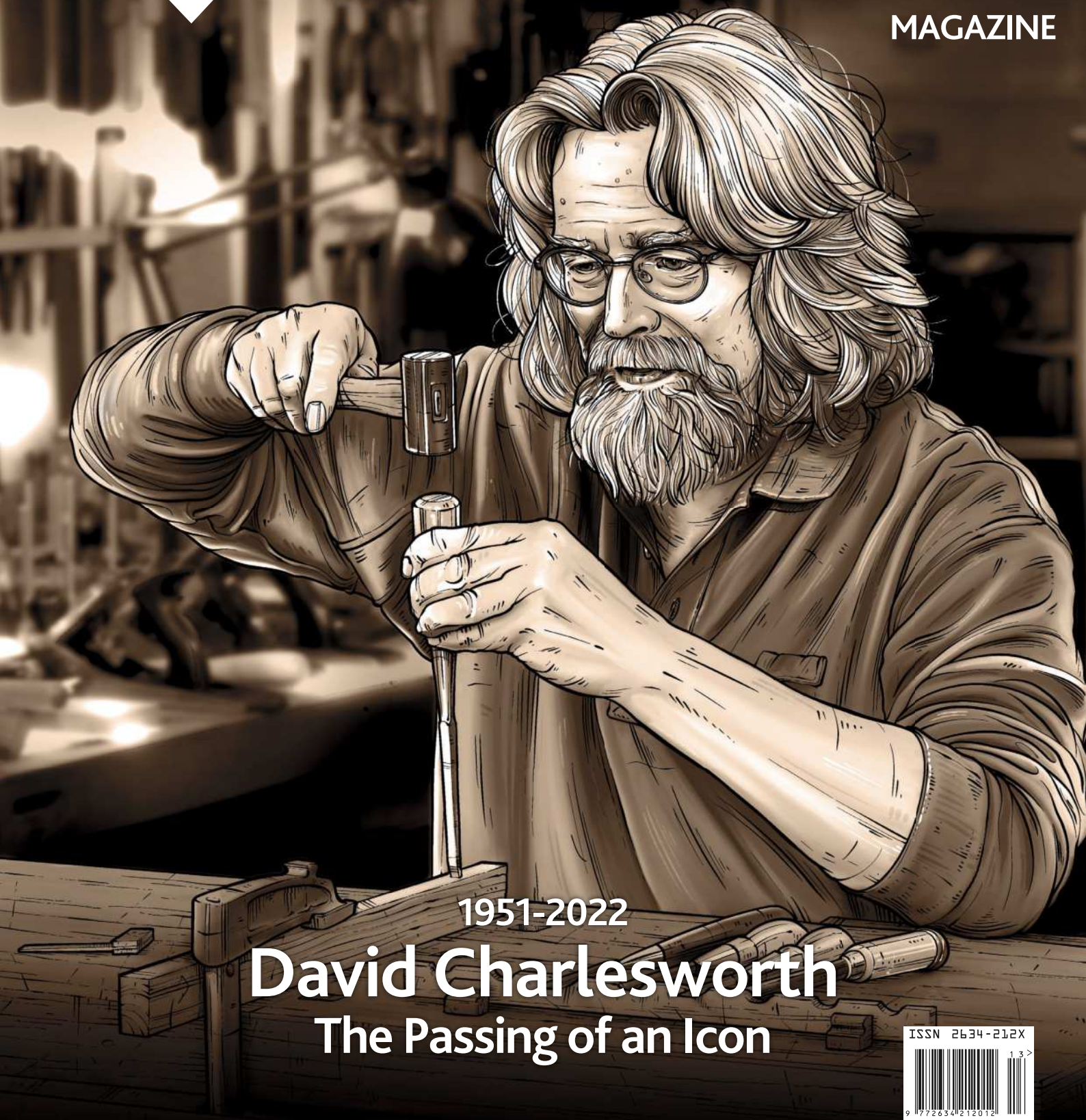


WORKING WOOD BY HAND

JULY/AUGUST 2022 QM13
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Quercus

MAGAZINE



1951-2022

David Charlesworth
The Passing of an Icon

ISSN 2634-212X



Welcome new contributor,
Austrian carver, toolmaker,
author and good egg,
Max Neukäufler



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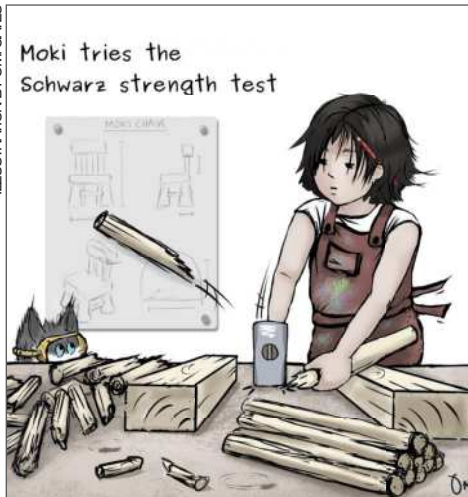
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Derek Cohen takes us step-by-step through the cutting of lapped dovetails (p44)



Julian Jones shows how to turn a bowl on a pole-lathe one step at a time (32)

Quercus

You may not have met him, you may only have watched his films or read his books and articles, but however hard one tries, you can never forget the voice of David Charlesworth. It is such a tragedy that in May this year he passed on. As woodworkers as significant as Chris Schwarz remember, David was one of the most influential figures in woodworking across the last 100 years. So it feels right that we combine the thoughts and techniques from fans as a celebration of this “wonderful man” as his final student says.

As thanks, Derek Cohen shows what he learnt about cutting lapped dovetails, Germán Peraire makes a sharpening jig for marking knives, and Mattias Hallin has improved edge jointing with David's stopped planing. From Australia, Spain and Germany, these three demonstrate the worldwide influence David Charlesworth had, but also how *Quercus* has come to embrace a community of woodworkers everywhere.

Obviously we have contributors from England, but this issue you'll read about a sharpening expert from Canada, a spooncarver from Austria, a traditioner antique restorer, and others from the USA. Welcome one and all.

Nick Gibbs, Editor

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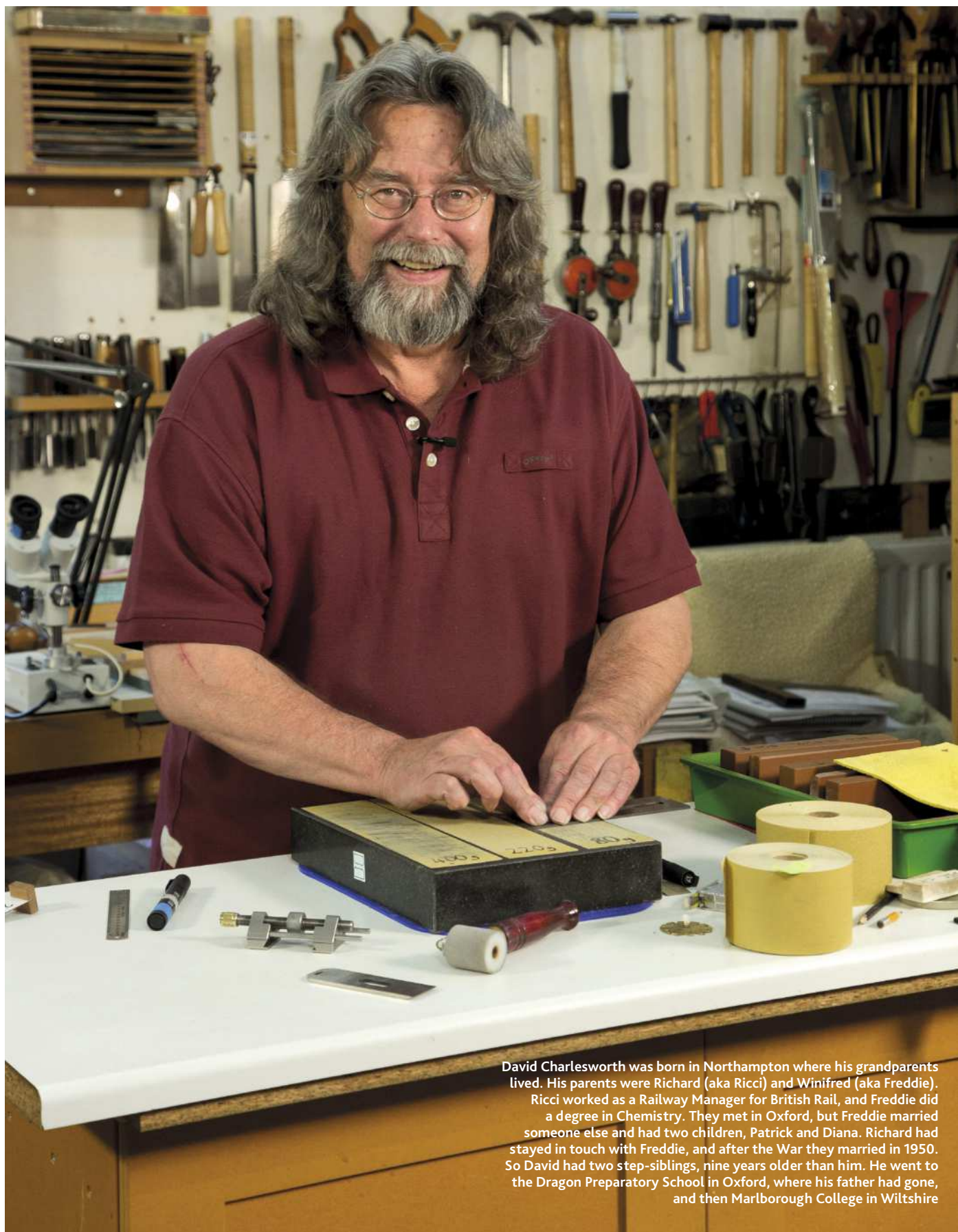
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David Charlesworth was born in Northampton where his grandparents lived. His parents were Richard (aka Ricci) and Winifred (aka Freddie). Ricci worked as a Railway Manager for British Rail, and Freddie did a degree in Chemistry. They met in Oxford, but Freddie married someone else and had two children, Patrick and Diana. Richard had stayed in touch with Freddie, and after the War they married in 1950. So David had two step-siblings, nine years older than him. He went to the Dragon Preparatory School in Oxford, where his father had gone, and then Marlborough College in Wiltshire

Rest Easy, Wonderful Man

Nick Gibbs pays tribute to one of woodworking's most influential teachers, authors & presenters ever

Before we begin, I must first reveal the secret of David's much-debated Ruler Trick, to get it over and done with, so we can afterwards quash any misconception that he was, pardon the pun, a one-trick pony.

In the unlikely event that any readers haven't given it a go at some point, David's tip for the sharpest irons is that you place a ruler, ideally held by the suction power of sludge, on a super-fine waterstone to hone the back of a blade, raised 2/3rds of a mm and by a fraction of a degree. You do so with the iron at right angles to the stone, with the ruler along one side of the stone and the iron projecting over the other. You pull the edge towards you about 10mm a couple of times, making sure that the burr isn't curled up beneath the blade. You then wipe the edge and Hey presto! This alleviates any need for a strop, which David didn't much favour. You can see this on YouTube, free of charge, with David showing so much better than I can describe, especially how this quick bit of work will hone away enough steel to remove just a few of the grinding marks.

In reality, I was poorly qualified to orate this tribute to David Charlesworth at his funeral. I had only met him at shows, failing to reach Hartland to spend some time with him there. I hoped I'd been able in a way to represent a community of woodworkers, comprising enthusiasts, professionals and colleagues. As Derek Cohen in Australia suggests, later, despite David's obvious worldwide following, he would still have been heartened to learn that his teaching has been appreciated by so many. In hindsight, I'm sure he would have supported the launch of my first independent magazine, *British Woodworking*, since he had already stopped writing for rivals, had I only asked. I considered joining one of his courses as the basis of a feature, but was daunted by his precision, and to be honest didn't realise that his occasional aloofness hid a warmth of character only time with him revealed.

Of those who have applauded David Charlesworth, his old friend Stephen Spowart has known him longest, describing his early memories in his reply to one of many memorial blog posts. "David grew his hair long, like so many, in 1967. Unlike most people, he never cut it off. I can't remember when we started making things. I think I was about 8. It was mostly wooden boats, but by 12 we branched out into more daring things. There was the cannon incident. We used to buy 6in brass rod and laboriously drill out the barrel by hand. There was a little touch hole, and we'd empty black powder out of squibs, and boom; the caper only ending when a lump of metal got lodged in David's leg and had to have surgery to get it out."

Life story

According to early student, John Elbert, David came from quite a posh background. His grandmother lived in the Dorchester Hotel in Mayfair, and was one day run over by the RAC Motorcycle Display Team while crossing Park Lane, pearls rolling everywhere. He went to Marlborough College, where he got on well with a good pottery and woodworking teacher, making a rather fine little cabinet, which is still in his bedroom. He did a stint with British Rail, who sponsored him to study mechanical engineering at Bristol University.

He was a lazy student who didn't study much, John says, but was one of the few students to own a car and people would try to cage lifts. "One day we tried to pry David out of bed with little

success, so we carried the bed to the middle of the courtyard and he had to flee stark naked back to his room."

His lack of study showed itself in his end of year exam results. He is reported to have said he wasn't expelled he just declined the university's invitation for a resit. He and British Rail agreed that his future was not with them.

Instead David went to study cabinetmaking with Edward Baly, a founding member of the Devon Guild of Craftsmen. David was said to be very skilled, but useless at getting things finished. He'd spend far too long aiming for absolute perfection, and soon figured he'd need to take on students himself to make a living.

He was looking for a place to live and work, and just as importantly, surf. He found the ruin of a place in Hartland with the grand title of Harton Manor. "I think he rather liked the image of being a sort of Bohemian aristocrat," John Elbert says. It was there he married Rosie and they had their son Jo.

"I was one of his early students [in 1982]," says John, "and spent a year in the workshop and got to know the woodworking David. I'm not sure I realised it at the time but I was so lucky to have David as a teacher. He was keen on sharpening and always expected us to have razor-edge tools, and shave the hair from the backs of our hands. I'd bet there are woodworkers everywhere with bald patches on their hands."

Sharpening obsession

It is, more than anything, the sharpening obsession that is surely shared by many of the fans who've never met David, relying instead on their time spent watching his videos or reading his articles and books. He was one of the most influential woodworking writers of the last century, Chris Schwarz wrote in his *Lost Art Press* obituary. "His influence on the craft of woodworking cannot be underestimated. Many [woodworkers] don't even realise, for example, they are using modern techniques he developed for jointing boards."

