boats, ukulele or guitar soundboards, wall hangings, fish, picnic baskets, etc. Some of these are on my drawing board and will be on my lathe in the not-so-distant future. I will still make plenty of traditional bowls and platters, but I will continue to experiment, thinking "outside the bowl." ■

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The Making of "Basket Bowl"

Thinking "outside the bowl" gave me the idea to make a deep bowl, then cut it in half and rejoin it at the rim. In this process, a deep bowl becomes an oblong bowl. If you are doing this with solid wood, just keep the grain orientation consistent and make sure the rim is very flat before cutting the bowl in half.

I did this with a segmented bowl, and that effort came with a problem and a solution with a nice benefit. The problem was that, when I cut the bowl in half and went to glue the two rims together, I noticed the ring segment joints were not staggered; they lined up. To make them staggered, I added another ring between the two halves, and this ring became a handle.

First, I constructed a segmented bowl blank (*Photo a*) and made an extra segmented ring, which I set aside. I turned the bowl inside and out and sanded the inside. I added the extra segmented ring (which was made with wide boards so that the segments extended nearly to the center) and held it in place temporarily, no glue, with tailstock pressure. I turned this ring flush with the outside of the bowl and sanded the outside (*Photo b*).

Next, I removed the extra ring and used a jigsaw to cut it into a handle shape. I then

sanded, routed, and sanded some more to complete the handle (*Photo c*).

I then cut the bowl in half at the bandsaw (*Photo d*). Finally, I glued the rims of the two halves to the handle to make a bowl that I call a "basket bowl" (*Photo e*).

A traditional ring-segmented bowl is turned, with an extra ring pressed (but not glued) to the rim with the tailstock. After it is turned flush, the extra ring is removed and cut into the shape of a basket handle.

The segmented bowl is cut in half at the bandsaw, flat rim registered safely against the bandsaw table. Then the two halves are reassembled with the handle in the middle.

Working With
WATER-SOLUBLE DYE

Dennis Belcher

All wood finishes have their strengths and weaknesses. One technique I have used for years is coloring with water-soluble dye. It has low odor, and I like that I can finish pieces during the winter months without concern about strong smells and potentially harmful VOCs (volatile organic compounds) wafting from my basement workshop into my home. Since water is the solvent, it is not a fire hazard. Water-soluble dye is transparent and does not hide the wood, but rather enhances the complexity of the grain. In this way, it is a process that builds upon your understanding of the characteristics of wood. Finally, applying water-soluble dye is forgiving—no worries about runs or lap marks.

The primary drawback is the number of days it takes to apply water-soluble dye, along with layers of a topcoat. Each application of dye should be allowed to dry thoroughly before recoating. And I use as many as sixteen coats of wipe-on polyurethane over the dye to give the finish a sense of depth. It is not a lot of work, just a lot of drying time. That may go against some turners' desire to complete a project quickly.

The dye is also unforgiving, in that splatters will color anything it touches—the floor, your shoes, socks, or pants. Old clothes and/or an apron are a must. A drop or two on your white socks will change the color of an entire load of laundry, so beware. (This is the voice of experience talking.) Protect the floor where you are working. The dye splatters easily and will stain concrete or anything it touches. An alternative is to apply it outdoors, over grass. Complete the dyeing outside and then bring the piece inside to dry. Protect your hands with quality gloves. The dye is very difficult to remove from under your fingernails or your skin.

Overall, the benefits definitely outweigh any challenges in working with water-soluble dyes. The effects you can achieve are impressive. Following are some tips for using water-soluble dye on turned items.

When shopping, look for a dye that uses water as its solvent, is lightfast, transparent, and formulated for wood.

Wood selection

Wood selection and an understanding of the grain are keys to leveraging this technique. Dye molecules are extremely small and will be absorbed deeply into the wood where it is porous and not as deeply where the wood is dense. A wood knot is dense and will absorb less dye. Endgrain, by contrast, will absorb dye far into the wood. This difference can highlight beautiful, natural patterns. A successful finish rests on your understanding of the wood.

The conflicting grain found in curly maple, birds-eye maple, or crotch wood is particularly well suited for transparent dye (*Photo 1*). The species of wood is not as important as the complexity of the grain patterns.

This technique can also be used on carved patterns in straight-grained woods. The dye will accentuate the patterns because of the difference in

Choose interesting grain

This crotch maple bowl's conflicting grain makes it an excellent candidate for dyeing.

Ready your materials/supplies

(*2*) Water-soluble dye comes in a fine powder in packets or bottles. Mix and store the dye in airtight plastic or glass containers along with a foam brush for application.

(*3*) Make sure to have on hand a large bucket, fresh water, foam brushes, dye containers, paper towels, gloves, and safety glasses.

absorption characteristics of endgrain and sidegrain. (*See Dye Layering sidebar.*)

Wood and product prep

The dye will highlight any imperfections in your work. Wet the surfaces and inspect for any surface undulations, unintended variations in the curves, tool marks, or sanding marks before you apply the dye. A gloss topcoat will further highlight any flaws in your turning or sanding, so it is worthwhile to spend the time needed to prepare the wood properly.

Initially, it is not necessary to sand beyond 220 grit. The wood will be soaked in water several times, which will raise the grain and necessitate more sanding. So don't sand beyond 220 grit at first.

Water-soluble dye, generically called aniline dye, is a fine powder that must be mixed with water. When shopping, look for a dye that uses water as its solvent, is lightfast, transparent, and formulated for wood. I recommend calling dye manufacturers, or researching online, to determine the lightfastness of various products. Strong UV rays will cause the color to change. Lightfastness is a measure of how resistant the finish is to sunlight. This will vary by manufacturer and by the color of the dye. Look for a high lightfast rating.

A small amount of dye goes a long way. A teaspoon of dye mixed with 8 ounces of water yields a substantial supply of finish. My practice is to mix the dye in plastic or glass containers with an airtight lid. I leave a foam brush in the container for reuse. My experience is that the dye will stay good for years, as long as the container is airtight. When my supply runs low, I simply add dye and water to the container, or add only water if the dye has thickened (*Photo 2*).

A pile of clean paper towels, several jugs of water, a five-gallon bucket, and safety glasses complete the necessary supplies (*Photo 3*). It is important that all the supplies be within easy reach. ▸

Dye Layering

Dye layering is frequently associated with highly figured woods, such as the curly maple shown in *Photo a*. The naturally varying density in figured wood absorbs dye at different rates, thus emphasizing the grain.

However, you can also use dye layering to emphasize the difference between endgrain and sidegrain by carving in plain wood. The small size of dye particles means the dye will penetrate deeply into endgrain, the natural path of water within a tree. Water-soluble dye will follow the same endgrain path readily, while sidegrain has much less absorption. You can use this difference intentionally to achieve depth and color variation (*Photos b, c*).

Curly maple is an excellent wood for dye layering.

The shell pattern carved into the face of this piece of plain hard maple increased the amount of exposed endgrain, which absorbed dye at a different rate than the wood adjacent to it. Varying the extent of dye absorption through carving can be used to interesting effect.

This vase combines two uses of dye layering. One, the curves at the neck and near the bottom expose more endgrain, resulting in a gradient effect. And two, the black dye remains in the valleys of the carved elements, adding more visual complexity.

Apply, rinse, wipe

The author applies a first coat of black dye using a foam brush. Flood the surface and allow the dye to be absorbed into the open wood grain.

Rinse the workpiece with clean water to wash away excess dye from the surface. Then wipe off as much of the black dye as you can using clean paper towels. Rinse again and blot dry.

Once dye gets on your gloves, you will stain anything you touch.

The dyeing process

You can layer dye by using washes of two different colors. Typically, I use an application of black (*Photo 4*), followed by red or blue. Open grain will absorb the first coat of dye deeply into the wood. Where the wood is less porous, the dye will not absorb as deeply. The difference in absorption results in a darker color where the black is deeply absorbed and a lighter color where the black did not penetrate as much into the wood.

Hold your completed piece inside a five-gallon bucket, and flood the surface with dye using a foam brush. Allow the dye to absorb into the wood for a few minutes, then again hold it in the bucket and rinse it with clean water (*Photo 5*). Wash away as much of the black dye as you can. Then wipe the entire piece with a paper towel, soaking up as much of the remaining dye as you can. Rinse a second time and use fresh paper towels again to blot up the water (*Photo 6*). The intent is to remove the black dye wherever it has not been fully absorbed into the grain. This sets up the color change that occurs when the second dye color is applied.

Allow the piece to dry completely, then sand the entire form with 220-grit abrasive. Remember, the intent is to have color variation in the final form, so sand away the black that is on the surface of the wood. Sandpaper will cut aggressively on any edges of wood, so it is better to use non-woven abrasive on the edges.

Just like the mixed wet dye, the sanding dust will color whatever it touches. I wear a mask to protect my lungs and safety glasses to protect my eyes, and I sand over an old towel to catch the dye dust. The towel is thrown away when the project is completed.

The piece will look blotchy at this point (*Photo 7*). Wipe off any sanding dust, empty your bucket, and replenish your fresh water supply in preparation for the second wash of dye.

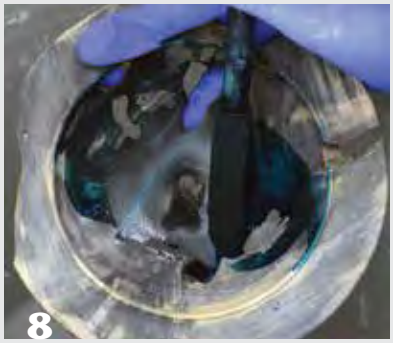
With your piece again inside the bucket, flood on the second coat of dye, covering the form until it is saturated. Here, I am using a secondary color, blue (*Photo 8*). Rinse lightly. This time, you want the dye to remain on all parts of the form. Set the form aside to dry thoroughly.

With the dyeing now complete, sand the dry form with non-woven abrasive to remove any raised grain. As before,

After first application

After the first application of dye, the piece will look blotchy. Note the difference in absorption of the black dye in varying parts of the wood, depending on grain structure.