Most authors and tutors are honest about David's Ruler Trick; it's hard not to be. Richard Wile, in his book *The Sharpening Handbook*, dedicates two pages to the famous honing approach. "A popular technique," he writes, "that has evolved over the years uses a ruler to create a tiny back bevel on the back of the edge, polishing the very edge in the process." If you watch one of David's YouTube videos on the trick, you will notice that – magnified – David only works on the very edge, with the original manufacturers grinding marks extending right up to the edge. "The ruler trick is not usually recommended for chisels, especially paring chisels," Richard adds, "as the back of the blade is the reference face and as such should be as flat as possible." Richard says that it is important to keep the back bevel at a consistent angle. Richard does differ from David's filmed approach by moving the blade side to side, along the ruler.

It's hard to know if David was proud of his notoriety as the originator of the Ruler Trick, or whether it diminished his other skills and lessons. Either way, a ruler went with David to his grave. John Elbert touched David's coffin as he approached the lectern in enormous, splendid St Nectan's church (in the tiny village of Stoke, near Hartland), to give his tribute. It was a heart-felt moment which I wanted to repeat, returning to my seat, choosing to place the ruler I'd used for the demo on the corner of the lid. It was my favourite ruler I'd had since my early days

as a carpenter in the 1980s, so I was shocked to see it placed between two posies of flowers, right in the centre as the coffin was lowered into the grave. I could hardly remove it, so watched David gradually dropping the 6ft with a symbol of The Ruler Trick alongside for eternity, whether he liked it or not.

The influence of film

In Belgium, Mattias Hallen does appreciate the hidden influences of a Charlesworth technique, having learnt all he knows without meeting David, and lamenting the postponement of a course he'd planned to join in 2020. "Although I never had the good fortune to meet him, his videos were a huge influence when I first tried hand woodworking. My absolute favourite was, and is, the video on precision planing. While the information it provides can be found elsewhere too, I've yet to come across it explained in such a methodical and easy-to-grasp manner. For me it was a real eye-opener, not least because I usually buy rough-sawn timber and though a small bandsaw features in some of the initial breaking down work, I then process the wood largely by hand, including face and edge trueing and final thicknessing.

"David's methodical approach in that video was a huge help to me when I set out to try to learn how to do this by hand, in part because he made the process seem quite straightforward, but also because he made it clear to me that a key element to the process is not to work blind. Know what you are doing! Check the piece before you start so you know precisely what needs to be done, and keep constant track of your progress with try square, straightedge and winding sticks.

"I was edge jointing some parts to glue up a panel when I heard the sad news of his passing. I was recalling having watched Mr Charlesworth explain how to go about just this, doing my best to apply his lesson on the subject."

Mr Charlesworth. The Mr Charlesworth described by John Cashman as a bridge between today and the Mr Hayward era of the 1960s: "There is nothing nicer I could say." Charles Hayward was editor of *The Woodworker* magazine (decades before me), and was famed for his line drawings and the trusted books that set a benchmark for every woodworking technique and home-made workshop device you'll ever need, not to mention his thoughts and ramblings. David's three books were also compendiums of regular columns, in his case for *Furniture & Cabinet Making*, but clearly they have become established as a contemporary equivalent. Perhaps the Charlesworth films were the icing on a cake Charles



Meeting Tom Lie-Nielsen (above, left) introduced David to film-making and transformed his contact with woodworkers worldwide

Hayward would have liked to decorate. "David," writes ex-editor Derek Jones, "had long since stopped writing for *F&C* when I picked up the baton, but that didn't stop him calling me now and again, steering me in the right direction and talking me out of writing some stinkers once or twice."

"A good many of my students have done courses with David," adds Peter Quinn of the Furniture Craft School. "Using the same attention to detail he used in his making knowledge, he managed to move with great accomplishment into the notoriously difficult area of writing about the craft. Accuracy, integrity, honesty, finish, a passion for wood, for technique and for hand-tools were all in his work. David's books will stand shoulder to shoulder with the ones by Hayward, Joyce, Frid, Wearing and Krenov."

Professional joiner Graham Haydon agrees. "He did a great service to woodworking by providing a calm and refined process to which many gravitated. I had the pleasure of him visiting our joinery workshop in North Devon. He was genuinely interested in our workshop and going through my private collection of tools. He particularly liked a fine old English bevel-edged chisel and a translucent Arkansas stone."

Who knows how David would have responded to such praise. "David and I corresponded a few times every year," writes Derek Cohen from Perth, Australia (who has written elsewhere



David entertained, inspired and educated students in classes

Lessons Learnt No.1 The Stopped Shaving

Mattias Hallen shows how planing David Charlesworth's precise way has transformed his woodwork



How I understand and use stop shavings is that when trueing and squaring an edge (or a face for that matter; the technique works on those, too), if you just take through shavings, it is very easy, even par for course, to plane a hump onto the middle. The plane will ride over the hump and make it even more pronounced. And as we know from David Charlesworth, bumps – and humps – are bad, while hollows are good or at least OK.

So by starting the plane a little in from the beginning of the edge, say $\frac{1}{4}$ – $\frac{1}{2}$ in, and stopping the same distance before the end, one will make the middle slightly hollow. Once that hollow is there, a shaving or two or three, either with the same jack plane or (to my mind even better) with the jointer will take down the slightly proud beginning and end until the hollow is gone and the edge is true.

Speaking of true faces, a really careful look will also show another little tip I got from David Charlesworth's videos, namely the small curlicue added onto the face mark to signal the planing direction; I've found that to be very useful when coming back to a piece later, sometimes much later on, either for further work or final smoothing.



Mattias follows David's advice to favour hollow edges (and faces) rather than bumps. He also loves the curlicue David used to mark grain direction for planing (left)

a memorial article demonstrating the lessons David taught in the cutting of dovetails). “There were times when he wanted to discuss tools or joinery with me, while at other times it was to ask my advice about behaviour on woodworking forums we shared. I thought David was the most enlightened teacher and certainly one of the most influential. He always looked so calm and composed, but he was quite a sensitive soul, and vulnerable to the slings and arrows that inevitably were fired at him.”

Considered correspondent

David was indeed considered a patient, kind correspondent with readers or viewers contacting him for bonus tuition, as David Bochway reveals. “On more than one occasion I sent him emails to clarify a point in one of his books or videos. Without fail I would get a quick response. He was a dedicated teacher, incredibly generous with his time, and everything I know about using a chisel I have learned from him. It was a dream of mine to visit and take a class in Devon, and I regret not making that happen.”

Others were fortunate to have done so. “We first met David 20 years ago at one of the big woodworking shows,” writes Rob Chapman. “Following my retirement I was interested in one of his courses to sharpen up my limited skills and thought a weekend in Hartland would do the trick. In the end I was there for nearly four life-changing months. He was patiently able to bring out and develop skills of which I, other students and friends were unaware. We have always maintained contact with David and Pat, and his legacy for us are the many family heirlooms brought about by his unique teaching skills.”

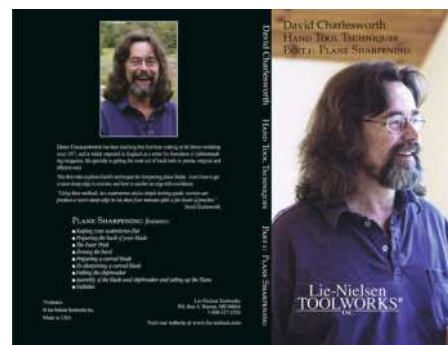
Rob’s favourite essence of David Charlesworth were the chapters *Gliding Silently* and *Gliding to a Close* in Volume 2, *Furniture Making Techniques*, which is currently being sold by AbeBooks for £117 (*A Guide to Hand Tools and Methods* is priced at £402). Of the two chapters Rob wrote: “They detail a process

that allows drawers to fit perfectly into the carcass, with enough clearance for varying moisture content, but at the same time the sides tighten slightly when fully open.” Rob adds: “The detail is extraordinary, but perfectly described, and it works. David’s advice allows enthusiastic amateurs, like myself, to produce work that is not only efficient but also visually attractive, particularly when our time at the bench is intermittent.”

His words were engaging, and even when reading his books for the first time, you’ll hear his voice. The photos might have scored the proverbial goals, but would never have worked without good words and illustrations. I was taken by one phrase in *Gliding Silently*, which Rob Chapman likes so much: “Drawers will always work better if their depth exceeds their width as they are less likely to rack or twist in their opening.” I opened and closed the wide central drawer of my late father’s desk to understand what David meant, and now I feel that I ‘own’ that tip. Even if I never make another drawer I’ll know that the top edge of the rear ‘board’ of a drawer must be rounded just in case it fouls with a drawer above. I love it that in *Gliding to a Close*, David suggests one always lays out drawer sides so that the grain runs from front to back and you can plane that way, though I’m not sure why. I’m assuming that it relates to making fine adjustments later when planing the outside of the drawer sides for the best fit.

Despite the price, we have now bought a copy of Volume 2, but not *A Guide to Hand Tools and Methods*, as it breaks our budget from AbeBooks, perhaps because many readers consider it the best of David’s three books, which are now all out of print.

According to John Elbert (and of course anyone who has been there), Woodworking David always kept his workshop immaculate. There are still chisels in neat rows in drawers. But Bohemian David at home would live in a complete mess. Soon after John’s year at Hartland in the 1980s, David and Rosie’s marriage broke down and Rosie left. “It was a troubled time for David. He didn’t



The first of Lie-Nielsen's Charlesworth DVDs. David was no hand-tool purist when it came to using machines (left) but set benchmarks when it came to furniture-making techniques (below)



Lessons Learnt No.2 The Skew Sharpening Jig

Germán Peraire thanks David Charlesworth for the skew sharpening jig he made for a simple Eclipse honing guide



David's skew honing jig (used here on an old Eclipse guide) is excellent for keeping marking knives sharp

David Charlesworth has been the most important influence on my work. I have long studied and practised the brilliantly explained methods in his books and DVDs. Although I never met him, he's always felt like a close friend. Being a teacher myself, I can't rely on inexperienced students to bring quality tools sharp.

Hence, I provide them with all they need to begin my courses and spend considerable time sharpening. I've been most reluctant to sharpen marking knives as they have to be done free-hand.

Repeating the same bevel angles (which is vital for speed & consistency) was, at best, guesswork. Inexperienced users tend to snap off fine points and rub the edges against the steel squares, which calls for continuous grinding. Tired of it, I set out to find a more convenient system.

In his YouTube video *Spear Point Marking Knife Grinding & Honing Jig*, David presented the device as the perfect answer. Since he never wrote an article on how to build it, I had to

figure it out by myself. I was astonished about its performance, and since then, I sharpen most of my marking knives as easily as any chisel. The results are not only accurate but also look crisp and tidy. Thrilled with it, in 2021 I asked him for permission to make a how-to article and he replied that he "would be delighted".

Although it seems a bit cumbersome, making this device is an easy exercise in hand-tool woodworking. To do it properly, we first have to look at its morphology. The tool fits the upper compartment of an Eclipse-type sharpening jig. It consists of a top plate screwed to a bottom plate to clamp the knife in place. The bottom plate has a recess against which the knife registers consistently. Adjusting the tension of the screws will accommodate thicker blades to a certain extent. The grinding plate clicks in place by virtue of two indexing pins to provide support against my Tormek bar. I'm sure it can be adapted to suit many other grinders, man-powered or otherwise.



Only spear-point handleless knives (left) can be sharpened with this jig



A student's knife shows signs of misuse



David was a specialist when it came to making drawers

know quite what to do with himself. God forbid he had to cook: Delia Smith cooking for one. But he was always a pedantic fellow and though he knew perfectly well what it meant, when told to separate two eggs, he preferred to just move them slightly further apart. Then he met Pat Hemsworth who was not only prepared to feed him but moved in and dragged him out of his wilderness and rather saved him. He can't have been easy to live with, but somehow she managed not to kill him, at least according to the death certificate. We used to call them the Worths."

The European Master

For anyone who couldn't join a class or course, chats at shows were the next best thing. Within a few moments visitors could catch his friendliness, curiosity and sense of humour. John Lloyd, a fellow woodworking tutor, remembers David for his "thoughtful approach to the craft we both love," and for the times they spent at those shows: "David won't only be remembered for his huge legacy to the world of woodworking," John says. "Who can forget during one of Classic Hand Tools' annual England v The Rest of the World football matches at Westonbirt, Rob Cosman's brutal tackles and David's astonishing ability as a goalkeeper."

And fortunately for those who couldn't make the shows, but wanted to see him in person, the toolmaker Tom Lie-Nielsen chanced upon David at an Axminster show in Shepton Mallet. "I went through the show, and there was this hairy, hairy guy standing smoking a cigarette. I introduced myself, and we hit it off immediately. He had two books, and it was really eye-opening for me to read about his woodworking and his techniques.

"So we invited him over for the first class I'd ever done in my shop, and we filmed his class just for the heck of it. He was charming and funny and really engaging and the people in the class couldn't get enough. That film was just him, so then we decided to start making more, and we ended up doing one a year for a long time."

David became the woodworking tool guru. Toolmakers from all over the world sent him weird things to test. One article referred to him as The Great European Master, which he found rather jolly. Then a few years ago he was exhibiting at a show in Germany and developed a bad cough. He refused to get it checked out until after the show, and went to hospital there with bad pneumonia and ended up in a coma for some weeks.

Family and friends thought he might die. Much to Pat and David's son Jo's consternation, the doctors shaved off his beard, if you can imagine such a thing. Neither Pat nor Jo had seen his

complete face before. Eventually, they had to be flown back in a special air ambulance.

David's lungs were badly damaged from his illness as well as years of being a heavy smoker. And so slowly began the infirm David. His consultant once said he was unlikely to reach 70 but David proved him wrong. He was plumed in with oxygen, but even so he still kept teaching right up until last October.

"David had troubled times in his life," said John Elbert at David's funeral on a sunny day in June, "but sticking to his main passion, he helped thousands of woodworkers all over the world, and in his way he really was The Great European Master. He will be missed by many.

Nothing, for certain, can compare to spending time at Hartland, with David and Pat, alongside other participants or one-on-one, as was the case for Jim Linn. "I was fortunate to be there for a mortise and tenon course, with David on oxygen for most of the day. We had to stop every so often to fill his backpack, and we talked about everything and anything, sometimes remembering that at 3 o'clock we'd better cut a tenon."

"David was a truly inspirational gentleman, whose kindness and patience were matched only by his love of the craft and an unswerving passion for excellence," says Matthew Platt of Workshop Heaven. "I hope that he will rest easy in the knowledge that his seminal teachings have elevated the skills and standards of an entire generation."

Personally, I was blessed to have spoken to David only a few days before his passing. It was kind of him to take my call as he could hardly speak, but one could still hear his chuckle and the fullness of his modest thanks to know that for such a huge number of woodworkers, he will never be forgotten. A short ruler was placed on David's coffin, and has gone down to earth with him.

Oh to have been a fly on the wall last October for Mary Hollinshed's week alone with David, constructing the finest little drawer she says she has ever made. "I was his last pupil. I had him all to myself, but it was mostly spent drinking tea, telling tales and reflecting on what had been and what was to come. I wept as I drove away from Hartland as it was clear just how unwell he was. He defied his doctor's expectations and kept teaching for as long as he could because it was his passion and his gift. What a fighter. I am so grateful for everything he taught me. Rest easy, David, you wonderful, wonderful man."



Lesson Learnt No.3 Trimming and Squaring

Derek Cohen celebrates the passion for precision David Charlesworth inspired in his work

Shooting boards epitomise the art of precision. Trimming. Squaring. Jointing. Shaping. Perfect mitres. What other technique makes it possible to work to microns in perfect accuracy. Try that with a tablesaw! Ha! Even the drawers in a chest for the workshop (Pic.10) need to be trued to fit the drawer case. First set up the plane's blade to be square (Pic.2).

I can see David Charlesworth in my mind as he examines the shavings to determine that the blade projects evenly at each end. Check that the fence is square to the runway, and the plane is square to the fence. This plane is 'run in', as evidenced by the fine rebate on the side wall (Pic.4), which is created by the plane blade. The rebate becomes a depth stop to prevents further cutting of the side wall.

Fences need help to trim without spelching ends. In an ideal world, the fence would create a zero clearance to prevent spelching. This only happens with a new shooting board. After this, the side wall and rebate increase, and the result is that a gap between plane and fence grows (Pic.3). If used this way, the end of the board will suffer spelching (Pic.7). It does not help to extend the fence to close the gap. Instead, the end of the board is bevelled and the end planed until the bevel is closed (Pics.8&9).

Not every drawer end is perfectly square, and needs to be fitted to the drawer opening. Shims may be made from paper (the average thickness of a regular copy paper ranges from 0.05 to 0.10mm). I use a feeler gauge (Pics.5&6). I could not imagine not having a shooting board.

Shooting boards rule for precision.



A Rabbit Hole of Wood

A quick visit to an antique shop for toolboxes, brings *Dylan Iwakuni* a hoard of history

We've all heard the old saying, "you can never have enough clamps," but this certainly applies to toolboxes. As one journeys deeper into the rabbit hole of woodworking, the number of tools inevitably increases and so does the need for storage options. Needing a solution for my disorganised array of tools, I had considered making some boxes, but I wanted something a touch different.

"Ahh, if you had come at the beginning of the month when all the items arrived, we had plenty of toolboxes," the old man at the antique store told me when I inquired if he had any toolboxes. He led me inside a dimly lit room, the sides of the aisles scattered with antique cabinets, potteries and the odd, rusted tools.

"But, I have these boxes," he pointed at a table in the middle of the room. On the table sat a few boxes as though they were patiently waiting for me to pick them up.

My mind was coming up with questions and stories, wondering about the original purpose of the box and who was using it. I looked closer for marks or clues, piecing together my make-believe story. It was fascinating to see these boxes have survived for decades, carrying numerous items in the hands of countless people yet holding strong.

Observing the work of the box, I could tell the craftsman made it with the intention for it to be long lasting. Carefully placing my tools in my newly acquired boxes, I found new motivation to leave behind good work. Work which will last generations, be seen, used and hopefully appreciated by numerous people no matter how old it gets, just like these boxes.



This box (above) made of Kiri (Paulownia) has the word 'Shoueidou' written on the front, likely a store name. But judging by how it's written from right to left (instead of left to right like it is now) has me guessing it's more than 70 years old. The ink stains suggest inkstones were stored and the box (left) was likely used as a scholar's tools box, making it a perfect fit for my marking tools.



Turning the box and peeking at the bottom (right) reveals hand saw marks, indicating these planks were hand-milled. Uncovering the stories left in the work is always fascinating. Some fine joineries can be seen on the box (left). The wood is hard and heavy, making the box slightly bulky to carry. This box (below) made of Matsu (Japanese pine) has the date scribed on the lid, 'April of Showa 10 (1935),' and the name of the maker, 'Takizawa Dai'



Bamboo nails lock the joineries in place

Unplugged Old and New

Shrenik Savla-Shah shows how modern technology can be used alongside older ways

Born in the realms of Facebook, the Unplugged Woodworkers brings to life a global community of 'unplugged woodworkers'. Members from all backgrounds, professionals, amateurs and beginners alike, coming together to talk about a common interest.

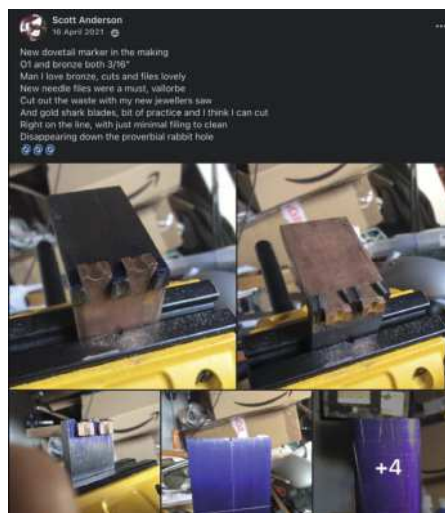
I joined the group in early 2019, just as the pandemic began. At first I expected it to be 'just another Facebook group', but I was surprised. With around 30,000 members worldwide at the time, the wealth of knowledge that had been built up over the years was astonishing. Even today, I might search for any topic and find an answer – or just ask.

Not only does this group encompass unplugged woodworkers, but toolmakers and other associated trades too. The small team of administrators and moderators (small relative to the size of the group) are global, ensuring they cover all time zones to provide support at all times of the day. The balance between moderation and freedom is achieved by strictly enforcing one main rule – power-tools must not be discussed – keeping the group focused.

Over the last few years, I have used this group as a great reference point. I have built friendships that stand beyond the group. The willingness of professionals and amateurs to freely share knowledge, experiences and experiments, freely to help others learn, is one of the best traits of the group. I have spoken of Bench. Talk.101 in previous issues, and most of our members are members here too.

Regular knowledge

The group has many regulars that use it to blog. The likes of Jim Hendricks posting about his latest projects, another showing off his latest greenwoodworking projects, or Chester Spier sharing his knowledge of old Stanley Tools just to name a select few. Not only are people sharing their knowledge, but they are also happy to follow up and answer questions; sometimes even making the effort to record another



SCOTT ANDERSON



PETER MORGAN

Unplugged Woodworkers is a group with more than 33,500 members. Toolmakers like Scott Anderson (left) showcase their journeys, sharing their experience and receiving advice. This post (below left) serves as a reminder that power-tools aren't necessary to produce fine furniture



ANTON VIERTHALER

video or write a blog post. I increasingly find myself looking forward to reading Richard Arnold's latest post on a recent plane purchase. The quality of analysis makes a great read on its own!

I recently spoke to a woodworker in Australia, who complained of the lack of an unplugged woodworking community in their locality. The reality is that there is a general lack of it globally. So called 'YouTubers' generally sharing a 'how-to'

video, predominantly focused on power-tools have become the main learning resource for the beginner. The Unplugged Woodworkers community changes this and allows all from far and wide to come together and learn together.

An avid fan and supporter of Bill Carter, I have found that much more is shared by him on the Unplugged Woodworkers group than elsewhere. In addition to his YouTube videos, an occasional blog post detailing a recent plane he has made or purchased with accompanying photographs makes for excellent reading. Bill's videos are best watched via Unplugged Woodworkers.

Of course, the age-old arguments of bevel-up and bevel-down, whether you should sharpen freehand or with a honing guide, or which sharpening stones you should use, are all part and parcel of any woodworking forum. Despite these constant battles, it shows the passion of the craft between members of the group.

Ultimately, this is a group for people from all walks of life. If you are not on Facebook, it may be worth joining for the sole purpose of joining this community.

Follow Shrenik on Instagram at @s.savla.shah.

A Wagatabon Apprentice

Looking back on 18 months of Quercus, Henrie van Rooij is inspired to have a go carving Japanese trays



Henrie with a vintage saw set (left) that we hope he'll try in a future issue. The finished Wagatabon (above) that was inspired by Dom Campbell's in QM03

Gosh, how this little mag keeps us busy! Until a year ago, I had never heard of Wagatabon. But then, in QM03 (Nov/Dec 2020), there was an article by Dom Campbell. (Thanks for that, Dom!) He describes how he carves Wagatabon 'trays' in his garage. By the way, I am constantly teaching myself not to say 'Wagatabon trays', because the 'bon' part of that name already denotes a tray in Japanese. Anyway, I was quite intrigued, and knew that sooner or later I would have a go at this myself.

I did make repeated searches on the Internet, to try and find out more on the original making process. It is possible to learn the history of these trays, but precious little on the methods original crafts people employed. During my searches I came across Angela Robins, who among many other things, also writes and blogs inspiringly about Wagatabon (angelarobins.com). On her blog you can read that she'd attended classes at North House Folk School in Minnesota, given by a Japanese master tray carver, Shinichi Moriguchi, who was accompanied by occasional Quercus contributor Masashi Kutsuwa of the GIFU Academy of Forest Science & Culture in Japan (@masashikutsuwa).

Because of what I had gleaned from the Web, I decided to chop the waste out using carving tools only. My old legs do not permit me to crouch down on the floor in order to do all the work on a proper Japanese workbench. Therefore, the project was done on top of the Western-style bench.

Also, I do not have any sweet chestnut timber of large enough size. The first practice tray was made from a piece of lime. The one in these pictures, my second effort, was carved out of maple. Hard work. What I found was that the tools need to be super

sharp, especially for the finishing cuts, and needed honing very often. Western-style tools were used, which I hope is forgivable, as I am still only on the apprentice level, if that, of Wagatabon carving. There is a real danger of fibres breaking away in the end-grain areas. I had spotted that in some of the examples I saw online, which is why I gave myself a small buffer zone there. This paid off, with no breakouts. For even spacing of the undulations, I measured and marked them out with thin pencil lines.

Bull-nosed gouge

As you can see in the pictures, I had ground my gouge slightly bull nosed, so that it could easily enter right into the corners of those curved recesses of the sides. It's best to practise and experiment on some pieces of waste first. When you have reached a degree of confidence, you can start on the real thing. To reduce the risk of the tops of the ridges crumbling out, keep a flat of about 1mm on the top. The grain is suddenly very short there. One trick I found: use the left corner of the gouge to clean up the left side of the ridge. Likewise use the right-hand corner of your gouge for the right side of the ridge tops. That way the edge gives a shearing action with the grain, and does not lift that short grain away. Sounds more complicated than it really is. Hone your gouge often. I used a hand-made depth gauge for the grooves, with a pencil stuck through a piece of wood. When the inside is done, the tray can be liberated from the block by handsaw and tidied up with block plane, etc... Use a sliding bevel next to your saw, for help with keeping to the angle you want for your tray. For my third tray I used the good old bandsaw. Do what feels right for you.



Learning How to Make Wagatabons

Use a chisel to cut out those grooves (above). Now you have short grain which breaks away relatively easy, I found this an efficient method. After patient work (left) a Wagatabon is emerging. Careful use of tools avoids breakout of short fibres. My little bucket with stain (below). Just three ingredients create a mysterious, deep blue/black colour. Sweet chestnut chips, a small wedge of steel wool, and some water. More or less finished (bottom). Your fingertips are sensitive instruments to check if you are happy with the carving and finish.

Whilst surfing the Web, I learnt about the way these trays used to be coloured with a dark stain. This stain was done with a ready supply of sweet chestnut waste chips, which were after all the result of their own Wagatabon carving activities. These chips were put in a vessel, together with some steel wool and water. The tannins in the wood react with the iron of the steel wool, and after some days, produce a very dark blue-black stain.

Strength of the stain

When I tried this for myself, after robbing a local chestnut coppice of a badly cut off-stump, it did work very well in the end, but it took longer than I expected for the full strength of stain to develop. I wonder if it would work with oak, as that also contains tannic acid. That is why, when splitting fresh oak, or sweet chestnut, you find all these dark marks where the axe had bitten into the wood. I used a brush to apply several coats, until I was happy with the intensity of the colour. I suspect that originally, these trays were simply dunked in their entirety into a big vat of this noxious looking fluid.

Because I was not yet happy with the surface finish, I also applied a couple of thin coats of Danish oil. When that was dry, I felt it was still necessary to buff the surface a bit. I simply used a shoeshine brush. There was enough wax residue in the brush to give a gentle lustre to most of the surfaces. And that was really the finishing touch. I have already started on the next one, and find it is now easier to get into the flow of the chopping out of waste, so it feels less laborious now. Onwards.



A Cognitive Making Shop

Making a case for designing in the workshop, *Kyle Kidwell* calls for more making than drawing

PHOTO BY MICHAEL WILSON



Walnut Talbot chair



Kyle in his workshop

For many woodworkers, inspiration tends to be understood within the context of other woodworkers and the objects they create. That's why we often hear phrases like "There is nothing new under the sun", or "Everything is derivative". While I agree that we all draw inspiration from the things around us and the people who have made them, the years have shown me there are other powerful and influential ways to find inspiration. The further I have delved into the process of harnessing creativity and expression, the more freeing furniture-making has become. And that burgeoning freedom has coincided with undeniable leaps in the pieces I can build. So for me, inspiration can be reduced down to a handful of core principles: cognitive repetition, time in the shop, being prolific, and being decisive with designs.

I think cognitive repetition is about putting a new concept on a continuous loop in your brain. Over and over, I will consider all the aspects of a piece in my head; sorting out joinery, structure, scale, proportions, materials, wood movement, function, and all the rest. I have found that the constant repetition leads to breakthroughs in design and execution. It is rooted in the faith that such repetition is an inherently progressive method for creating furniture. It allows me to mentally construct a piece with all its components, or reverse-engineer a design concept so that I can get from rough sawn material

to a finished product. But inevitably, that purely mental approach can only get me so far. And since I am an admittedly terrible illustrator, I then rely on one of the other factors: putting time in the shop.