Apply second color of dye



The author applies a second coat of dye, this time blue. Note the color change where the black was not absorbed into the grain.

take care not to sand through the dye. To avoid cutting through the dye and leaving bare wood at the edges, I use green or maroon non-woven abrasive (150 or 100 grit).

Adding depth

After applying your secondary color and allowing the piece to dry sufficiently, you can add a topcoat. Multiple light coats of a gloss wipe-on polyurethane will add visual depth. Plan ahead and determine how the piece will be held as the finish is applied and where it will sit while drying (*Photo 9*). With some forms, it may be necessary to apply each coat to one side and allow it to dry before applying finish to the second side. Gloved fingers will leave marks if the form is handled when the polyurethane is wet.

Exercise care in the material you use to apply the finish. Any lint on the applicator pad will transfer into the finish. Lint-free pads from an old tee shirt work well.

Apply three thin coats of gloss finish, allowing ample drying time between each coat, without cutting back the finish. After the third coat, smooth the surface with gray non-woven abrasive. The gray is equivalent to 220-grit sandpaper. It will smooth out any blemishes in the finish without cutting through to bare wood. Continue building up the finish with light coats of polyurethane. Do not be tempted to speed the process with heavy coats; runs and drips are time-consuming to remove.

Follow the drying time instructions specific to the finish you are using. Typically, I can apply two or three coats each day, but you may need to adjust expectations based on your local temperature and humidity. After the third coat and each coat thereafter, the finish should be smoothed with the gray abrasive and wiped clean before the next coat is applied.

Apply topcoat

9

After the dye has dried completely, several coats of polyurethane are applied to achieve a sense of depth in the finish. With each application, the work is set to dry on a nail plate, which leaves only minimal marks on the bottom.

10

As the polyurethane builds, blemishes in the finish can be leveled using 400-grit abrasive with a backing pad.

Remove any sanding residue by wiping with naphtha or mineral spirits before applying the next coat of polyurethane. Look for dull areas in the finish, which indicate where more build is needed. When all the dull areas are gone, the finish has sufficient build. Shallow blemishes in the finish will be filled as the topcoats build. Leveling the surface with 400-grit abrasive on a backing pad allows the polyurethane to build up in the low spots until it reaches the level of the surrounding surface (*Photo 10*).

After the eighth coat of finish, you might begin to question how many more coats are necessary. Be patient—you are building a finish for depth, and the result will be worthwhile. The number of coats required varies. I have used as few as eight and as many as twenty.

Once the surface has a uniform sheen, set the piece aside and allow the finish to cure for two days. The final step is to apply paste wax and buff. I load a white (extra-fine) non-woven abrasive with wax and rub across all surfaces. After the wax has dried, polish with a clean, soft cloth.

Conclusion

Water-based dye is an option that belongs in your toolbox of finishes. It is appropriate when you want to avoid fumes inside your home or when you want to highlight the natural beauty of the wood's varying grain patterns. ■

Dennis Belcher retired from a 30-plus-year career in the investment world to his lifelong passion of working with wood. A member of the Wilmington Area Woodturners Association (North Carolina), Dennis demonstrates for clubs and participates in juried art shows. Contact Dennis at Dennis.M.Belcher@gmail.com or visit his website, DennisBelcher.com.

FOR FURTHER READING...

EXPLORE!

To find other articles and videos on using dyes to color your turned work, log on at woodturner.org and use the Explore! search tool. Here are just two articles you'll find:

- "Show Your Colors," by Michael Allison, *AW* Spring 2007 (vol 22, no 1, page 30)
- "Dye and Liming Wax Finish," by Betty Scarpino, *AW* October 2016 (vol 31, no 5, page 18)

"SEGMENTED" EPOXY FORMS

Gershon Elber

Star of David Platter, 2020, Mahogany, 1¼" × 12" (3cm × 30cm)

A platter blank

1

A rounded block of mahogany mounted on the lathe, ready for cutting the grooves. A router fixed in a jig with a flat base is used to cut the grooves.

Incorporating epoxy resin in woodturning opens up a whole new horizon of possibilities. Here, I'll explore the creation of vessels that appear to comprise separate wood segments that are perfectly aligned, floating in place, and brought together using epoxy resin. While techniques to combine wood and resins are well known, perfectly aligning the wood pieces is challenging.

The solution for perfect alignment lies in good planning. Cutting all the way through the wood would completely split the workpiece, making it difficult to achieve perfect alignment when re-glued. Here is an easier way: Cut grooves *almost* through the wood, making slots that preserve the integrity, exact placement, and/or alignment of the individual wood parts. Fill the grooves with epoxy resin, then turn away the connecting solid wood from the bottom, leaving wood segments held together only by the epoxy. You can cut the grooves, or slots, in the workpiece in any pattern and using any method you can imagine, including a table saw, router, or even a CNC (computer numerical controlled) machine.

Form grooves

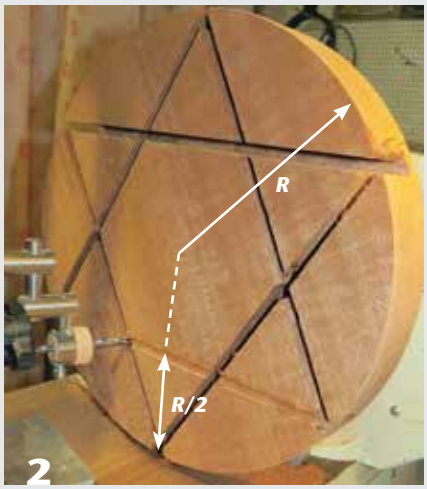
To make the mahogany platter shown in this article, I started

by turning a solid blank on the lathe, as shown in *Photo 1*. As an alternative, you could also make a turning blank by gluing the main workpiece to a layer of less valuable wood. In this case, you could cut the slots to full depth in the primary wood, exploiting the cheap wood to preserve the relative alignment of the segments, knowing it would be turned away later.

For this project, I cut the grooves using a router that slides on a flat bed at the lathe, which allows me to make perfectly horizontal cuts. Using this setup, along with an indexing wheel, I made six linear cuts to form a Star of David pattern (*Photo 2*). The slots were about 1⅛" (29mm) deep, cut in several light passes with a ¼"- (6mm-) diameter cutter. These dimensions will vary, depending on the thickness and diameter of your workpiece. Note that the cuts are not through cuts; leave enough wood to preserve the integrity of the workpiece.

Photo 2 shows that the router is set at a height that ensures all six apexes of the triangles forming the Star are aligned with the rounded boundary of the block. Geometrically speaking, this amounts to positioning the router at a level of half the radius of the workpiece. To form the Star of David, I cut the six linear slots in 60-degree intervals. Angular precision is achieved via an indexing wheel (*Photo 3*).

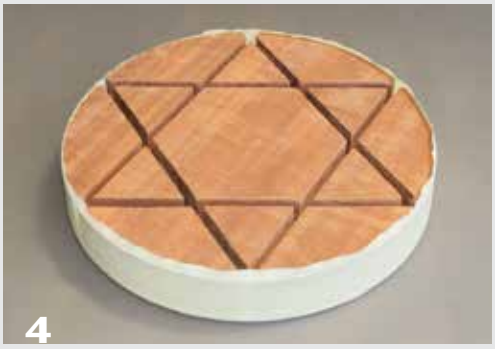
Rout a pattern



The depth of cut is controlled by an adjustable wooden ring on the cutter, whose height is equal to half the radius of the workpiece.

The six linear grooves that make up the Star of David, formed using a ¼"-diameter cutter, are completed in multiple light passes. The indexing wheel is used to ensure precise angular positioning; in this case, the lines are 60 degrees apart.

Pour epoxy, turn form



(4) Masking tape applied around the edge of the workpiece acts as a dam during the epoxy pour.

(5) After the epoxy has cured, the piece is remounted on the lathe and turned. Not shown: Reverse-mount the platter to turn away the remaining wood under the grooves, leaving distinct segments held together only by the epoxy.

Pour epoxy, turn platter

With the slots cut, I was ready to pour the epoxy. Remove the workpiece from the lathe, and apply masking tape around the piece to seal the ends of the slots and contain the epoxy (*Photo 4*).

While epoxy can be colored with dye, my personal preference is to use transparent (clear) epoxy resin to help achieve the effect of the wood segments floating in place.

After the epoxy has cured, remount the work on the lathe and true the surfaces (*Photo 5*). Then proceed to turn the platter to completion, top and bottom. When you reverse-mount the work and turn away the wood remaining under the slots, the segments will be held together only by the epoxy and will appear to float in relation to one another. ▸

Compound curves

The horizontal grooves in this wine glass, or goblet, were formed on the lathe, and the vertical grooves were cut at the table saw. The slots are sealed with tape, the epoxy poured, and the form turned to final shape.

From a hexagonal blank

This platter, with multiple Stars of David, began as a hexagonal blank. Each of the six sides was registered against the table saw fence so parallel grooves could be formed.

Additional examples

This process can be used for a wide variety of turned projects. *Photos 6-8* show an epoxy-segmented wine glass in olive wood. After turning the basic wine glass shape, I formed horizontal slots at the lathe, following by vertical slots at the table saw.

For the platter shown in *Photo 9*, I cut all the slots at the table saw, making non-through cuts as usual. The workpiece was first cut into a hexagonal block, so I could register the flat sides against the table saw fence to make parallel cuts. The hexagonal shape allowed me to cut in three equiangular directions, 120 degrees apart, leaving perfect hexagons in the interior of the plate (and intertwining the Stars of David).

Another way I have created grooves in a blank is using a CNC machine. The square platter shown in *Photos 10-12* illustrates this process. Since the cutter is controlled by computer software, you can program virtually any pattern you like. The pattern shown here consists of four mathematical sine functions, deformed by software and oscillating at four different amplitudes. The amplitudes of these sine functions also vary

CNC-routed designs

The grooves in this square platter were cut using a three-axis CNC machine. Patterned slots where formed at the perimeter from above, and then at the center of the platter—in the bowl portion—from below.

between the bowl portion of the platter and the outer square rim. The pattern on the upper rim was cut from the top, while the pattern at the center, being at the bottom of the bowl, was machined from below. All of the slots were cut to about half the depth of the workpiece.