Designing in a shop

That is where I can manifest a design, and make adjustments based on any discrepancies between what I've been imagining, and what I'm actually seeing first hand. After all, can anyone really see a 7° angle in their mind? Or mentally project a 3/4in thick rail meeting into a 1 1/2in thick leg? While I am very comfortable visualising pieces, my cognitive limitations become apparent when I'm working in the shop. So I depend heavily on full-scale drawings or patterns to confirm proportions, angles, aesthetics, structure, and so on.

Woodworkers must learn to identify their strengths and emphasise them, while improving weaknesses and minimising their impact on the things they create. Notice how there is no mention of 3D renderings, exploded views, nor of detailed sketches in this process. I'm much more motivated by just starting to make something rather than fuss over scaled-down models and computer renditions.

All my time in the shop has led to constantly evolving techniques and strategies for making a new design. I consider myself to be both a furniture-maker and furniture designer, so if I can't

make what I've designed, I feel I still have work to do. And there, once again, I must reiterate the countless benefits of putting your head down and doing the work; to move beyond speculation, the theoretical, and abstractions. The actual work is a prerequisite to witnessing a concept become reality.

Live with results

For me, watching an idea take physical form in the shop is always connected to the other tenets mentioned: being prolific, and being decisive with designs. I am quick to say you can't cloister your ideas. That means you have to be willing to finish your designs, put them out there, and live with the results that follow afterward. It's frighteningly easy to lose time wavering over whether or not a piece is done; or to become static because of your perceived limitations with knowledge, technique, tooling, and machines in the work-space. So in that way, I would rather put out 10 designs in a shorter time frame that I ultimately decide could be better than to pamper a single design that takes years to materialise. I believe that progress, refinement, execution, and individuality all emanate from the same core principles of inspiration: cognitive repetition, time in the shop, being prolific, and being decisive with design.

Kyle is owner of Kidwell Fabrications, furniture studio (kidwellfabrications.com).

PHOTO BY MICHAEL WILSON



Ebonised Talbot chair with
continuous bow arm

Sellers' Way to Lockdown

No one is more amazed than himself, writes *Justin Emrich*, by his woodworking transformation



Justin Emrich, who lives in Surrey, with some of his benches. He has moved on to many other Paul Sellers pieces of furniture

Woodworking was something very dear to my Grandfather's heart many years ago, and he would lovingly make a variety of pieces for family and friends. So it rather amuses my family that in recent years I've taken to making a few creations myself, just without all the heavy varnish that he tended to use back in those days.

It all started when I spotted an interesting looking bench whilst up in the Lake District in Cumbria. I thought it was really unusual and my wife said: "You could make one of those." I snapped a couple of pictures and thought no more of it.

A few months later, I thought well why not. I found a few odd bits of 2x2in and set about making a prototype. Bingo, my simple design worked so I dropped into my local wood supplier (Surrey Timbers), and bought myself a few pieces of oak. The bench was so comfortable that I made two more to give away. What happened next was rather unexpected.

My good lady wife said she wanted to give me a woodworking course for Christmas but it was up to me to find the course I wanted to do. I started the search and ended up with Paul Sellers; as you do. Well, what a wealth of information I learned from him so quickly. From what tools I needed, to how to sharpen them and



The Sellers rocking chair was hard work

then to his projects, all beautifully set out in easy-to-follow videos.

I've now made six of his projects (and I'm working on a seventh), some of them multiple times including the wine rack which has been a lovely and unique gift for family and friends.

Lifesaving passion

It's been a real lifesaver to have taken up this hobby, especially during the long

months of Lockdown. I wouldn't classify myself as a fine craftsman and it's certainly not about trying to sell anything or make money: "Stick to the day job", everyone says. But it's about having something to focus on that isn't work or home. It's about being creative, having my own space and the satisfaction of turning a flat piece of wood into something useful and occasionally even attractive using nothing more than hand-tools and a little effort.

I've learnt about making shellac from flakes, had a go at French polishing, done lots of bending and laminating, learnt how to use a router and I now know how important knife walls are for accurate joints. I've made a seat cushion and kitted out a small workshop from an old potting shed. All in all, I've had a thoroughly enjoyable time.

The rocking chair was hard work mind you. It gave me tennis elbow for a few months as it took so much hand sawing, and I can't deny that the 50-odd mortise and tenon joints were a labour of love. But I pinch myself every now and then that in just a few short months I've moved from a 2x2 prototype bench to a solid oak rocking chair and loads more with nothing more than a few Paul Sellers videos, and I've still got all my fingers which is a surprise to everyone including me.



Emrich furniture inspired by Paul Sellers

Coasters (above left) made from 10 different woods. Sellers Floor Lamp (above) and Sellers Console Table turned into a dressing table (left) with two drawers. It is oak, with a single piece making up the front panel for the grain to continue either side of the drawer. The box (below left, and below) was modelled on a Sellers Keepsake box, made from sapele with oak and panga panga star inlay





When it comes to snipping the rivets, compound lever nippers by Maun Industries (above) are easiest on the hands. Oak and mahogany riveted using square copper nails and roves (below). Angles are recorded on straight-edged card for future reference (right)



Riveted to the Spot

Robin Gates explores techniques for fastening with copper nails and makes a mini-bevel

No fastening holds so well nor grabs my attention – indeed is quite so riveting – as a well-peened rivet. Not to mention long-lasting. Centuries after the carefully chosen, sawn, planed and finished timber has rotted it's the rivets that will remain. Perhaps the most famous instance of this comes from Sutton Hoo in Suffolk, where iron rivets turned up by amateur archaeologist Basil Brown in 1939 led to discovery of an Anglo-Saxon ship burial loaded to the gunwales with precious grave goods. The ship's wood was no more than a dusty memory impressed upon the earth but the tidy lines of rivets which had joined planks to frames were there to be found.

Riveting is so wonderfully varied and versatile, and almost more fun than seems possible with such elementary tools and materials. Use rivets to fasten wood, metal or leather in like-to-like combination or mix them up. The creative possibilities are endless. And if you've suffered that heart-rending moment when a cut nail battering its way through obstinate grain splits your work asunder you'll be endeared to the process of riveting by its pilot holes alone, guiding nails through the wood as though on rails and making splits far less likely.

My experience of riveting began in the 1970s when you could buy nail-sick wooden dinghies for peanuts. People didn't think of them as potential classic boats back then, they were just old tubs requiring too much maintenance and not as good as plastic, abandoned to time and tide on muddy shores. But with a box of copper nails and youthful determination you could tighten the sagging planks sufficiently to last a season or two more. The essentials of riveting had changed little between methods used by those 7th Century boatbuilders of Sutton Hoo and me, inexpertly wielding the hammer on a Sussex shore, but you'll notice the nails were now copper – a pleasantly malleable and non-rusting metal. A proper boat nail also has a square shank, mimicking the proverbial square peg in a round hole of timber framing. Its square corners biting into the round pilot hole make for a strong and water-tight fit.

Flush or rose heads

Copper nails have either flat countersunk heads which lie flush with the surface or rose heads which sit up from the wood like party hats. Since my short nails happen to be countersunk and my long ones are all rose-headed I tend to use both; copper nails are not cheap (surely the time is ripe for 'rivets' to be revived as another word for 'money') nor is copper mining earth-friendly, so it's good to use what you already have. I also use two riveting techniques: one being the simple spreading or 'mushrooming' of the end of the nail over the material (usually metal) being fastened, and the other – more commonly used with wooden construction – requiring a copper washer or rove which is slipped onto the nail before mushrooming the end, thereby distributing the clamping force of the fastening more widely and evenly.

Depending where you are in the world and what you're making this mushrooming, spreading or peening of the end of the nail may also be known as 'clenching' although some reserve that term for what yet others call 'turned nails'. That's when you hammer the nail through the parts to be joined and as the end of the nail emerges you meet it with a 'bucking iron', a solid lump used to turn the nail aside and part-way back into the wood, somewhat resembling a staple. This technique is sometimes used in boat-



building but more often seen in old ledge-and-brace doors, rustic furniture and the like.

Research bevel

As an example of the simplest sort of riveting – without roves – I've made a mini-bevel from an old hacksaw blade (Pic. above). Just 3in long by ½in wide and scarcely thick as a credit card, this is a great little research tool to use when out-and-about looking at old furniture, discreetly noting the angles of chair backs, legs, brackets, dovetails and so on. Aside from costing nowt the advantage of this user-made tool is that it gets in where other tools fail to reach simply because they're too big. Pull a carpenter's bulky sliding bevel from your pocket, not to mention the screwdriver required to adjust it, and you'll likely attract unwanted attention. This mini-bevel is small and light enough to fit inside your wallet, barely more conspicuous than a note clip. You'll also need a pencil and a small straight-edged card for transferring your angles of interest (Pic.1).

Before getting down to the nitty-gritty of making the mini-bevel, note that this is a finger-adjustable tool for which, by deft taps



Levelling the toothed edge of the hacksaw blade on a hand-cranked grinder

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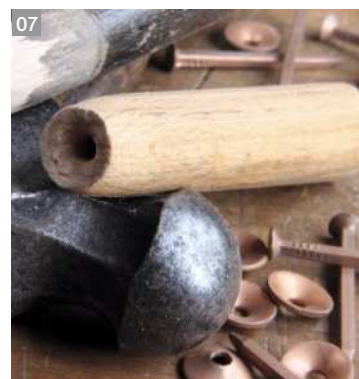
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Old paint and high points are filed away along the 'wave-set' edge (left). Clamp the blade and use tin snips (above) to cut the required ends



Peening the nail without a rove (left) makes a low-profile rivet. The mini-bevel with remains of the hacksaw blade (above). A practical rove punch (right) can be made from a stretcher



The bored and countersunk punch slips over the nail (above) and the rove. Elliott-Lucas end-cutters nipping the nail to length (above right). Well-targeted tapping of the ball-peen hammer (below) spreads the nail over the rove. The glittering prize (right) is a secure and neatly-finished rivet



About 3/32in (2mm) is left standing above the rove (above). 4oz, 8oz and 24oz ball-peen hammers (below)



of the hammer on the rivet, you will have adjusted the friction of the joint so as to be sufficiently rigid for holding measurements in transit between objects and card yet remain movable. But doesn't the joint grow loose? Eventually, after much opening and closing when transferring the countless plank bevels of several wooden boat hulls it may need a tap to re-tighten the blades, but for our occasional sorties while studying furniture it'll be set for life.

Conveniently, a hacksaw blade is pre-drilled for riveting courtesy of the holes which hook it to the saw's frame. Although you require only the two ends of the blade keep it entire for the time being because it's easier to handle that way. The first step is grinding the teeth back to a straight edge, for which the more blade you can get a handle on the better – particularly if using an old-school grinding wheel (Pic.2). Grinding levels the toothed edge of the blade but not the face immediately adjacent to the edge because the teeth of a hacksaw blade are 'wave set'. High points along with old paint and rust are removed with a file (Pic3). Resist the urge to hammer the blade flat because its hardened edge is brittle and will almost certainly shatter. Now you can clamp the blade to the bench and cut the ends free using tin snips (Pic.4). Snapping the ends would risk bending them, not to mention metal flying across the workshop at high speed.

Whereas softer materials require roves to spread the force of the peened nail, a hacksaw blade is sturdy enough by itself, and this is what contributes to such a pleasingly low-profile fastening for our pocket-friendly bevel. Plain copper rod may be found to make the rivet but I used a piece from the square shank of a No 10 gauge boat nail, filing the corners just enough to make a snug fit in the hole. Feed the rivet through both blades with about 3/32in (2mm) protruding on top and the other end gripped in the vice, then lightly mushroom the end using the dome of your ball-peen hammer (Pic.5). Turn the joint over, nip the free end to similar length and mushroom that to achieve the finger-adjustable but not sloppy level of joint friction you need. Smooth the curved ends and sharp corners of the blades on coarse emery paper or the edge of an oilstone, and you're ready to set forth in search of the perfect angle (Pic.6).

Introducing roves

Tools for riveting (the ball-peen hammer, roving punch and nippers) are best described while illustrating steps in joining wooden parts, for which roves are also needed. First choose appropriately sized nails and their matching roves. The smaller the gauge of the nail the bigger it is, and generally 'what looks right is right'. Here I'm using No.13 gauge nails to rivet a mahogany plank to an oak timber, as you might do when repairing a vintage dinghy. Having marked the spot, drill a pilot hole slightly undersize for the nail through both parts to be joined, so that a hammer is required to drive the nail in. After driving the nail, fit the rove with conical side uppermost. The rove should be a snug fit on the shank and will require punching down to seat it correctly against the timber, for which the right tool is a rove punch (Pic.8). The end of this little tool is bored to a couple of inches to fit over the nail and is also concave to accommodate the rove. Although steel rove punches can be bought they are less easily found as lost, and for occasional riveting a home-made hardwood punch works a treat. I made this one using 3in of beech from the end of a broken stretcher, shaping the concave tip with a gouge (Pic.7).

Having seated the rove firmly (the object isn't to flatten it) the nail is snipped to length using end-cutters, also known as 'nippers' (Pic.9). Sturdy Elliott-Lucas nippers made in their tens of thousands can be found inexpensively, but check that the jaws meet properly. If they're chipped and worn you can file the edges sharper and save yourself a good deal of uncomfortable nipping. Alternatively, and especially if your hands are feeling the wear and tear of advancing years, look for nippers with a compound lever design. I have a 6in pair which are ex-Government stock



A clenched copper nail replaced the lost button on the Stanley 99 utility knife (above), in action (below) with a curved blade

from the 1960s, made by Maun Industries. Their improved leverage and broad rounded handles really take the sting out of the operation. They're used in the bedding industry to cut the impossibly hard wire of bed springs so you can imagine how easily they slice through copper nails. Surprisingly for a good old British tool they're still made in Britain, priced at £34. The object of the nipping is to leave just about the thickness of the nail standing above the rove: that's 3/32in or 2mm in the case of these small boat nails (Pic.10).

And now for the fun part, a test of eye and hand coordination as you repeatedly tap the end of the nail with the round face of the ball-peen hammer (Pic.11), gradually spreading the soft copper over the rove and tightening the fastening (Pic.12). I generally use an 8oz hammer and for smaller nails a 4oz. Somewhat optimistically I bought a 24oz hammer and I've yet to meet the rivet that requires it. But wait – have I forgotten something? Yes, the nail must be supported by something solid – another hammer or small anvil will do – otherwise the first blow will merely propel it backwards.

My efforts are a pale imitation of the work of the time-served professional. The sight and sound of a skilled riveter in tune with tools and materials has all the rhythmic alchemy of a loom, creating a glittering fabric of copper-fastened wood. But even if used only rarely and slowly riveting is a technique well worth having at your disposal, as I found only recently when the button operating the retractable blade of my Stanley 99 utility knife sheared off.

I inherited this knife from Dad who bought it soon after launch in the 1960s, when it was advertised as the 'in-out' knife, not requiring that so-easily lost triangular blade guard of the fixed-blade 199. Goodness knows how many times that button must have pushed and pulled the blade over the last half century, so it cannot fairly be labelled a design weakness when it eventually parted company. Still, finding something to operate the blade's sliding carriage had me foxed for weeks, improvising with a stubby screwdriver, lolly stick and all sorts in place of the button. Then 3/8in cut from the head of a No 10 gauge rose-head copper boat nail came to my rescue. With its shank filed to fit the vacant slot, then delicately peened from below (using a nail punch to hit the partially obstructed target), a replacement copper button was born. The pyramidal hat of the rose-head nail suited its new role perfectly. This most handy of knives has some life in it yet.



Learning by Hand

In an extract from his new book, *The Wisdom of Our Hands*, Doug Stowe calls for deeper engagement

Deep engagement with the hands as they are crafting has an effect on your sense of well-being that should not be ignored. In the early days in the Arkansas Ozark Mountains, men would gather in front of dry goods stores, whittling while their wives were inside shopping. Or they might make the trip into town without their wives, just to hang out. They might gossip about the affairs of their communities as they passed the time and as long, thin shavings of aromatic cedar and sassafras wood gathered at their feet. If you've not tried it, do. Make sure your knife is sharp. It's a skill that leads to a sharp mind. The whittling men of the Ozark Mountains may have been making only thin shavings of wood, and likely no product of value that they could sell, but they were also making sense of things.

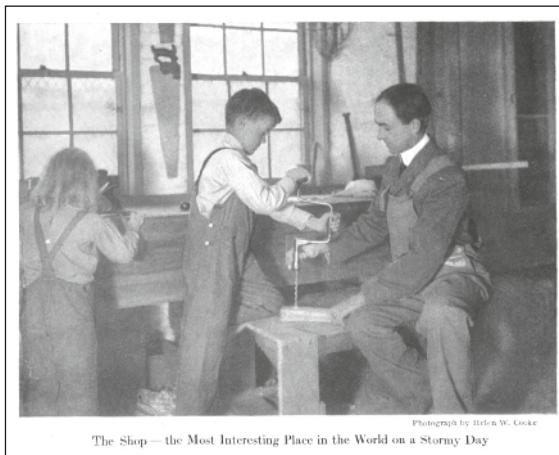
Many amateur woodworkers, noting the therapeutic effects of time in the woodshop, call their hobby "sawdust therapy." The use of the word "sawdust" may be deceiving. For those engaged in woodworking, making lovely and useful things for family and friends creates much more than sawdust. The engagement of the hands provides a liberation of mind.

The need to be soothed by our actions is not only a human trait. In the morning as I sit on the front porch and check correspondence and read the news on my laptop, my Goldendoodle, Rosie, slips away into the forest and comes back with a good chewing stick. As she carries the stick from the woods she prances, head and tail held high. As she chews the stick, she'll look up now and then from her serious labour to survey the yard for robins and the woods for squirrels, attending to them quickly if the need arises. The stick gets whittled down by her sharp teeth and powerful jaws. The mess that she makes is a small price to pay for the satisfaction she expresses through her deep engagement.

Studying rat behaviour

Kelly Lambert, at the University of North Carolina, has spent years studying rats and their behavior to provide insight into mental health. She found that rats that work for their food exhibit fewer signs of anxiety and depression than those that don't. She also notes that animals of all kinds, including us humans, receive effort-based rewards in the form of pleasurable neurohormones when we engage deeply in doing things for ourselves and for others. She's even trained rats to drive tiny cars and found that the rats raised in an object-rich learning environment (the equivalent of a well-equipped kitchen or woodshop) learn to drive in less time. The rats also receive the benefit of greater mental health as they manipulate their tiny cars to receive food rewards.

For humans, to hold a tool in your hands is to hold the intelligence of generations that was applied toward its making and use. As Albert Einstein noted, we are indeed smarter with a pencil than we are without. When we take a tool into our hands and put it to use— even a tool as simple as a pencil or a knife, and even



An illustration from *Carpentry and Woodwork* by Edwin W. Foster, 1911

when the activity in using the tool is as simple as whittling a stick; we are raised in stature and well-being. To hold a knife suggests some degree of power in your own hands, even when you are somewhat inept in its use. Think of the chef at the chopping block, or the surgeon saving a life. Are they not raised in stature over the person holding nothing but their hopes and wishes that they might have some sense of control over their own life?

I am reminded of a man who stood outside the wreckage of his home after the devastating earthquake in Haiti. With his wife and children trapped inside the rubble, he cried in despair and

desperation, "I don't even have a hammer." I'm also reminded of a seven-year-old I saw holding a long stick at the top of a slide. He proclaimed, "It's a snake." Then he cried, "No, it's a sword," waving it against an invisible foe. Then he said, "No, it's an umbrella!" as he launched himself down the slide, holding the stick above his head. Try this for yourself. Hold a stick in your hands and feel your power return.

Susan Goldin-Meadow at the University of Chicago has found that the hand motion involved in gestures is not as meaningless as we've been led to believe. Even making simple gestures while talking allows us to access better and fluently express our powers of speech and thought. She suggests that when you have trouble accessing a word, shake your hands and see what comes out.

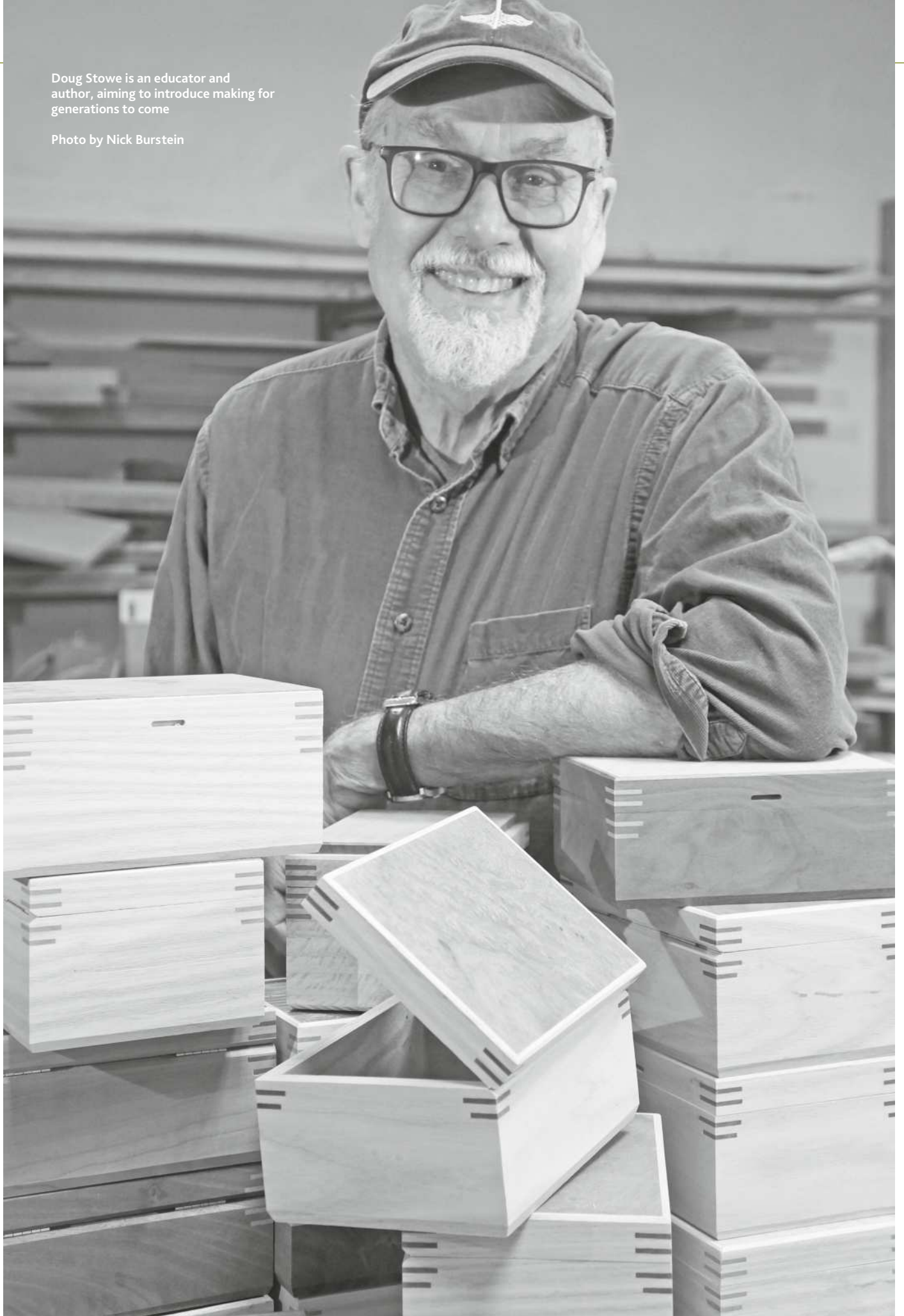
People have been made less intelligent and have sacrificed our mental health by refusing to recognize the integral relationship between our tools, our hands, and the creation of human intelligence. As neurologist and writer Frank R. Wilson noted:

"The hand-brain system that came into being over the course of millions of years is responsible for the distinctive life and culture of human society.... Each of us, beginning at birth, is predisposed to engage our world and to develop our intelligence primarily through the agency of our hands."

The idea that learning through our hands is essential might be considered an eight-hundred-pound sore thumb in academic circles. There are millions of people, college graduates and the recipients of advanced degrees, who feel justified in thinking themselves the best and brightest. For a woodworker in Arkansas to suggest that they could have been better and brighter if their hands had been more directly involved in their education could be interpreted as an insult not because I said it, but because their failure to engage their hands in learning about and understanding the world that surrounds them may have left them in a precarious state of mind about their own capacities. After all, we've lived through generations in which hand skills were marginalized and the trades and academics were held apart from each other. These people may have compartmentalized learning to the extent that they see no irony in feeling smug about their accumulated book learning while being completely inept in managing even simple

Doug Stowe is an educator and author, aiming to introduce making for generations to come

Photo by Nick Burstein



A white oak split basket
by Arkansas artisan Leon
Niehues bridges the turf
commonly thought to divide
art from craft



mechanical things. When it comes to fixing a toilet, for example, they call the plumber, thinking that because they know so little they might make a bigger mess of things. They should acknowledge at least a small bit of inadequacy in that. Craftspeople too can compartmentalise learning, choosing to invest time and energy in particular areas of skill and expertise over others. That is a reasonable human trait, and it can benefit our work. The best of us learn to guard against losing a sense of wonder at the skills developed by others. We know firsthand the effort required to craft our own skill. We've thus learned the necessity of appreciating and encouraging the growth of others.

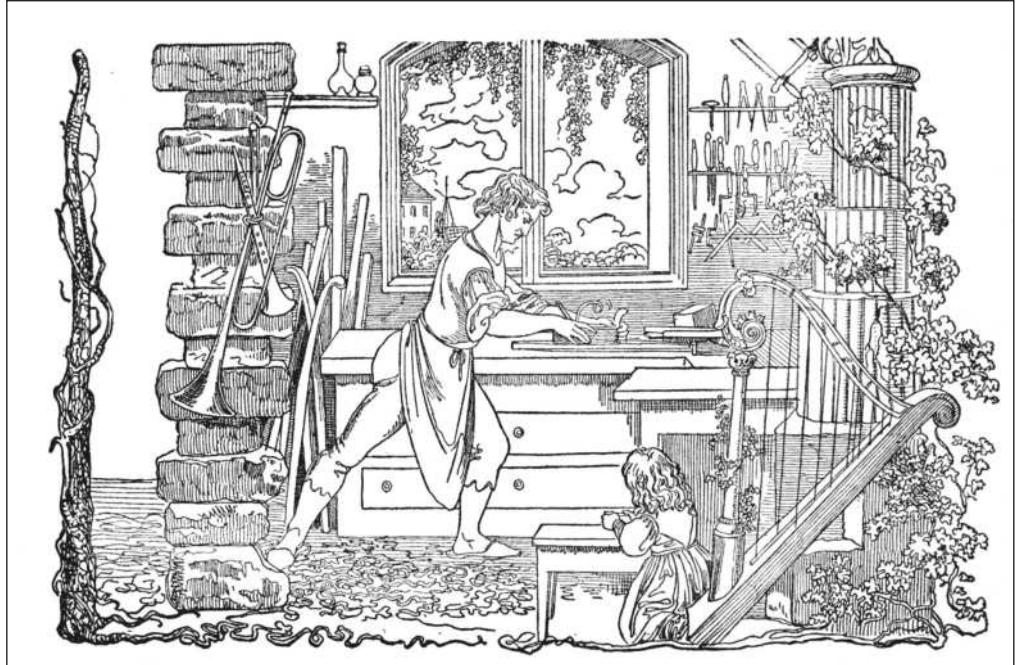
Otto Salomon, in discussing why Educational Sloyd was to be offered to all students, even those not destined to ever be required to develop hand skills, proposed the following: "Persons not manually trained, generally regard the products of manual labour at less than their real value. They think it much more difficult to solve a mathematical problem than to make a table. It is not an easy thing to make a parcel-pin or a pen-holder with accuracy, and when students have done these things they will be the better able to estimate comparatively the difficulty of making a table or chair; and what perhaps is of still greater importance, they will become qualified to decide between what is good and what is bad work."

And Jonathan Baldwin Turner, father of the USA's land grant colleges, wrote of the dangers of a two-tiered society in his Griggsville Address, May 1850, noting the hazards of leaving one class of folks untrained in the manual arts.