The CNC motion commands for the tool path were computed using geometric modeling software I developed myself, but other computing software is readily available.

Other options, tips

As noted, I typically use clear, translucent epoxy for filling the slots. The base product, or resin, is called RP 026 Resin UV, and the hardener is IPE 743L, from TriasChem. Turning workpieces that intermix epoxy and wood is similar to turning only wood, but with some minor differences. Watch the shape of the epoxy shavings coming off the tool. Ideally, they should be long, which indicates you are cutting the epoxy and not breaking it (*Photo 13*).

In my experience, hardened epoxy tends to dull tools quickly. To achieve clean cuts, make sure your tools are sharp and re-sharpen them often. I have found that sharp gouges and carbide-insert tools do a great job on epoxy.

Finishing pieces with epoxy can be a bit challenging. To achieve good translucency, the workpiece must be sanded to very high grit. Using some form of lacquer can help seal minute scratches in the epoxy, which could hinder translucency. I have found that an abrasive paste works well in the final polishing stage.

Epoxy tends to trap bubbles in it during hardening. This can pose problems if you pour the resin in geometrically complex forms with compound curves, such as the wine glass example. I have yet to find a foolproof remedy for air bubbles, but one partial solution is to use a heat gun (or lamp) once the epoxy resin and hardener have been mixed together. Heating the bubbles tends to expand and explode them. This works surprisingly well, but be careful not to burn the epoxy or the wood. After applying heat and eliminating air bubbles, pour the epoxy into the grooves slowly and carefully to minimize the chance of creating new bubbles. When working with compound curves, such as the wine glass form in *Photo 8*, tilt the workpiece while pouring the epoxy to provide the bubbles an escape route.

You can also eliminate air bubbles from epoxy using a pressure chamber, a solution I typically use now. While pressure chambers for handling bubbles in the resin are beyond this article, note that the pressure can also have side effects on the wood itself, such as unwanted darkening at the edges, as shown in *Photo 14*. Pre-sealing the edges of the grooves can help alleviate this effect. ■

Turning epoxy


13

To ensure you are not "breaking," or chipping, the epoxy but rather cutting it cleanly, strive for long shavings. Use sharp tools, and re-sharpen often.

An unwanted result


14

With this form, the author used a pressure chamber to remove the air bubbles from the epoxy. However, the pressure pot resulted in an unwanted side effect—bleeding of the epoxy into the wood itself, causing it to darken at the edges.

Gershon Elber lives in Haifa, Israel, where he is a professor of computer science at Technion Israel (see cs.technion.ac.il/~gershon). He specializes in geometric modeling, with concepts he is able to apply to his woodworking and turning. Gershon has been turning wood for over ten years, sometimes using the CNC machine with software he himself developed. For more, visit gershonelber.org.

A Thermed THREE-LEGGED STOOL

Brian Horais

Therming can be described as off-center (not multiaxis) spindle turning. This article introduces readers to therming and shows how to make a thermed three-legged stool, using a therming "rig" from readily available hardware. The stool's legs are turned on the therming rig, resulting in shapes that are not possible on a centerline turning. The seat is cut in a triangular, curved shape on the bandsaw, and its surface is dished-out by turning it on-center.

You might look at thermed shapes and say, "I could do that on a bandsaw." But look more closely. Each surface on a thermed shape has a curvature determined by the diameter of its holding rig. The therming rig used for the stool in this article has an 8" (20cm) diameter. Therming allows you to make exact duplicates of three, four, or however many spindles a therming rig can hold (*Photo 1*). That's why therming has been used for fabrication of complex table legs since the 1700s. There is even mention of therming in a letter to Thomas Jefferson from his assistant Nathaniel Colley, dated January 22, 1791. Colley wrote about the delivery of tables from furniture maker "Samuel Titt, London, 25 Nov. 1790, charging £6 6s. for 'a fine Solid Mahagony [sic] Secret flap Table Taper feet fluted and Therm'd.'"[1]

In 2012, I took a class at Arrowmont from Art Liestman and Barbara Dill called, "Round Is So Over-Rated." The class focused on therming and multi-axis turning. I credit Art and Barbara with getting me started turning

1

Production therming rig

An early therming rig built to hold multiple spindles. From *AW* Summer 1998 (vol 13, no 2, page 10), "Angular Turning on the Lathe: Profiles with Edges," by Sigi Angerer.

Photo: Sigi Angerer

[1]Source: founders.archives.gov/documents/Jefferson/01-18-02-0192

Shopmade therming rigs

A therming rig with center shaft.

The simpler faceplate-mounted rig used for the stool shown in this article.

Therming rig layout and components

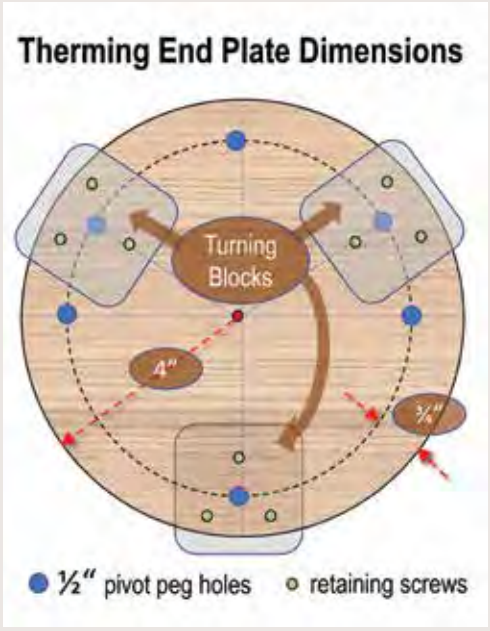


Figure 1

Two endplates are drilled for pivot dowels as well as for spindle mounting screws, all spaced inside the "footprint" of the spindle turning blocks. A faceplate is used to mount the rig on the lathe.

non-round objects on the lathe. Prior to this class, Art published a detailed article in the April 2010 *American Woodturner* (vol 25, no 2, page 48), titled, "Beyond Round: Therming." After I took the class, I made a rustic three-legged stool using the techniques I had learned. More recently (with extra time on my hands), I decided to make another, more refined "thermed" stool. Here is how I made it.

Make a therming rig

Two variations of therming rigs are shown in *Photos 2 and 3*. These rigs are based on designs provided by Art Liestman in his Arrowmont class. The one in *Photo 2* has a center shaft ending in a Morse taper and endplates that can be adjusted for different lengths. This type of rig is best for frequent use. For very frequent use, the endplates could be made from metal. The rig shown in *Photo 3* is simpler and is not meant to produce large quantities of thermed spindles. It comprises two plywood endplates and a threaded faceplate for mounting on the lathe. This is the rig I used in illustrating this article.

You can make this therming rig from readily available items. The most expensive part is the faceplate, less than 4" (10cm) in diameter, for attaching to the lathe's drive center. You might already have a faceplate that you could use. The other items—some ¾"-(19mm-) thick quality plywood, dowel pegs ½" (13mm) in diameter and 1½" (38mm) long, and screws—are probably within reach for any woodturner. Phillips screws are recommended (1¼" to 1½", or 32mm to 38mm, long, size #8 or #10). These will provide sufficient penetration through the plywood endplates and into the spindle blanks.

Cut two plywood endplates to 8"-diameter circles. Be sure to maintain a mark/divot for your center. To keep the endplates aligned on center, stack them together with the metal faceplate centered on top. Then use 1½"-long screws to fix the faceplate on top. These screws are long enough to penetrate into the second endplate, ensuring the two are held tightly together. Mount this assembly on the lathe and smooth the outer edges. Sanding works best because trying to turn the edge of plywood usually results in a lot of chips and splinters.

With the joined endplates still on the lathe, mark a circle that is inset ¾" from the outer edge to provide an alignment guide for drilling the ½" pivot dowel holes. After removing the still-joined endplates from the lathe, mark the hole positions for three- and four-spindle configurations and then drill the pivot dowel holes with a ½" Forstner bit on the drill press. Note that the holes are separated by 120 degrees for three-spindle applications and by 90 degrees for four-spindle applications. Full dimensions are shown in *Figure 1*. Brad point drills will also work, but be sure to put a sacrificial piece of wood below the endplates when drilling to keep the exit hole from splintering. If you don't have a drill press, take care in drilling ▸

these pivot holes to make sure they are perpendicular to the endplate surfaces. The pivot posts are ½"-diameter dowels, 1½" long (*Photo 4*).

Prepare and mount spindles

You can mount two, three, or four blanks on this rig as desired. For this stool, we are turning three legs, so cut three spindles 10" (25cm) long and 2¾" (7cm) square. I used cherry, but other hardwoods would do fine. This length results in a seat height of 12" to 13" (30cm to 33cm), depending on your seat thickness. Narrower spindle blanks will also work but will give you less width to explore dramatic thermed shapes.

Mark a centering hole in each end of the blank. Then drill holes ½" in diameter and ½" deep for the pivot dowels, as shown in *Photos 5, 6*. Be sure the spindle ends are perpendicular to the blanks and the holes are perpendicular to the end surfaces. Drilling on a drill press is recommended but not absolutely necessary. Pay attention to the alignment of the holes to ensure your therming rig assembles properly and functions as designed. If the spindle blanks are not all the same length and/or if their ends are not perpendicular to the long dimension, your rig will not fit together well and alignment will suffer when you rotate the spindles for each turning sequence.

Insert three pivot dowels in each endplate in the three-spindle configuration, then mount the spindles on the pivot pins between the two endplates. The assembled rig looks like a barrel, as shown in *Photo 7*, with circular endplates and the turning blanks mounted between them. Each blank is mounted with a centering dowel at each end, so it can be rotated the desired amount between turning sequences. The faceplate end will be screwed together first, after aligning the outer surfaces of the spindles perpendicular to the centerline of the therming rig. Insert three screws into each spindle blank through the endplate to immobilize the blank during turning. Tighten the screws on the faceplate end of the rig.

Next, use only one screw per turning blank for now to attach the other endplate. Do not tighten these screws all the way, but take out any gaps between the spindle ends and the endplate. Then mount the assembly on the lathe. You may need to make a couple of taps with a mallet to take out any gaps between the endplates and spindle blanks. Now tighten the screws on the endplate nearest the tailstock and insert/tighten the remaining screws (*Photo 8*).

This process ensures the entire therming rig is mounted on center before all screws are tightened. If there are any gaps between the turning blanks and the faceplates, you either did not tighten the screws fully or your

Mark and drill spindles

Mark the center at the ends of the spindles, and drill ½"-diameter holes to accept the pivot dowels.

Mount spindles on rig

(7-8) Position the spindles in the therming rig before tightening the mounting screws. Ensure there are no gaps between the ends of the spindles and the endplates.

(9) Mark a clear "Do Not Turn" region as a reminder of the length of the mounting screws.

turning blank ends are not square and perpendicular. If this is the case, it is best to remove the blanks and square them up before proceeding.

Note that there is a region at the end of each blank, depending on the length of the screws used, where the screws extend into the spindle blank. This is a "keep out" region for turning so you don't hit the screws. Mark this area (*Photo 9*), and then turn a groove on each end as a visual and tactile indication of your available turning area.

Turn four surfaces

Because the spindles are mounted separate from one another, you will be turning wood on only a portion of each rotation. This is known as turning air (*Photo 10*). All four surfaces will be turned in succession for each of the three legs. After each surface is turned, the blanks are rotated 90 degrees. It is important to hand-rotate your assembled therming rig before each turning sequence to make sure the toolrest does not interfere with rotation.

When turning, present your tool carefully. First, place the tool on the rest, handle down, and move it toward the spinning rig. When the tool begins to touch the wood, slowly lift the handle to engage your cut. You can use a bowl gouge for the initial cuts, but I do not recommend starting with a roughing gouge, as it tends to chip and splinter the spindle blank edges during the initial cuts. Once the surface cuts have been started, a roughing gouge works well. You can use other traditional tools to cut beads, coves, and sharper curves.

It helps to draw a line, showing your desired curve, on the side of one blank. This can't be seen very well while turning, but it serves as a good reference when you stop cutting periodically. You can monitor the overall shape of your cut surface on each leg by viewing the upper shadow line of the rotating surfaces.

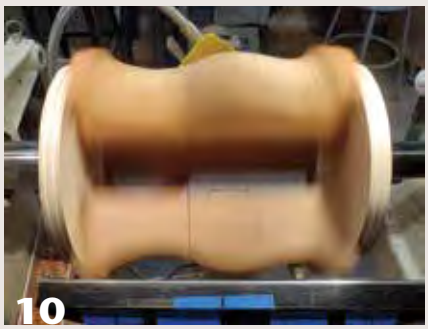
After you turn your desired contour on the first side of the spindles, remove the end screws and rotate each spindle blank 90 degrees in the direction away from the lathe's rotation. The completed first contour cut is shown in *Photo 11*. If you want to duplicate this contour on adjacent surfaces, make a template to transfer the contour to a side of the spindle blank before turning it. It helps to sketch out the desired contours on opposing sides to make sure you are turning the surfaces correctly. With the curved design shown here, opposing sides are mirror images. If you make the contours of opposing sides the same, there may be a section that becomes too thin. Sketch first, then cut. In this case, I was not trying to be exact in duplicating the contours, so I just hand-drew the approximate line and then cut the contour after each rotation. Again, refer to the shadow line of the rotating therming rig to monitor progress and smoothness of your contours.

After rotating the blanks (and reinserting/tightening the screws) and completing the surface cuts, you begin to create a well-defined edge (*Photo 12*). Rotating the blank away from the turning direction will ensure that the uneven edge on the trailing surface is always cut clean on the next blank (except for the last blank, which may need some additional sanding).

A variety of leg shapes are possible. Three-sided shapes can be made by simply rotating the pieces 120 degrees between each turning sequence.

The therming rig is also an excellent sanding rig, but not while the lathe is running. You may want to sand the surfaces of each blank by hand before rotating them. When all surfaces have been turned, you can remove the screws on each endplate so that you can hand-rotate ▸

Turn "thermed" spindles


10


11


12

(*10-11*) You'll be turning air and wood intermittently. Present your tool cautiously and shape the first surface of the legs.

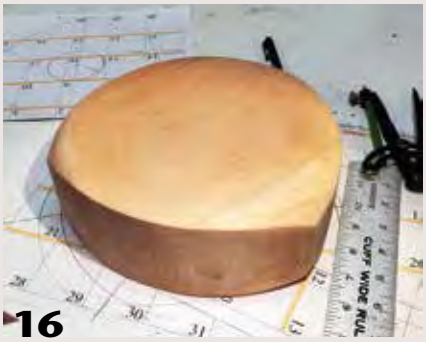
(*12*) After rotating the spindles 90 degrees (and retightening the mounting screws), the second surface is turned and a defined edge appears. The legs of this stool feature four surfaces, or faces, but other configurations are possible.

Shape the foot, sand

Each leg is mounted individually on the lathe, now on its true center, so the foot profile can be formed.

Final sanding is accomplished off the lathe.

Turn the seat



The seat block is mounted on a chuck by expanding the jaws into a drilled recess on the bottom. Turn a dished-out profile in the top of the seat for added comfort.

Marking the Seat Contour

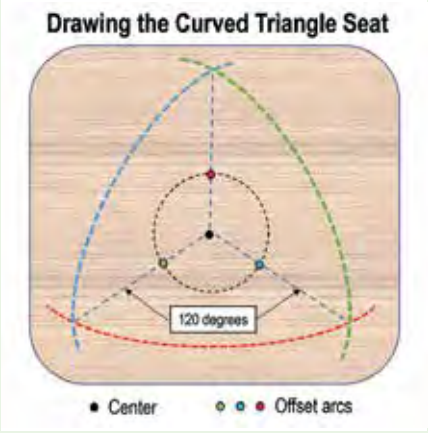


Figure a. Using three pivot points and a compass, draw the outer arcs to form a curved triangle.

To complement the contours on the thermed legs of this stool, I opted for a curved triangular seat. Here's how I laid out this shape.

1) Mark the center of the seat on your block of wood. Then draw three radial lines from the center, separated by 120 degrees, as shown in *Figure a*.

2) Draw a smaller circle with a compass for the offset contour centers. I spaced my offset contour centers about two inches from the main center to generate a pleasing curve. The more you offset your contours, the "flatter" the arcs will be.

3) At each of the three points where your small offset circle intersects the three radial lines, use your compass to draw three larger radius offset contours (arcs, or portions of a larger circle). After drawing the first contour, use the same radius setting on your compass for the other two arcs. Cut out this profile at the bandsaw.

the blanks for finish-sanding, again with the lathe off. Sanding with the lathe on is NOT recommended. By tightening the tailstock after each rotation, you will effectively clamp the blanks in place. This is fine for sanding, but not for the turning/shaping sequences.

Complete the parts

When you've finished sanding your legs/spindles in the therming rig, remove the spindles from the rig and mount them, individually, back on the lathe on-center to add details, such as the rounded feet shown in *Photo 13*. I used a negative-rake scraper to round the edges, but a spindle gouge can also be used. You can use the dowels glued into holes in the base of each leg to hold the leg in a chuck, while inserting a conical live center in the upper dowel hole. The base dowels can be easily cut off when you have completed your on-center turning. Finish sanding the legs off the lathe (*Photo 14*).

The seat can be made as a separate item that will be used in final assembly. Draw a pattern of the seat, using three intersecting circles to create a curved triangle (*see Marking the Seat Contour sidebar*). Cut the shape of the seat on a bandsaw. I used a 3"- (8cm-) thick block of maple, but you can choose your seat material and thickness.

Mount the seat on the lathe using a four-jaw chuck. I expanded the jaws into a recess in the base of the seat blank. Then turn the dished-out "comfort" surface on the top of the seat (*Photo 15*). I then sanded the seat on the lathe, much like finishing a shallow bowl.

I drilled three ½"-diameter holes in the bottom of the seat for the leg dowels. With the seat blank off the lathe, use your completed legs to determine where to make the holes in the seat so that the leg tops do not protrude beyond the edge of the seat.

Make center block, finish

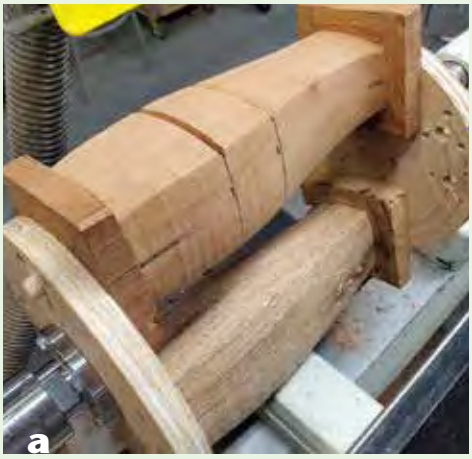
17 The author made a triangular center block, attached to the legs with separate dowels, for added stability (*shown in the lead image*).

18 Finish is applied, then buffed, prior to assembly. The legs are mounted to the seat bottom using dowels.

Other Therming Possibilities

Therming enables turners to expand their bag of tricks beyond round objects and create some truly unique works on the lathe. A thermed stool is just one of many projects that can be made with a therming rig. A major benefit of the rig is that it allows you to create multiple identical turnings at the same time.

I made a variety of vase shapes and embellished them by carving and adding texture and color (*Photos a, b*). I also made a thermed sculpture, as shown in *Photos c and d*.



a

b

Several of these vases were turned two at a time on the therming rig.

c

d

The author's sculpture, Ascending Woods.

Remount the seat on the lathe and pre-mark a circle on the bottom to serve as a guide for drilling the leg mounting holes. *Photo 16* provides a view of the completed seat, ready for finishing and final assembly.