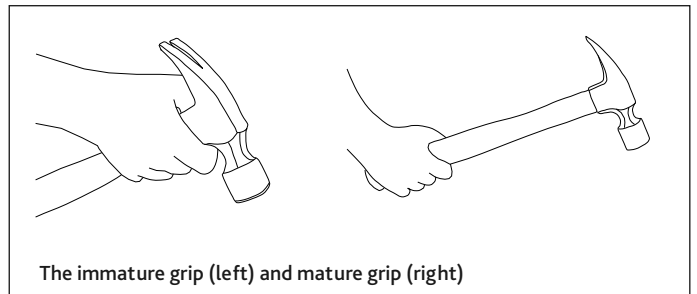
Creation of intelligence

When you begin to understand the role of the hands in the creation of intelligence, you cannot help but notice the effects of current American education. To isolate the education of the mind from that of the hand and to separate those who have academic ambitions requiring college from those presumed ill-suited for academic pursuits and destined for the trades are costly decisions. Even those who may never need to fix a broken pipe might benefit from trying, and in doing so acquire respect for those who can. It feels good to figure things out and to witness the skills we've developed in our own hands. It feels good to know what to do next, and to then do it; and there are neurohormones involved that create a sense of agency and offer renewed energy to face those things that may ail us.

It is never too late to incorporate hands into learning. When my father-in-law turned eighty-two, I bought him a carving knife and sent it to him with the rough wooden shape of a small dog that he might whittle. After he opened his present, he kept the knife and carving blank in the box for about a month, and then one day he picked them up and went to work. From that day and for the next sixteen years, he didn't stop working on his next masterpiece. He set up a small workbench on his screened-in back porch. Using designs he traced on wood, he cut shapes with a coping saw and whittled small wooden animals that he gave as gifts to visiting



Friedrich Froebel's book of songs and finger play for Kindergarten helped children to understand the importance of crafts and tradesmen in their communities



Given the opportunity & practice, children will mature in their use of tools

children. My daughter has her own collection. I always knew what tool to buy him next. Over the sixteen years, he wore out a few knives. His carvings were not true masterpieces in the eyes of others, but they were a means of finding satisfaction and joy in their creation, and they were a way for a man to share. Need the carvings be or say something more?

We all feel the inclination to grow and develop in our own work. What we did last is not good enough in comparison with what we'll do next. That's the nature of growth and the spirit of craftsmanship. We do not know how high we might reach. We do our best, even when the evidence of our labours is nothing more than the accumulation of aromatic shavings at our feet.

I told a sculptor friend of mine that I proudly wore the sprinklings of sawdust on my clothes, on the lenses of my glasses, and in my hair as evidence of my labour. I'd learned that evidence worn on the outside – just like the greasy hands, smudged faces, and filthy jeans of the tradesmen who came into my father's hardware store – is often evidence of meaning within. When we live lives of direct service to others, we feel better about ourselves and about each other. That's therapy of the best kind, and the hands are central to that.

The Wisdom of Our Hands is published by Linden Publishing. It costs \$16.95, has 174pp and is also available in e-book formats. Follow Doug on Instagram @douglasstowe, or his blog wisdomofhand.blogspot.com or visit dougstowe.com. Doug has been a professional woodworker since 1976, lives in Eureka Springs, Arkansas and is the author of 14 books.

SHARPENING & FETTLING Honed

Water, Water Everywhere

Just as David Charlesworth advocates, *Richard Wile* records why waterstones remain a popular choice

With the variety of sharpening media available in the marketplace it is often a challenge for the woodworker to make a choice that works well for their situation. Many people prefer oil as a lubricant where rust is a concern or water might freeze. In a previous issue I explored oil and diamond stones which remain popular options where using water as a lubricant is not a good choice. Far and away the most popular choice today are stones that use water as a lubricant and for woodworkers, the variety is endless when looking for a proper water stone to sharpen and hone your tools. Waterstones as the name suggests are designed for use with water to both lubricate the stone and carry away the swarf from the sharpening process.

Water will keep the stone from glazing over, carry away the swarf and allow the steel to get to the freshly exposed media constantly in use. While natural waterstones exist and have been used for centuries, most waterstones we see today are man-made with aluminium oxide as the grit, fused into a block with various binders (glues/resins) and methods.



Natural waterstones will perform like the man-made type, however because they are a natural product, they may not have the precise grit sizes of man-made stones. Many woodworkers seek out these natural stones and prefer them to their more modern counterparts.

Ceramic waterstones are often heated to high temperatures during the manufacturing process, much like other

ceramics. This method creates a stone that is harder and as such will wear slower, staying flat longer, but because a ceramic stone is slower to fracture and expose fresh abrasive, ceramic stones often sharpen slower than the much more aggressive typical waterstone.

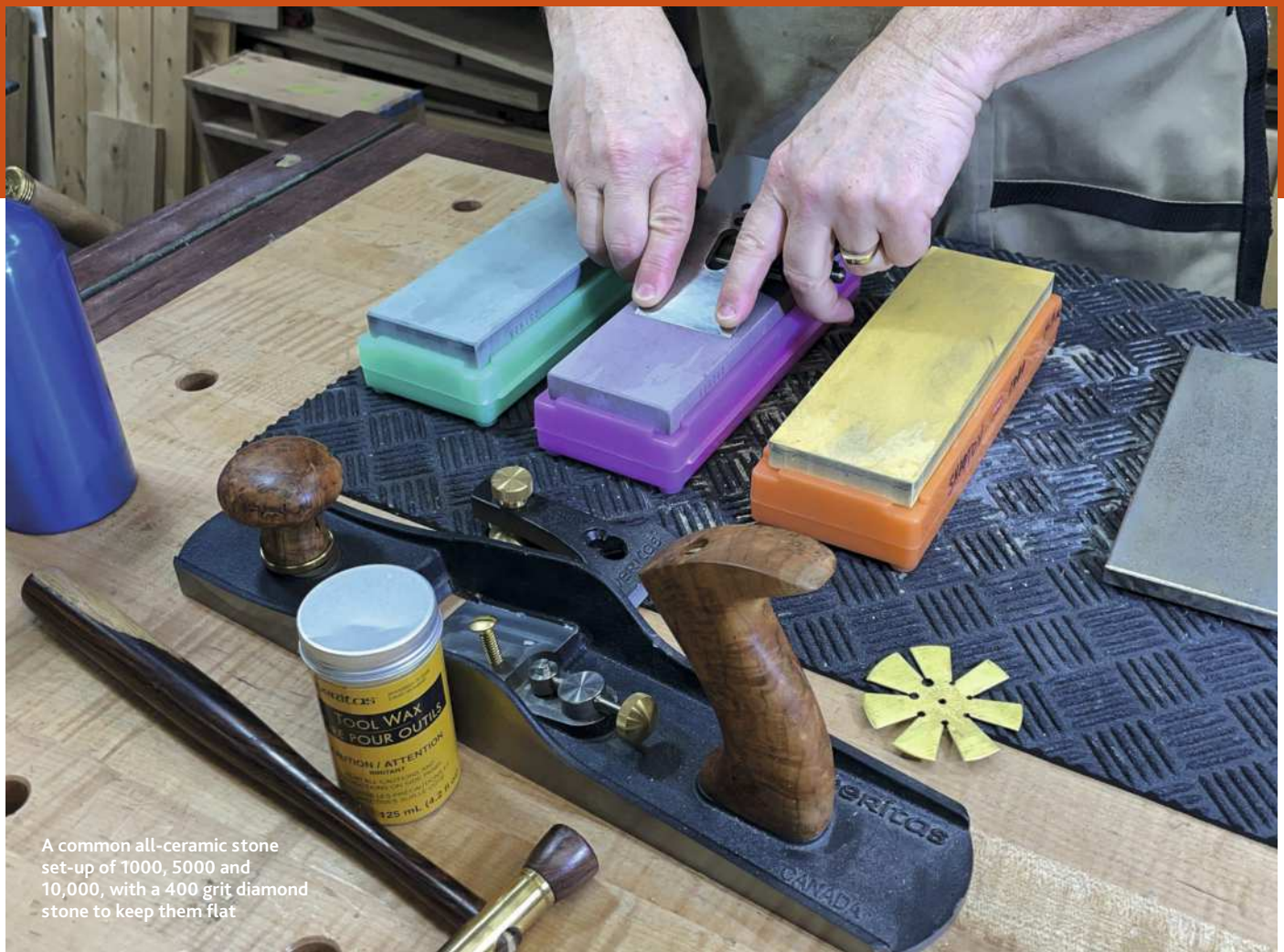
Due to the more involved manufacturing process of ceramic stones, they are usually more expensive than waterstones, although this is not always the case. We need to rely on the manufacturer to tell us the proper care of and use of the stone, however for the most part they are used the same, so knowing if you have a ceramic or a natural/man-made waterstone doesn't always matter. One common attribute of many ceramic stones is that they require much less water to be effective, in fact many only require a quick spray to start and the odd spray in use to keep things sliding around.

How the stone is made determines this and if you are not sure, spray some water on the surface of the stone and if it quickly disappears into the stone, the stone can benefit from some soaking. Immerse it in water and when the air bubbles stop coming up the stone is saturated and ready for use. Many woodworkers will keep their stones in water ready for use, however this water becomes a harbour for organic growth and many have been surprised by the smell after they are stored closed up in water for a few weeks. This approach is only recommended for those that sharpen regularly (daily) and the water should be changed frequently to avoid unwanted growth of 'nasties'. It also helps to put a few drops of dish soap in your water to keep things clean.

While most water and ceramic stones use aluminium oxide as the media in the stone, silicon carbide is also used in coarse waterstones as it is very aggressive and is an excellent choice as a grinding stone to reshape your bevel or repair a nick in the blade. Silicon carbide stones are commonly available in the 100-300



A well-flattened 10,000 ceramic stone is an excellent lapping choice for a well-prepared plane iron



A common all-ceramic stone set-up of 1000, 5000 and 10,000, with a 400 grit diamond stone to keep them flat

grit range. Special flattening stones with grooves to carry away extra material are common and an excellent flattening option.

Choosing stones

So which stones do I choose? There is no hard and fast correct answer. Budget is a key consideration for many and basic waterstones are an economical option and can be purchased in dual configurations. To get maximum bang for the buck. A combination 1000/4000 stone will prepare the edges of most woodworking tools for general woodworking.

Those doing fine woodworking, and those that want a keener edge, will want an 8000 grit stone as well. Most waterstone brands top out at 8000 grit, but ceramic stones are readily available in uber-fine grits up to 30,000 for the ultimate razor edge. There is a water/ceramic stone option for every budget. Many will settle on a fine grinding stone in the 1000 grit range, a fine honing stone in the 4000-5000 grit range and an extra-fine honing stone at 8000 grit or above. My personal set-up is a 1000/5000/10000 ceramic arrangement which fits nicely on my dedicated sharpening station. I prefer the spray-and-go option which requires minimal water and I use a 400 grit diamond plate

to flatten the stones after every use. Starting out in the waterstone game, I usually suggest buying a 1000/4000 combo waterstone and as needs evolve, buy an 8000-10,000 grit ceramic stone for that keen edge on tools that need it. A silicon carbide flattening stone will keep these nice and flat. When the time comes to invest in a coarse grinding option, many choose the diamond plate as their long-term grinding and flattening choices.

Everyone's sharpening workflow is

different and develops at a different pace. There are hundreds of stones to choose from out there, helping us fine-tune our approach and achieve the perfect edge.

Living in Nova Scotia, Canada, Richard has built furniture and musical instruments, and has just finished a canoe. As a tool designer & writer, he has done extensive research in the sharpening field, recently publishing his first book on the subject: A Sharpening Handbook. Instagram: @rdwile



A common two-stone set-up includes 1000 and 5000 waterstones, often enhanced with an extra-fine ceramic 10,000 stone

A Signature Pull

Germán Peraire employs violin pegs on his doors and drawers



Traditional violin pegs are very ergonomic and pleasing to the eye (above)



Detail of a wedged peg protruding through a door (above). Choosing the location of any pull (left) may greatly affect the appearance of a piece. Over-long peg (below) fitted to a drawer front



Pulls have a strong influence on the appearance of a piece: their aspect or even their location can lift it or disfigure it completely. Additionally, they not only need to be aesthetically pleasing but also ergonomic and pleasing to the touch. The ubiquitous Shaker style pulls are usually a good compromise between aesthetics and functionality, although they don't fit the more personal approach I'm after.

My father spent a few decades fixing musical instruments for a living, and his workshop drawers had pulls made from violin pegs. That is an obvious choice for a craftsman of his field since violin pegs have been refined over centuries to be precisely tweaked by sensitive hands while withstanding immense tension. They are, therefore, a great marriage of form and function. When my father retired, I inherited a substantial stock of them in many sizes

and shapes along with the necessary tools to install them adequately. Since then, they have become a signature trait of my pieces and a personal reference to my story.

The anatomy of pegs

Violin pegs are often made from hard exotic timbers like ebony or Indian rosewood, although there are more sustainable options like boxwood. They are fashioned after different patterns (Heart, Hill, Swiss, etc.) and some of them can be quite intricate. While most of them are mass-produced, a handful of specialised craftsmen like Ivan Peykov or Gocho Ivanov craft one-of-a-kind pieces. Invariably, their stem tapers to a 1:30 ratio.

Unlike cylindric dowels, the perfect fit doesn't depend on diameter, but on how far they enter an equally tapered hole. With the appropriate tools, we can easily tune that fit.

When it comes to installation the first choice to be made

is the exact location of the knobs. This also affects the appearance of the piece, so we should give it some consideration. Placing them slightly above the centre makes for a more balanced appearance, especially when the drawers are below eye level. An ordinary hole is drilled with a diameter similar to that of the thin tip of the peg, taking care to maintain squareness. Then we can taper it with a reamer and adapt it for a tight fit.

Reamers can be tricky to use, as they can throw the drilling out of squareness if tipped. We avoid that by using them upside down and gauging the tip of the tool being centered in the hole as it's used.

Trimming the stem

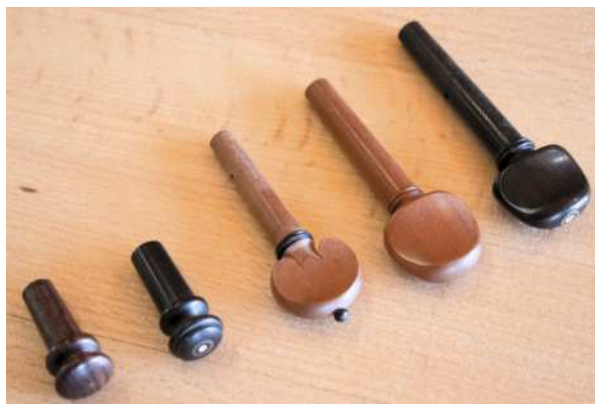
At this point, the stem is overly long and it should be trimmed to a more manageable length. The peg fitted to the drawer front can be flushed using a

spacer to have it protrude just a few millimetres.