Finish and assemble

The legs are fairly sturdy and would probably be stable when glued to the seat with dowels. Still, you can add a stabilizing brace to the legs, as shown in *Photo 17*. A triangular centerpiece, cut from maple and held between the legs with ⅝" (16mm) dowels, adds a measure of stability.

For this stool, I applied multiple coats of Briwax Hard Wax Oil (*Photo 18*). When the final coat was dry, I buffed the unassembled parts. Other finishing approaches, such as wipe-on polyurethane, will also work.

It's always good to dry-fit the parts before final gluing. In this case, I found that the leg stabilizing dowels were a little smaller than the ⅝" holes, so a few veneer shims were needed for a tighter fit. For final gluing, I used Titebond II, an excellent adhesive with a slow enough drying time to get all parts aligned.

Give therming a try and let your imagination guide you. You may be surprised at what you can create. ■

Brian Horais has been turning since 2010. Former president of the East Tennessee Woodworkers Guild, he has been an instructor in "Twisted Turning" at the Appalachian Center for Craft at Tennessee Tech, and he was a demonstrator at the 2019 AAW Raleigh Conference. For more, visit horais.com.

An image of a dancing Shiva, similar to the one *at left*, inspired the author to make *Dancing Orb*, 2020, Ash, red gum, stainless-steel pins, 18" × 16" × 4" (46cm × 41cm × 10cm).
Photo on left: Art Institute of Chicago, CC0, via Wikimedia Commons

DANCING ORB

AN INSPIRED DESIGN

Andrew Potocnik

My mind tends to register and hold a myriad of images that caught my eye at various times. I describe this experience as images being sent to my "cranial computer." They sit there, waiting for that magical moment when another image or idea prompts them to spring forth and evolve into a new design, demanding to be explored further, either as a series of sketches, written descriptions, or a physical sculpture. These design inspirations happen when I least expect them, sometimes even in my sleep.

In this case, a momentary glimpse of a background prop in a television show reminded me of an idea that had been brewing in my mind for some time. My thoughts were off and running. Sketching the idea, I realized there was a connection to an image I'd seen years ago on the cover of a book about Hindu deities and Shiva dancing. Eventually, these connections resulted in *Dancing Orb*, a turned and carved sculpture.

Turning the underlying form

It's great to have the perfect piece of wood in stock to suit the dimensions your mind tells you the piece should be; however, there are times when available material determines actual proportions, despite what you've sketched or imagined. Searching my collection of dry material, I found some ash that I'd slabbed and set aside to dry about twenty years ago. The ash slab would yield a blank about 16" (41cm) in diameter by 2" (5cm) thick, so the overall parameters of this piece were set.

After cutting the blank to a circle on my bandsaw and attaching it to a faceplate, I mounted the workpiece on my lathe and roughed it to the general shape I had in mind (*Photo 1*). I actually went a little further and shaped the front, edge, and back, so I could then draw the radiating "fin" shapes freehand with a pencil (*Photo 2*). It would be nice to find a formula for the perfect curve and distribution around a circular center, but in this case, I went with my gut to create an element of spontaneity rather than regimentation.

Returning to the bandsaw, I cut away the waste at the outer edges of the turned form (*Photo 3*). Then I turned a carrier, or jam chuck, from scrap wood, hollowing it to accept the domed section on the front of my sculpture (*Photo 4*). With the piece reverse-mounted on this carrier (with the tailstock brought up to hold it safely in place), I turned away the back material to which the faceplate had been attached (*Photo 5*). I did leave a small stub at the center, which would allow me to hold the form in a chuck later while shaping the "fins."

Shaping off the lathe

Returning once again to the bandsaw, fitted with a new 6-tpi blade, I began cutting away waste material between the fins (*Photo 6*). The sharp blade left a surface clean enough so I wouldn't have to do ▸

Turning the basic form

The author starts by turning a disk of ash, slightly scooped on the front face, with a hemisphere protruding at the center.

Drawing fins, cutting ends

"Fins" are drawn onto the wood freehand. Then a bandsaw is used to cut the ends accordingly.

Reverse-mounting, turning the back

A scrap block makes a good jam chuck. In this case, it is hollowed to accept the hemisphere on the front of the sculpture. This allows the author to reverse-mount the piece, with tailstock support, so he can shape the back.

Cutting between the fins

The waste material between the fins is cut away at the bandsaw.

more smoothing later (I liked the slightly rippled surface).

A quick check to see how the form was taking shape revealed the dancing effect I was looking for, so I continued to cut away waste, paying careful attention to the fragile connecting areas with feather grain. This would continue to be of concern through the entire process of shaping the piece, right up to mounting it on its stand.

Gripping the form in a chuck by the thin stub seen in *Photo 5*, I transferred the work into a carving clamp so I could begin shaping the faces of each fin. I found, however, that any pressure exerted from power-carving would cause the fins to vibrate, which I feared could cause the feather grain to break near the narrow ends of the fins. The solution was to wedge small pieces of high-density cork between each fin to reduce vibration as each surface was shaped (*Photo 7*). If it were possible to clamp the form to a flat surface, vibration and potential breakage would be lessened, but that would have restricted carving access. In profile, the fins were shaped to an angle almost like the blades of a propeller.

I constantly moved the supporting cork wedges as I worked my way around the sculpture, ensuring ample support was provided at all times. Sound will tell you whether a tool is cutting efficiently and whether the wood is amply supported. I often quipped when teaching: "You need to listen with your eyes and see with ears." Working with wood and tools requires an overlap of senses to ensure safety and a successful final product.

I used the same process of wedging the fins for support as I changed to a series of sanding disks, working from 80-grit up to 120-grit abrasive. I then reversed the form into another chuck fitted with padded jaws so I could safely grip the central orb and work on the back of the sculpture (*Photo 8*). I followed the same progression of power-carving each fin, supported by the cork wedges as needed, then power-sanding to 120-grit abrasive.

Then I was ready for the bane of many woodworkers' existence—hand-sanding. I sanded the front and back of every fin to 320 grit (*Photo 9*). However, I left the sides and ends unsanded because I was happy with the finish straight off the bandsaw. I liked the textural contrast between the rippled edge surfaces and the smooth-sanded faces. I filed the edges of the central orb, as shown in *Photo 10*.

The stub seen in *Photo 5* had served its purpose and was now carved away, allowing me to scrape and sand the center of the back surface smooth (*Photo 11*) in preparation for the application of a finish. For this project, I opted to use wipe-on polyurethane on the sanded fin surfaces, but not on the rougher edges.

Carving and sanding

7

Cork wedges are inserted between the fins during power-carving to help dampen vibration. The juncture where fin meets hub is narrow and fragile, with the grain running either directly across or at an angle to the fin.

8

The piece is reversed on the carving mount so the back can be carved and sanded as well.

Refining the form

9

10

11

Hand-sanding, filing, and carving complete the form and make it ready for finish—in this case, wipe-on polyurethane.

A suitable base

I had already made a rectangular, angled stand from red gum, which I had ebonized with a vinegar and iron solution (*see Ebonizing Wood sidebar*). I applied polyurethane over the ebonized finish on the base. Now it was time to mark and drill for pins that would hold the sculpture to the base.

The use of light-colored masking tape allowed me to mark the mounting hole locations more obviously than if I had drawn them directly on the wood. But before drilling, I drove three brads into two of the fins so I could more easily transfer the hole locations onto the base (*Photos 12, 13*).

Then, with the brads removed, I drilled the holes in the sculpture and the base (*Photos 14, 15*). Using very small stainless-steel pins, I mounted the sculpture on the base, allowing just enough space between the fins and the base to help create the illusion of dancing. ■

Andrew Potocnik lives in Australia and is a retired teacher of woodwork in secondary schools. He has published several articles in magazines in Australia, the U.K., and the U.S. Andrew was a demonstrator at the AAW Symposium in Kansas City, 2017.

> **“ Sound will tell you whether a tool is cutting efficiently and whether the wood is amply supported.**

Locating mounting hole locations

The author opts for three small pins to mount the work to its ebonized red gum base. Brads are driven into the ends of two fins and are then used to mark drilling locations on the base.

Drilling for mounting pins

With the brads removed, the author drills final holes for stainless-steel mounting pins.

Ebonizing Wood

Ebony is a precious timber that grows in parts of Africa, Sri Lanka, and Asia. It is highly regarded for its deep rich black color and wonderful working qualities. It is best known as the dark timber used alongside the ivory surfaces on piano keys. Many woodworkers seek to replicate this deep color on more commonly available timbers, and a number of methods have been developed, known as ebonizing. I used an ebonizing process to deepen the color of the base of my *Dancing Orb* sculpture.

A simple solution

I use a simple solution made of household vinegar and iron filings to create iron acetate. You can use an iron nail or steel wool (which is actually mostly iron), which will dissolve in vinegar over a number of days, creating a solution that you can strain and keep in a sealed jar for several weeks (*Photo a*).

Because my solution sometimes goes rusty before I use it all, I mix only a small quantity—half a dozen tablespoons—at a time. And the ratio? About 1 teaspoon of iron filings to a few tablespoons of vinegar. It isn't an exact science, and you can experiment with solutions of varying strengths.

The vinegar/iron solution interacts with the tannins in the wood and darkens the wood within a matter of minutes (*Photo b*). Don't worry about some areas darkening faster than others, as the reaction will even out very quickly. Depending on the tannin content of the wood and the strength of the solution, you might end up with tones of gray, blue, or purple. Species like maple and pine, which have low tannin content, may show only minimal change in color after a single application, resulting in a grey, or "aged," look. These timbers may need multiple applications or a stronger mix to achieve the look you want.

Before applying a clear topcoat over the ebonized wood, allow the wood surface to dry completely.

(a) Iron components that can be added to vinegar to make an ebonizing solution—in this case, steel wool, iron filings, and an iron nail.

(b) A sample of red gum, half natural and half ebonized using a shopmade brew. A clear finish was applied to the bottom half of both sides.

ENA DUBNOFF

In Good Form

D Wood

Photos by Ena Dubnoff, unless otherwise noted.