Next is making the saw kerf that will accommodate the wedge. The peg is secured in a piece of scrap wood, which is held in the vise. The wedge must be thin enough to enter the saw kerf and from hard material to withstand the hammer blows. My choice usually is hard maple. Once the glue is set, you can choose either to cut it flush or leave it protruding as a hidden detail. This choice should be made before installing the drawer bottom in order to work unhindered.

Long-lasting pieces will eventually need refinishing. To that end, you might want to make your pulls removable. If that is the case, I would avoid wedging them. Animal protein glue, which is reversible, would be the obvious choice here.

Follow on Instagram
@germanperaire, or visit
germanperaire.com



Different peg models (above) in ebony, boxwood and Indian rosewood (above). Luthier's reamers (below) and peg shaper



Fitting the Pegs

Using the reamer (right) upside down helps maintain squareness. Making a saw kerf (left) to receive the wedge. Thickening the wedge (above and right). Flushing the overly long stem (below) to a manageable length



Installed pegs in the finished drawers

No More Poles Apart

Julian Jones recounts how he became a pole-lathe turner, and shows how he turns a bowl, step by step



Until recently I had spent several years daydreaming about building a pole-lathe for bowl-turning. It would fill in what I saw as the missing piece in my offering as a greenwoodworker, and someone who makes some part of my living from my craft. For some context to this thought, I'll give an overview of the various things I do day-to-day.

I make treen to bring to the markets, where I set up a spooncarving demonstration. I primarily try to catch folks' interest in my workshops and private teaching, and generally meet and socialise with the public. The less public-facing part of my business is focused on helping out other carvers. I sell greenwood spoon blanks, and I offer a specialised sharpening service for greenwoodworkers.

Bowls in *Banksia Menziesii*, aka 'Firewood Banksia' for its stunning red colour when fresh

I own a Tormek (a slow-speed wet grinder with a vast selection of jigs available for various tools), so I can sharpen pretty much any greenwood or woodworking tool to a high standard. Most of the time I hollow-grind Mora knives and carving axes for customers. Folks would drop off their tools to me and pick them back up in a condition that I'd be happy using myself. My business is typically slow but I charge a premium price for most of my services. This way I don't do a high turnover, but I'm well rewarded for the time I spend.

Making a pole-lathe

I can't say why, but I felt the pole-lathe was one of those 'some-day' projects that

would really never arrive. I had been living in small apartments in inner Melbourne and just didn't have the space for it, I thought. In the meantime I collected and fettled the hand-tools needed to build one without power. I ended up using only a few tools for the lathe build, although I had collected a good deal more.

When it came to building the lathe, I followed the plans and videos kindly made available by Owen Thomas for free on his website (links following the article). I made a few changes though, for example I used a live edge slab for the lathe bed rather than dimensional lumber. This complicated the layout as I couldn't reference the edges. I ended up using a string and tacks to lay the lines, and referenced all of the other features from there. Aside from the slab (cypress), I used scrap softwood lumber for the rest. For dimensioning the lumber you'll need two good handsaws, a rip and a crosscut. For flattening the slab I used a No.5 jack plane (my handplanes are all Falcon Pope: a lesser known but good quality Australian maker that was in business for a short time in the 1940s and 50s), and then a No.4 smoothing plane to tidy it up. You'll need an auger to bore out some relief so you can start the rip saw for the internal slot. You could use the auger you use to bore the mortises for the legs.

I paid special attention to planing all of my surfaces flat, square, and plumb, but in retrospect I'm not so sure if this was important. My poppets (the movable vertical pieces that the lathe centres and tool rest are mounted on) are significantly thinner than other bowl lathes I've seen, but I've yet to find this a problem for turning practical-sized bowls.



The first step after splitting the blank is flattening the top face (left). Julian uses dividers to scribe a circle and then bore a small hole (above) for an interference fit tenon mandrel



Julian Jones with his first softwood pole-lathe. Julian now lives in Melbourne



Axing the rough shape of the bowl (above) and the first out pass at the bottom (right)





An ebonised
Grevillea robusta



A stack of small
quichs, made from
ebonised Casuarina

Folks in the UK are spoiled for choice as to where to obtain really good quality hook tools; not so here in Australia. A few years ago though, I had met Liam Culbertson, an accomplished turner and blacksmith based in Melbourne. Liam and I connected online (you can find his work on Instagram @liam_culbertson) and then met in person at the Melbourne chop club, a meet-up for greenwoodworkers (hosted by the talented Pip @pipjhaydon) where I was a regular for a couple of years.

Seeing Liam's pole-lathe turn treen in person really pushed me to build a lathe myself, but it took until I moved to Perth about a year ago, (and finally had a backyard) for things to get going. Liam forged two hook tools for me, a tip-up (which does most of the hard yards), and a tip-down (which helps with turning down the core of the bowl). He also fabricated the two mild steel centres with 60° tapered points that the bowl blank runs on.

The key differences between the spindle lathe or 'bodger's lathe' that you might be familiar with, as opposed to a bowl-turning lathe, are the tool rest and the generally

sturdier construction. The tool rest is free to swivel around and is supported on the left side by a sturdy beam which is secured to the poppet with a housing joint and wooden pegs. On the top of the beam there are evenly-spaced holes which one uses in combination with a peg to set the position of the tool rest. The right hand centre has a 90° bend and is mounted on the top face of the poppet (which is shorter) rather than the inside face. There is no thread nor handle to advance the centre to snug up the workpiece, you use a mallet to set it firmly and then tap the wedges underneath the lathe bed while the poppets are held in the correct position. This process was cumbersome until I realised that little to no pressure is needed to hold the piece between centres, you just snug it up and tap the wedge.

Turning a bowl

Attempting to actually turn a bowl was intimidating. I had never even seen a pole lathe in person at this point, or held a hook tool. I made mine with a rough idea of how they worked and relied on the plans to fill

in the gaps in my knowledge. It took me two failed tries to end up with an actual bowl, and after that I saw incremental improvements each time. I've now turned many, and I'm very happy with my results. I had heard some of the pre-eminent turners talking about how one needs to turn hundreds (thousands?) of bowls before making a good one. I was pleasantly surprised at the pace of my improvement. So let's talk about transferable skills.

Before starting on the pole-lathe, I had done just about every greenwood-related project short of chairmaking. I had made hundreds of spoons, a dozen or so Kuksas, carved bowls, shrink pots, etc... None of this was particularly useful because pole-lathe bowl turning is a unique operation. The planes upon which you work are turned sideways and the bowl moves as well as the tool. What I did have that helped me greatly was a strong intuition for grain direction and tool orientation. I found the teaching material online largely unhelpful for this and just needed to get stuck in and work it out by feel. The pulsing motion of engaging the tool and drawing



Turning the foot of the bowl (left) with the tip-hook down. Rough turning the hollow (above)



Quaichs turned from 'Silky Oak'

my thoughts for a few weeks. Sourcing appropriate wood for bowl-turning has been a challenge, but I can see that it's going to be a staple for my treen going forward. It's wonderful to be able to make the bowl as well as the spoon; you can't have one without the other!

Since writing this article last year I've now forged my own hook tools and experimented with end-grain turning, handled end-grain cups, and nesting bowls. All of these were intimidating to try but well worth the effort. Have a go forging your own tools! Even with a bare bones set-up it's not so difficult and well worth a try. Secondly, I now regret building my lathe from softwood. I will likely make another from studier, larger, heavier timbers. It works well for small bowls but when I try to turn a heavy bowl blank I have issues with vibration causing the bowl to lose its true centre - this can lead to you chasing in circles and ruining your bowl. Happy turning!

Resources

Here are some of the resources I used to teach myself how to turn bowls.

- There are lengthy tutorial videos with both Sharif Adams and Yoav Elkayam on the Zed Outdoors YouTube channel (youtube.com/user/ZedOutdoors).
- Sharif also wrote a very helpful article to accompany his video with Zed, which also contains links to lathe plans, tools etc... (woodenway.wordpress.com).
- Owen Thomas made a series of videos on how to build a bowl-turning pole-lathe following his plans (youtube.com/channel/UCqdsK4VPmNafVBE5JYIaV6Q) and plans at owenthomaswoodcraft.com/pole-lathe-plans.
- You can learn more about myself and the various ways I work with wood and metal with my YouTube channel, where you can find my pole-lathe learning video diary (youtube.com/c/littlebearsloyd). You can visit my website at littlebearsloyd.com and follow my Instagram and TikTok accounts, @littlebear_sloyd, or visit linktr.ee/littlebear_sloyd.

it back during the counter-rotation of the workpiece took me probably a dozen bowls to conquer. However, the motion of tracing an arc with your arms and body was one that I already understood through using a hook knife for spooncarving, though the orientation and scale are different.

Here are some of the takeaways from my experience in bite-size form.

- Try not to clench and over-grip the tool: it's exhausting and doesn't help.
- It's not enough to just engage the tool on the downstroke, you need to give it a tiny push to remove material effectively.
- Try to finish the rim of the bowl to a good thinness and surface finish before you fully hollow the bowl or turn down the core. Once the rim starts to flex from the application of the tool (or from the core flexing), it's game over for a good finish.
- For the outside of the bowl, I found Sharif Adams' advice to work in small arcs and move positions as you go to be the most helpful. This was a revelation once I got it right.
- Use outside callipers (the curvy kind) to keep track of the thickness near the

bottom. It's hard to estimate it correctly with your fingers. I don't do this anymore but in the early stages it was a huge help and stopped me blowing through the bottom when trimming the nubs.

- Axe the bowl blanks diligently, but don't obsess over it. I experimented spending lots of time on precise axe-work, and found it cost me more time than it saved on the lathe. There is a sweet spot that you will find.
- Make sure that every single spot on your hook is sharp. I thought I was sharpening mine adequately but later discovered that there was a blunt spot right on the most used part of the hook which explained the tear-out problem I had been having. So check the edge often and thoroughly.
- Finally experiment with different diameter mandrels.

Learning from scratch

Overall I'm overjoyed to have the chance to learn a new skill from scratch. I found it very challenging and engaging to the analytical part of my brain. Mulling over how to turn more effectively and improve my results completely occupied



After turning the core of the bowl down thinly, you can snap it off to free the bowl from the mandrel (above left). The final step is carving out the nubs that are left on the inside and the bottom (above right). I use a twca cam (which is Welsh for bent knife) for this. A 'bottoming knife' is more traditional

Some Superior Marking

Looking back to shows past, *Ethan Sincox* pays tribute to a gift from the depths of an English bog

At the first Handworks show in Amana, Iowa (2013), I attended as a fairly-new-to-hand-tools woodworker. I still had my tablesaw in the shop, even! I had a tremendous amount of fun there and got to physically meet many woodworkers I'd only known through the Internet up to that point. It was a great learning (and shopping) experience and I hoped it was such a success it would happen again.

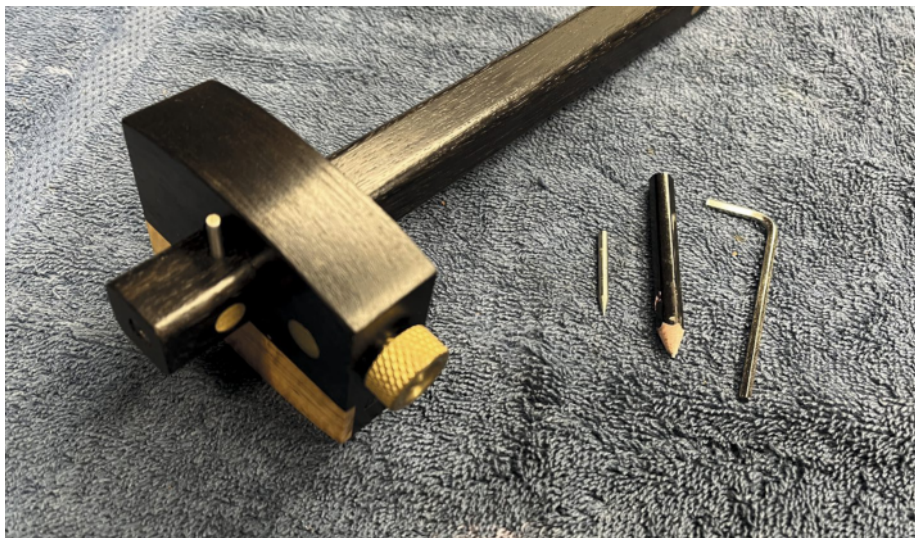
The next year, I found out there would be a Handworks 2015. I was excited, but I immediately realised I needed to do more if I went. I didn't want to just go to Handworks again; I wanted to be a part of Handworks. When I found out my friend Phil Edwards, proprietor of Philly Planes in the UK, was going to have a booth there, I knew what I could do.

I emailed Phil and told him I wanted to help. I suggested he could ship all his stock and booth supplies to me and then I could drive up early to meet him on set-up day. I also offered to help him man his booth during the Handworks weekend. Much to my joy, he agreed.

I triple-checked to make sure I had all his tool stock and booth equipment before heading up the day before the event. Although Phil and I had known each other for 10 years at that point, we'd never met in person, so I was excited to see him in Iowa. His assistant, Steve, also made the trip, which meant we had the booth set up in no time. After a brief visit, we retired for the evening so we could be well-rested in preparation for a busy weekend.

I wanted to be myself at this event, but I also tried to blend in with the two Englishmen, so I wore my brown Utilikilt and my Premier League shirt with the Saint George flag on the back that first day. I'm still not sure why I got so much harassment for that. We met early, before the barn doors opened to the public, for a quick discussion on prices and to set up tools for display. It really didn't take long; I'd been familiar with Phil's work since he'd started, and Steve helps make them.

I'm an outgoing, friendly person, so when the first woodworker approached our booth indicating an interest in Phil's Superior Marking Gauge, I stepped up to help him out. It was like that for much of Handworks. We had a constant flow of customers all weekend, but I did get shanghaied for a few hours on Saturday



The Superior Marking Gauge kit includes a hardened pin, a cutting gauge, and a pencil, all secured with set screws and an allen wrench (above). Is there anything better than bog oak and boxwood (right)

by Mike Hancock and Alex Primmer from Classic Hand Tools. Mike was visiting all of the American toolmakers he carried at CHT and he needed a photographer to capture the moments with him and his adoring fans. Disregarding my kilt and "lily white legs", Mike thought I looked competent enough with my DSLR camera such that I could help him out.

About halfway through our photo sessions, Mike decided it was time for lunch. When he ordered a third round of pints for our lunch break, I warned him that if the quality of my photography deteriorated from there on it would be 100% his fault. Apparently, I cannot keep up with my English brethren when it comes to drinking pints.