Ena Dubnoff at home with turned bowls and one of her pastel paintings.

Photo: Steve Neilson

Scholars of the history of architecture have differing views as to what it entails. Vitruvius, a Roman engineer, architect, and writer, believed that architecture was a combination of manual skill and theory. Those who had both "have the sooner attained their object and carried authority with them" (*Vitruvius: The Ten Books on Architecture*). By mediaeval times, the architect, according to some, disappeared and it was masons who determined the form and engineering of the Gothic cathedrals. David Turnbull, an Australian scholar, argues that Chartres Cathedral, whose construction began in 1145, was made possible through the use of templates, string, knowledge of geometry, and the social organization of hundreds of workers.

Other historians repudiate Turnbull, saying that Chartres *must* have had an architect and plans, even though a master planner and his drawings do not exist. This view reflects the flourishing of science and fine art, subsequent to the twelfth century, which denigrated what would now be called the trades or craft. Nicolas de Briard, a theologian, noted the change in about 1250: "The masters of the masons, carrying a baguette [measuring rod] and gloves, ordered others to "cut it there for me," and worked not at all, although they received a larger payment."

The distance between making and managing has grown even more acute with the advent of computer-aided drawing.

Ena continues to use the woodshop at El Camino College.

Photo: Sabrina Mar

Rock-a-Bye (Nature/Nuture), 2020, Compressed oak, walnut, 3" × 6" × 2¼" (8cm × 15cm × 6cm)

Architectural education is no longer hands-on, as it was at Frank Lloyd Wright's Taliesin East and West, and the architect can be entirely remote from the building process. Accordingly, the urge for manual activity prompted a few architects to give up their profession. George Nakashima, the esteemed American furniture maker, trained as an architect, and Ed Moulthrop gave up his architectural practice to become a renowned woodturner.

Ena Dubnoff, known for her designs of affordable housing projects, like Ed Moulthrop, transferred from architecture to woodturning. Their output from the lathe is very different, yet each reflects an education and practice in modern architectural design.

The only female in her class

Ena Dubnoff's early exposure to woodworking was through her father, a biochemist. He had a workshop where she made a few small things, although she was cautioned about using the tools, for safety reasons. In high school, she made jewelry and had the opportunity to sell it, but realized that as a full-time student she didn't have the time. When it came to making a choice about higher education, being adept at drawing and mathematics influenced her choice of architecture. In the mid-1950s, women were rare in the profession, and it took a determined nature to enter the environment and excel in it. Ena graduated from the University of Southern California, the only female in her class, and received the American Institute of Architects Award of Excellence. She plied her profession for a few years, taught architecture at Pennsylvania State University, and then enrolled at Columbia University for a master's degree in urban design (1966). Those familiar with the field will understand that her hire by the offices of William Pereira, A. Quincy Jones and Skidmore, Owings and Merrill is evidence of Ena's talent and ability.

In 1976, Ena sat on a panel, "Women in Architecture," that was held at the Southern California Institute of Architecture (SCI-Arc) where she was on the faculty. The ▸

One piece, three views

Step Up to the Plate, 2020, Cherry, 7" × 21½" × 7" (18cm × 55cm × 18cm)

Centrifugal/Centripetal, 2021, Walnut, dyed maple, bleached maple, 3" × 10¼" (8cm × 26cm)

session is in SCI-Arc's archives and available on YouTube. Each of the panelists talks about her career and Ena's portion displays a soft-spoken, thoughtful woman who is conscious of what her profession is doing to the built environment. At that time, the Vietnam War had just ended, the American economy was stagnating, and technology threatened to displace workers. Ena says, "When I went to USC in the 1950s, the world was really a different place than what it is now. The world looked good then. It was peaceful and the economy was expanding and there was plenty of work to go around for everybody. We were taught and we believed that good design was what was important, and if we could do good buildings we would be enriching people's lives and that was a worthwhile pursuit." Ena felt strongly that, in light of the changes in the last twenty years, it was necessary to find new ways of practicing architecture, ways that were relevant to the times, a belief that resonates today. In her own practice, she wanted to be responsible for projects that she "felt good about in every aspect." As a result, her office became part of her home in Santa Monica, and her clients were not-for-profit agencies building communities for those with low or modest incomes. She also established the Community Design Studio, where students learned by addressing real design briefs and solving problems as they arose, rather than doing hypothetical projects on flat empty lots.

The SCI-Arc "Women in Architecture" tape, particularly the last of the three parts, is telling in the way male members of the audience challenge the panelists about gender in the profession. Ena says there that she doesn't know what the different way of doing architecture is, but stresses the need to question the status quo so that architecture doesn't have a negative impact on people and the environment. She is talked over. The very existence of the discussion is an indication of the

Offspring (Continuum), 2019, Weathered walnut, figured maple, acrylic paint, 5" × 23" × 6¼" (13cm × 58cm × 16cm)

progress that had been made as a result of the women's movement. Community engagement, user-centered design, and consciousness-raising about climate change are now part of ethical architectural practice.

Ena asserts that she was successful in her career, not in the "conventional fame and fortune way," but in doing the kind of work she wanted to do. Increasingly over the years, red tape and the complications of getting anything built became more daunting. For instance, one project had twenty-one sources of funding, not to mention having to deal with municipal bylaws, state legislation, federal licenses, and liability insurance. The frustrations led to her gradual easing out as a project principal and giving up her architectural license. Today, in full retirement, she "doesn't regret [leaving architecture] for a minute" and, with her current love of woodturning, wonders why she didn't apply herself to the lathe sooner.

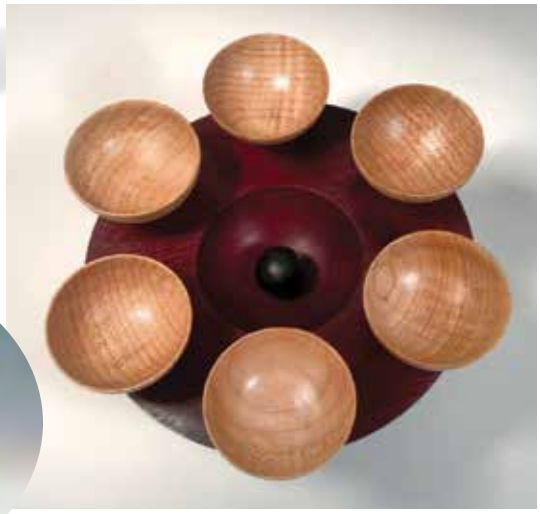
Architects as turners

It is probably unfair to compare the woodturning of Ena Dubnoff with that of Ed Moulthrop simply because they shared a profession. Ed bought his first lathe when he was sixteen and made turned objects that he gave to family as Christmas gifts. He set turning aside while he studied architecture and resumed woodworking again when he had access to a woodshop during a teaching appointment at Georgia Institute of Technology. Subsequently, Ed was employed by Robert and Company as their chief designer and worked from home at the same time, selling his woodturnings at the Signature Shop and Gallery in Atlanta. When his work ▸

Clear Cut, 2020, Redwood, unknown found wood, 15½" × 17" × 8" (39cm × 43cm × 20cm)

Elements, 2021, Figured maple, ebony, walnut, olive, 4" × 6" (10cm × 15cm)

The Center Holds, 2021, Purpleheart, figured maple, ebony, 4" × 6¼" (10cm × 16cm)



(*Left*) *Walnut Burl Bowl*, 2013, Walnut burl, 5½" × 7" (14cm × 18cm)

(*Right*) *Figured Maple Bowl*, 2016, Maple, ebony, colored concrete, 4" × 8¼" (10cm × 21cm)

Rocket Bowl, 2014, Teak, ebony, 3½" × 5" (9cm × 13cm)

Walnut and Silver Leaf Bowl, 2016, Walnut, silver leaf, 5¼" × 8" (13cm × 20cm)

Olive Wood Bowl, 2014, Olive, 5½" × 8" (14cm × 20cm)

jumped from earning $5 or $10 to $100, he felt he might be able to earn a living as a turner. He quit architecture in 1972 and went on to become one of the masters of woodturning.

By contrast, Ena took up turning after doing architecture for fifty years. She attended a craft fair in Santa Monica and saw a turning demonstration by Jerry Kermode. She thought, "Well, I think I'd like to do that." Jerry offered weekend workshops in Sebastopol; Ena partook and found she was hooked. Back in Los Angeles, she looked for classes and eventually settled on El Camino College where, as a bonus, the El Camino Woodturners' Guild met on Saturdays. Ena now has a small workshop in the underfloor space of her house and continues to spend time at the College, where well-equipped facilities and the company of knowledgeable woodworkers draw her regularly.

So what are the similarities and differences between the two artists? Both demonstrate an innate ability to render the modern aesthetic in turned objects. Ed's heroes were modernists like Alvar Aalto and Frank Lloyd Wright; Ena showed slides of her domestic architecture in the Women in Architecture presentation that were reminiscent of the landmark Eames House in Pacific Palisades. Both turners highlight the natural beauty of wood. Ed once said, "I love wood, and if something's made out of wood, that was all it needs to be.... And I just like to work with wood and with my hands." Ena says, "The trend in woodworking now is towards more and more ornamentation. And I just can't do that. For me, it's natural materials, beautiful wood, beautiful shape, and that's all it takes. Those were the rules of the game in those days [her modernist architectural training and practice]." Both painted and drew, both taught architecture, and neither lamented leaving their day jobs. Ed said, "I think I just realized that it would be more fun to work in wood and do woodturning than to do architecture."

> **"I'm not into tools in the same way a lot of men are. For a lot of the male turners, it's all about the tools." —Ena Dubnoff**

The main difference between Ed Moulthrop and Ena Dubnoff is the size of their turnings. Ed is known for his large vessels that reached 4' (1.2m) in diameter and 3½' (1m) tall, large enough that Matt Moulthrop, as a child, could sit inside. In order to accomplish these feats, which he admitted were dangerous, he had to create large lathes and long tools to extend into the core of the material and provide leverage against the revolving wood. Ed's facility with mechanical engineering allowed him to invent machinery and turning tools that didn't exist. In complete contrast, Ena's work is petite and delicate. Many of her objects fit in your hand and call out to be held. As for tools, she says, "I feel distinctly disadvantaged. It may not be because I'm a woman, but it's because of me. I'm not into tools in the same way a lot of men are. For a lot of the male turners, it's all about the tools. I don't have that." However, she also says, "I may not have the tool skills, but I have a lot of skills I brought from architecture that I use all the time. I can draw things before I make them, and I can figure out how to put them together." Ena's no-nonsense design sensibilities join the aesthetics of a community of women turners who have made the lathe their own.

At the lathe

Gui Bonsiepe, a German designer and theorist, proposed a list of "shared values of design for the next millennium." One of the values was lightness, not only in the sense of removing weight but including humor, wit, and elegance. Ena's functional bowls, in a variety of well-considered shapes, definitely convey lightness. With an emphasis on wood grain and minimal feet, some barely sit on the ground or hover over a pedestal of wood or colored concrete. Her sculptural forms demonstrate wit in their storytelling. *Rock-a-Bye* evokes an infant and a standing figure, depending on the orientation of the object. And Ena's most "architectural" piece, *Step Up to the Plate*, with ziggurat steps, carries the tag line, "Step up...we hold the future in our hands. If all of us, nations and individuals, don't step up to save the planet—it's GAME OVER!"

The inclusion of concrete, plain and dyed, is surprising juxtaposed with wood. Not only is it witty, the choice incorporates the design principle of contrast. Concrete implies physical heaviness, yet the small quantity of this material does not add physical ballast. Instead, it creates disparities in visual weight, texture, and color that challenge perception. Ena has also experimented with well-controlled use of dyed and applied color. *Continuum/Offspring*, a cascade of colored bowls beginning with a mother bowl, represents propagation whereby a species' generations are not exact replicas but are varied with each iteration. "The little bowls have kind of become characters. There's always a story that they're acting in," Ena explains.

Ena's studies in silkscreen, etching, and lithography, as well as jewelry and silversmithing, all contribute to her artistic sensibilities and proclivities. Her *Wood to Wear* is a welcome and elegant addition to the woodturning repertoire. In describing her jewelry, Ena states, "I found it really fun because there are so many possibilities. It's putting pieces together. I think ▸

Collar, 2018, Compressed wood, olive, sterling silver, ¼" × 7" × 6" (6mm × 18cm × 15cm)

"Some of the woods are just so beautiful, they're like jewels. So you find the right little piece of wood like a jewel and it becomes jewelry." —Ena Dubnoff

Orbit Neckpiece, 2018, African mahogany, sterling silver, ¼" × 10" × 6" (6mm × 25cm × 15cm)

Turned and dyed arm cuffs, undated, ash

that a lot of my work has to do with assembling parts. I ended up with lots of little pieces of stuff. Some of the woods are just so beautiful, they're like jewels. So you find the right little piece of wood like a jewel and it becomes jewelry." Ena's bracelets and neckpieces are turned on the lathe, as are her flat circle elements generated from a sliced turned tube. Ena says, "I've even taken pieces of broken bowls that have a curve and turned them into pendant pieces." Her wearable turnings are stylish accessories that complement natural fabrics and are totally recyclable.

The AAW's Women in Turning eXchange events have been critical to Ena's development. She observes that they changed the way she does things. "I began doing the more sculptural pieces as a result, which I hadn't even thought about doing. And I started submitting pieces to the AAW exhibitions—the themed ones, which I love because it's a challenge. It makes you do something that you would never do otherwise." Much as the 1976 Women in Architecture panel advocated for support of women in the profession, so Women in Turning offers advice and collegiality to female turners.

Manual industry

David Ellsworth described Ed Moulthrop's bowls as "objects that engage and enhance personal spaces. With his background in architecture, this makes perfect sense." I have no hesitation in adding that Ena Dubnoff's bowls, sculpture, and jewelry do exactly the same. But I believe there is something more in these objects, true for both makers, that takes us back to the masons of Chartres Cathedral. Petrus Peregrinus de Maricourt, a 13th-century French scholar, wrote, "[The technoscientist] must also be very diligent in the use of his own hands, so that through the operation of the stone he may show wonderful effects. For by his industry he will then in a short time be able to correct an error which he would never do in eternity by his knowledge of natural philosophy and mathematics alone if he lacked carefulness with his hands. For in investigating the unknown we greatly need manual industry without which we can usually accomplish nothing perfectly." It is manual industry, as much as architectural training and aesthetics, that engages and enhances personal space.

Information about Ed Moulthrop was gleaned from Moulthrop: A Legacy in Wood *(Alex Ebel Studios, 1999) by Kevin Wallace and the PBS* Craft in America *series, episode "Family."* ■

D Wood designed and made furniture to earn a Diploma in Crafts and Design at Sheridan College in Canada and an MFA at the Rhode Island School of Design. In 2012, she earned a PhD in Design Studies from University of Otago.

WOMEN IN TURNING (WIT)

The WIT eXchange events have been critical to Ena Dubnoff's development as a turner. You can learn more about the AAW's Women in Turning group by visiting tiny.cc/WIT or scanning the QR code with your mobile device.

EXPLORE!

Want to read about WIT's collaborative eXchange experiences? Log on at woodturner.org and use the Explore search tool to find these articles in the *American Woodturner* archives:

- "Uproarious Reciprocation: The 2018 Women in Turning eXchange," by Lynne Yamaguchi and Kathleen Frey Duncan, February 2019 (vol 34, no 1, page 42)
- "Abundant Imagination: A Case Study in Fostering Creativity," by Lynne Yamaguchi, August 2019 (vol 34, no 4, page 37)
- "Breaking Boundaries and Removing Limitations: The 2020 Virtual WIT eXchange," by Linda Ferber and Marie Anderson, April 2021 (vol 36, no 2, page 42)

Members' Gallery

George Wurtzel, Tennessee

Photos by Sharon Burton.

I am living my best life. My dream as a teenager was to own a building large enough to have a workshop, a gallery, and a place to live. It took me only fifty-plus years to find that old building—my forever home in Greeneville, Tennessee.

George mounts a block of wood on the lathe, 2020.

I can't ignore my blindness. I have always been blind. It is who I am, and it has influenced my work. Many people focus on how something looks; I focus on how something feels in my hand. I am obsessed with getting a piece to *feel* just the way I want it.

Every piece of wood began its life as part of a tree. My job as a maker is to create something beautiful and useful and to honor that tree.

After teaching industrial arts, I decided I would rather work for myself. I ran my own millwork shop and was a licensed builder, but in the last few years, I have been concentrating on teaching and turning. I make things for art shows and for my gallery—Ginko Gallery Greeneville. I also teach woodturning, to both blind and sighted students, and enjoy explaining techniques and sharing my knowledge.

For more, visit gmwurtzel.com, or visit the Ginko Gallery Greeneville Facebook page. ▸

George poses in the Ginko Gallery Greeneville (Greeneville, Tennessee).

Domed Box, 2014, Spalted birch, ebony, olive wood, 6" × 8" (15cm × 20cm)

George made this box the day after examining work by Michael Mode.

George uses his hands to gauge progress as he turns a bowl in myrtle, 11" × 6" (28cm × 15cm), 2021.

An assortment of biscuit cutters, each with a sharp cutting edge. Approximately 2¾" (7cm) diameter. George has made more than 400 of these since December 2020.

Members' Gallery

Eleanor Lakelin, England

Working only with trees grown in Britain that were felled due to decay, I create sculptural objects using a traditional wood lathe, centuries-old chisels and gouges, as well as modern carving techniques.

My work is rooted in the rhythm of growth, the eroding power of the elements, and the passing of time. I'm fascinated by wood as a living, breathing substance with its own history of growth and struggle centuries beyond our own. I am particularly inspired by the organic mayhem and creative possibilities of burred, or burl, wood. This proliferation of cells, formed over decades or centuries as a reaction to stress or as a healing mechanism, is a rare and beautiful act of nature.

I peel back bark to reveal the organic chaos that can exist in the material, then build layers of texture through carving and sandblasting. I often use the vessel form and surface pattern to explore the layers and fissures between creation, decay, and erosion due to nature.

Eleanor Lakelin lives and works in London, where she is represented by Sarah Myerscough Gallery (sarahmyerscough.com). Her work has been acquired by the Victoria and Albert Museum, Reading Museum, The National Museum Oslo, Museum of London, and The Mint Museum (USA). For more, visit her website, eleanorlakelin.com. ▸

Portrait, Echoes of Amphora, Column Vessel I, 2020, Horse chestnut burr (burl)—sandblasted, scorched, and oil-waxed, 50½" × 13¾" (128cm × 35cm)

Collection of Victoria & Albert Museum

Photo: Sylvain Deleu

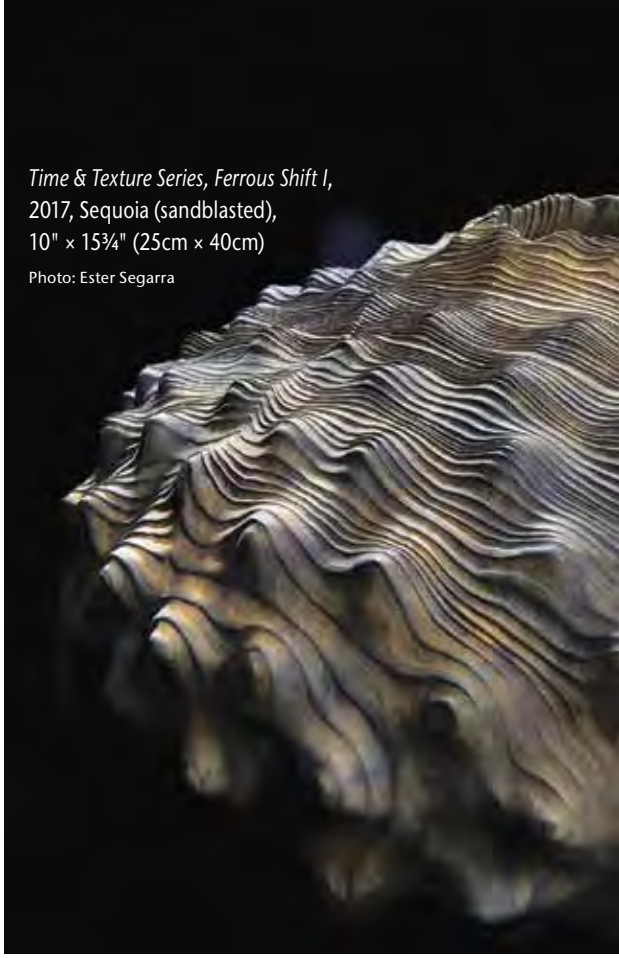
Photo: Jeremy Johns

Time & Texture Series, Rising Rhythm, 2013, Sycamore (carved and scorched), 4¾" × 12" (12cm × 30cm)

Photo: Stephen Brayne

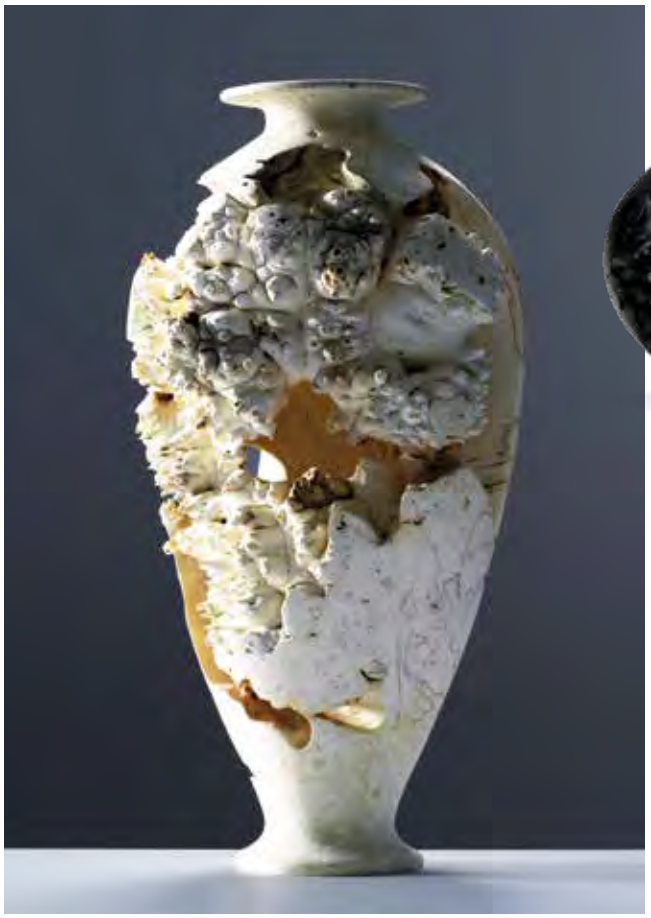
UnEarthed, Echoes of Amphora: Lidded Vessel I & II, 2021, Horse chestnut burr (burl)—sandblasted, bleached, and white-oiled, larger: 18" × 18½" (46cm × 47cm)

Photo: Michael Harvey



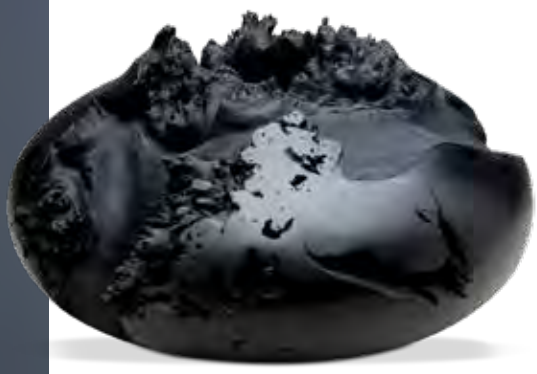
Time & Texture Series, Ferrous Shift I, 2017, Sequoia (sandblasted), 10" × 15¾" (25cm × 40cm)

Photo: Ester Segarra



Echoes of Amphora I, 2019, Horse chestnut burr (burl)—sandblasted and bleached, 19" × 10" (48cm × 25cm)

Photo: Michael Harvey



Contours of Nature Series, Voided Vessel IV, 2015, Horse chestnut burr (burl)—sandblasted, ebonized, scorched, and oiled, 8¼" × 12½" (21cm × 32cm)

Photo: Stephen Brayne

Eleanor at work on a piece for her solo show, *UnEarthed*, 2021.

Photo: Alison Dickens

Members' Gallery

Elizabeth Weber, Washington

I am a Tennessee native, now living in Seattle, Washington. Seattle has provided a beautiful landscape from which to draw inspiration. As a civil engineer by trade, I especially love the problem-solving that woodworking and woodturning present. I have always loved wooden objects and strive to craft pieces that are unique and timeless.

I look for ways to add vibrancy and movement to my work, using color, texture, and various shapes. Carving and adding texture (inspired by nature) are great ways for me to disconnect from the noise and sawdust that typically surround me in the shop.

For more, visit icosawood.work.

Zelkova, 2021, Zelkova wood, 7" × 11" (18cm × 28cm)

Tiger Bowl, 2021, Mahogany, 4" × 15" (10cm × 38cm)

Untitled Boxes, 2021, Maple burl, walnut, sapele, each: 3" × 4½" (8cm × 11cm)

Gershon Elber, Haifa, Israel

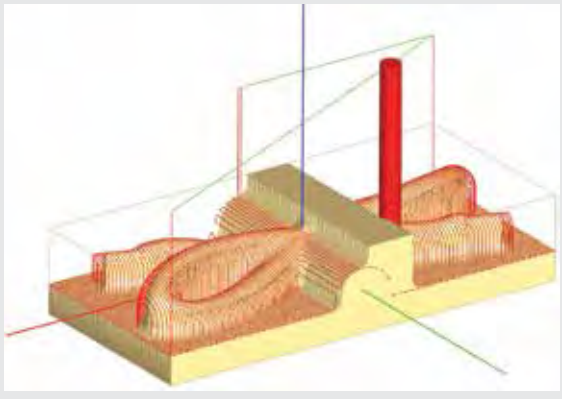
I have been turning wood for more than a decade. I enjoy combining woodturning with my work experience in computer science research—specifically using a CNC (computer numerical controlled) machine to further enhance turned items. My CNC machine (made by CNC-STEP), essentially a router mounted on a table, is capable of three-axis machining. I have been developing and using my own software to drive the CNC, including geometric modeling capabilities and tool-path generation. ■

For more, visit gershonelber.org.

Wine Glass, 2009, Olive, 7½" × 3" (19cm × 8cm)

From lathe to CNC

A partially turned goblet is shaped further at the bandsaw, where waste material is removed before final carving with a CNC machine.



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Philip S. McDonald, Publisher

Every Lathe Tells a Story

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Brent English, owner and designer, Robust Tools.

Noted turner and woodturning tool maker Steve Sinner, lower right, with some his friends and a couple of Robust Tools crew members.

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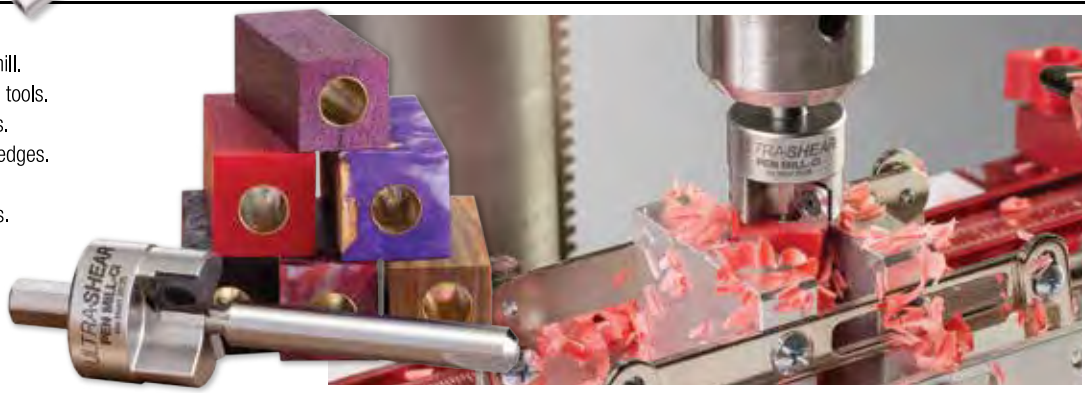

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SALLY BURNETT
ENGLAND

An Inspired Commission

In 2020, Lexus UK ran a social media marketing campaign using U.K.-based craftspeople to reveal the world of the Takumi, the highest level of artisan in Japan, who spend more than 60,000 hours mastering their craft. I was commissioned to design a piece in wood using the Lexus RX electric hybrid as my inspiration.

I created a "mood board" using pictures of the car, and then began sketching using these images as inspiration. I became increasingly drawn to the angles and facets of the front grille, the elaborate texture of the interior leather, and the lines of the stitching. These were the elements I chose to carve onto the surface of the wood. I decided to use a large, green-turned, sycamore open form as the canvas, as the wood is particularly suited to carving and pyrography and is easy to color.

The *Lexus Takumi* project has made craft accessible to a new audience and highlighted the incredible skills, passion, and imagination of makers using many different materials. It was a privilege to have been involved in this project.

For more, visit sallyburnett.co.uk.

Lexus Takumi, 2021, English sycamore, pyrography, acrylic paint, dyed silver leaf, leather cord, 15¾" × 13¾" (40cm × 35cm)

Photo: Simon Bruntnell

See the video!

To view a Lexus UK video— *In Search of Takumi: Wood*—in which Sally Burnett discusses her approach to this special commission, visit tiny.cc/SallyBurnett or scan the QR code with your mobile device.

Photo: Andrew Shaylor

From grille to wood

The Lexus RX L's front grille (far left) inspired the carving on the author's *Lexus Takumi* vase.