By the end of Handworks, I'd managed to sell a few of Phil's Superior Marking Gauges, some plane floats, and I think even one or two of his wooden smoothing planes. He surprised me with a present: the rosewood Superior Marking Gauge with a flash of sapwood on the stem I'd been eyeing most of the weekend. I very mildly protested for a second or two before cradling it against my chest.

Back in the shop, my new Superior Marking Gauge quickly became a staple tool for pretty much any project I had. It even outshone my walnut eccentric



marking gauge from Harris Tools, a small US company that has been out of business for a number of years.

The Philly Planes Superior Marking Gauge takes the best features of many other traditional marking gauges out on the market and rolls them all into one tool. A knurled brass thumbscrew secures the stock (that is the technical term for the fence that slides along the stem), which is pretty standard. Phil's design improvement was to adhere a disc of phenolic material to the end of the thumbscrew, which prevents it from marring the stem. You also don't have to worry about losing a separate foot when you disassemble it.

Phil's other major improvement was to enable the stem to hold a hardened pin for general layout work, a sharpened blade for cutting veneer or marking across the grain, or a pencil for when you want to mark without damaging the surface. This eliminates the need for three separate types of marking gauges, which is especially good for saving space when you're travelling. The cutter and pin are

made from high carbon steel, which makes upkeep easy, especially considering you can fully remove them from the tool when you need to sharpen or re-point them. This also lets you determine how you want the cutter to reference the stock, depending on where the waste is where you are marking.

An important aspect of a tool is that it feels comfortable when in use. If a tool is too small or too large, or if it is not easy to hold, then your technique or work might suffer. One thing I really like about the Superior Marking Gauge is how well it fits my hand. A small bit of concavity in the top of the locking screw makes an excellent resting place for my thumb, letting me grip the stock and stem securely.

The only thing the Superior Marking Gauge doesn't improve upon is marking mortises. It's not really a flaw because it's not designed to be a mortising gauge. I'm struggling to find something about it that I don't like, so I'll go with that.

No longer rosewood

Most of the gauges Phil has sold over the years have been made from rosewood and brass. He also offers them in boxwood, one of my two favourite woods from the UK, as well as American cherry and steamed pear.

If you can't tell from the photos, my Superior Marking Gauge is no longer rosewood! Some time after Handworks 2015, I had a supply of bog oak sent to Phil so he could make me some 3/8in and 1/4in beading planes. What he didn't tell me was that he had enough bog oak left over to make a Super Superior Marking Gauge. He surprised me with this on my birthday a few years later. If you do not already know of it, I have a very strong affinity for bog oak tools. Phil must know me well enough.

Where is that rosewood Superior marking gauge right now? Sitting in its original box on a shelf in my shop, waiting for a Christmas or birthday when my son will really appreciate it. And, yet again, my son is going to benefit from one of my woodworking afflictions. I swear he has a better kit of tools at age 11 than I had when I was 40.

Follow Ethan on Instagram @ thekiltedwoodworker. The rosewood Superior Marking Gauge costs £139 plus p&p from phillyplanes.co.uk.

The author marks out hinge depth before removing the waste with a small router



Better Turns of the Screw

Working daily by traditional techniques, *John Peeler* fixes aprons to tabletops the 18th Century way

My work in the Anthony Hay Cabinet Shop at The Colonial Williamsburg Foundation largely focuses on constructing furniture that would have been used in the homes of the upper-middle class and gentry of 18th Century Virginia. We examine period pieces of furniture to record dimensions, woods, and construction techniques, but we also look for more subtle tool marks and evidence of working. We take what we see and reproduce the piece with the same tools and techniques that were employed at the time. This ultimately serves to help us share this small part of 18th Century colonial life with guests to the shop.

We make use of tools that most hand-tool woodworkers would easily recognise today: handsaws of all sizes, handplanes, chisels, marking and measuring tools, and English workbenches. We construct our pieces with the types of wooden joints still around today, like the dovetail, mortise and tenon, and many others. Some guests are surprised to find that we also make frequent use of period fasteners like screws and nails to hold together certain parts of our work. In a world where economics and efficiency are at the centre of the trade, this makes sense, and is proven by the artefacts that survive from that time. Here in the Historic Area, we are lucky to have friends at the Anderson Armoury, where our blacksmiths can provide us with most of the fasteners we need. However, just like in the 18th Century, many period-accurate nails and screws can be commercially purchased, ready to use.

These were hardly new inventions in the 1700s. The idea of the screw probably goes back to Archimedes in the 3rd Century BCE, if not earlier, and has evolved as manufacturing and materials have changed and improved. The screws we had in the 18th Century could be machine cut, but those had to be literally pointless; the technology to cut threads on a pointed screw tip did not develop until the mid-19th Century. Some screws were forged and their threads filed entirely by hand, and did have points, though these were more expensive. Almost all had a slot on their flat or domed heads.

A recent project of mine, a sideboard table, had me using screws yet again, and in a way I wish I had known about years ago as a hobbyist woodworker. The



A bit and brace, held at an angle, is used to drill the hole for the screw well

table was probably made by the original shop owned by Anthony Hay in the 1750s or 1760s. It's a straightforward piece of furniture with a broad, flat top and useful, full-width drawer. Its curvy cabriole legs were commonly seen on tables from the time period as a mark of fashion and expense. The trumpet [pad] foot on each leg is turned on the lathe, and links the table to others made in Williamsburg by the Hay Shop. Many tables made in this time also share a common way to attach their tops that we see, with screws set into screw wells, which are gouged into the aprons of the table. This method offers a simple way for tabletop attachment. It doesn't require any extra hardware, can be made with common tools very quickly, and is very nearly foolproof. Most importantly,



A screw well (above) on an 18th Century Virginian table. Note the maker dug the well too deep and pierced the outside face of the table apron. Two finished screw wells (right) on adjoining aprons of the sideboard table, ready for screws and top attachment

it allows the top of the table to expand and contract with changing humidity, an important property both today and in the days before modern climate control.

To make a screw well, whatever century you may be in, you'll need a way to drill a hole that your chosen screw can fit through easily. In our shop, I opt for a bit and brace. You'll also need some type of gouge to create the pocket that your screw will pass through. I use a gouge with an 8 or 9 sweep, but you could use something flatter. You truly can use just about anything. I've even seen these done solely with a flat chisel. I also make use of a marking gauge to increase my accuracy, but this isn't strictly necessary. I like to make my screw wells before the table is assembled because the parts are easier to handle, but it isn't too difficult to make them with the table together already.

Planning the aprons

First off, plan where you want your screws to be. We often see them two per side of a table, but it can be as few as four in total. Mark where you want the screws to be on the top edge of the aprons, where they will screw into the top. From there, if you like, grab your marking gauge. You need to set it to a distance the length of your screw, minus the amount you want the screw to penetrate into the tabletop. For example, if your screw is 1 1/2 in long, and you want your screw to go 1/2 in into the tabletop, then set your marking gauge to 1 in. Now position your gauge with the fence against the top edge of the table apron where your screw well will be, marking the inside of the apron. Make sure it is the inside! I have seen a few tables with their screw wells on the outside of the apron, but that





The contemporary approach to screw wells

Using screw wells (above) in table top attachment can be done before or after the table frame is assembled and with only a few simple tools. After pre-drilling the top (right), the screws in their wells are best tightened by hand with a screwdriver. The screw well (below) is excavated with a gouge to expose the previously-drilled hole



is usually when the apron will be covered by a drop-leaf or a swinging leg.

With everything laid out, it's time to get to work. Take your drilling setup and place the bit in the centre of the top edge of the apron. Now comes the important part: angle the bit so that as you drill, the bit will eventually break through the inside face of the table side. It's worth a double check to make sure you're angling the bit the correct way. The angle isn't really important, as long as you visualise it exiting the table side at the right point, beyond your marking gauge line. In my example, I was aiming for it to exit about 11/2in below the top edge of the apron, but it ended up a little farther down. No matter. The drill bit will blow out the side of the apron, and for once, you don't need to worry about that.

Now, with the table apron lying flat on the bench, either clamped to the bench or against a stop, use your gouge to create an angled pocket that reveals the hole you just drilled. The finished pocket usually has a parabolic shape. You can use either your gouge or a chisel to make downward cuts right in your gauge line, and then scoop out to create the well. Once you have removed enough material to see the entire screw hole, test it out by placing your screw in the well. This should result in the tip of the screw peeking up from the apron edge, where it will bite into the tabletop. If you measured correctly, the shoulder of the well will prevent your screw accidentally breaking through the top of your tabletop and ruining your day.

Ready to assemble

At this point, you're ready to screw your top down. Depending on your wood, you may need to pre-drill your top a bit, but this is easy enough. Set the table on its top with the whole thing upside down, and mark where your screw will hit the top. I like to use the same bit and brace from before to mark this as it will be centred



The finished sideboard table in the wareroom of the Anthony Hay Cabinet Shop

and at the right angle from the screw well. After the spots are marked, remove the table frame and change out your drill bit to a smaller one to allow the screw threads to bite into the top. When you go to pre-drill, remember that these screws are going in at an angle. I have found that approximating the angle is good enough, but you could always use a bevel gauge set to your angle to be more precise. After that, return your table to its top, set in your screws, and get to tightening.

You may be thinking to yourself that this sounds like primitive pocket-hole joinery, and in a way, you'd be absolutely correct. Just like today's options, these pockets hide a quick and efficient way to fasten work together. You can use screw wells with just about any type of screw, modern or not, though there are a few important things to remember before incorporating

this strategy in your work. First, the screw holes drilled in your table apron need to be slightly over-sized to allow the screw to pivot as the board moves with humidity changes. Secondly, be sure not to forget about the tip of your screw when measuring for your screw wells. I even go so far as to blunt mine down, allowing more screw into the top without piercing through. This results in more thread surface area grabbing the top. Lastly, a little bit of practice with this technique can go a long way, and some

wax on the threads will always be helpful to ease a screw into place.

As the ability to make screws by machine evolved in the 19th Century, their use further spread as a way to secure woodwork, though traditional wooden joinery remained in most of its forms. I often remind guests to the shop, both seasoned woodworkers and the uninitiated, that screws and nails do an excellent job pinching parts together with force in one direction, but are not so great at resisting lateral or torsional pressure. This can be a weakness, but when you're nailing on the back boards to a chest of drawers it hardly matters. In fact, as we've seen with the use of screw wells to hold tabletops, that same ability to allow for lateral movement makes screws suited to the task.

Cabinetmaking in pre-industrial times can be surprising in its qualities and focus on efficiency. The people who made this furniture, whether free, enslaved, indentured, or owners of the business, wanted one thing in common, to get the work done as quickly and as easily as possible and move on to the next thing. As we seek to study and build this furniture, we look for and acknowledge their ways of working as a way to study the people themselves. As I continue to examine more work from the 18th Century, I am continually faced with the workmanlike efficiency of period makers, and always seek to incorporate that in my work both in and out of the Hay Cabinet Shop.

Follow John Peeler on Instagram
@johnrpeeler and Colonial Williamsburg
@colonialwmsburg.



With the well finished and the screw seated loosely in, the fit can be tested

Essential Hand Tools

Bill Ratcliffe turns to a book he uses for learning and teaching

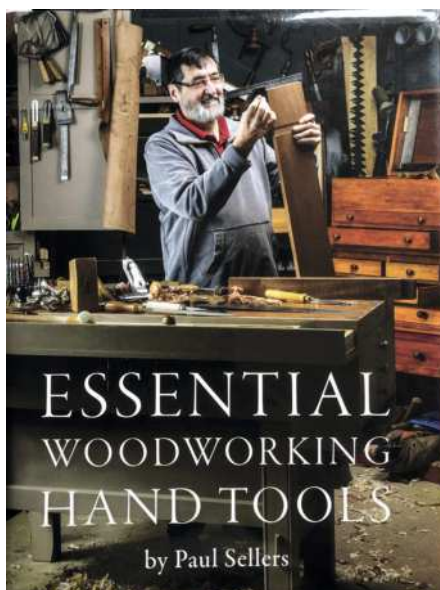
When is a book review, not a book review? When it is someone simply recommending a great book and pointing out some highlights. Liking a book is subjective and we all have different tastes; who am I to be critical about a book someone has worked hard to produce. Books appeal to different people for a variety of reasons. One person's Cuban mahogany is another's pallet wood, and vice versa. If I read a book I do not like, I just move on and you still take something from it. When I read a book I really like, I simply want to share that with those who may not have read it yet.

The book I wish to recommend to all woodworkers is *Essential Woodworking Hand Tools* by Paul Sellers, published in 2016. It hits the mark on what is required for the keen woodworker. What do I mean by hitting the mark? Well, there are many 'how to' or 'technically dry' books out there, which miss detail, have no charm and do not capture the 'why'.

The 'why' is the genesis of our motivation and spirit to craft items from wood with our hands. There are also many encyclopaedic books full of tools but with little of the 'how' or context. Many fail to capture the value of our craft and the joy of shaping wood to make beautiful and practical items. Paul Sellers' book does hit that mark. This book is important to me and when *Quercus* editor Nick was in my workshop last year and said he was going to see Paul the following day, I asked him to take it and get it signed for me, which he kindly did. It means that much to me.

Not a typical book

In many ways this is not a typical 'how to' woodworking book. There are not pages of projects, joints and plans. Paul provides plenty of those elsewhere. I love that this book is however the most in-depth 'how to' book you will find, but that knowledge is delivered in a unique way. By breaking down the set-up, use and maintenance of each tool into step-by-step detail using



excellent images, you are as close to the 'how' of woodworking as you can get.

Many woodworking books gloss over some subjects and leave more questions than answers. Not in this book. Paul has poured his years of knowledge and experience onto these 480 pages, interspersed with his own charming sketches. An example would be the skill of saw sharpening. Many books will avoid it or devote a page or two; it is a skill many woodworkers aspire to, myself included. In this book you get a whole section, 29 pages, 68 photos, sketches and then there are also other sections covering the various handsaws and files.

Another important point to make, and I discuss this with students when I use this book as a teaching aid, is that the first two chapters set the priorities and the foundations for good woodworking. Chapter 1, Sharpening and sharpening equipment and Chapter 2, Layout Tools. These are two areas that I see woodworkers wanting to give less attention to but they are an essential part of the process. Clearly a



One photo in the Layout Tools section shows options when it comes to choosing a marking knife, and the importance of the bevel (above)

particularly good reason Paul laid the book out that way, and there is a tip there somewhere.

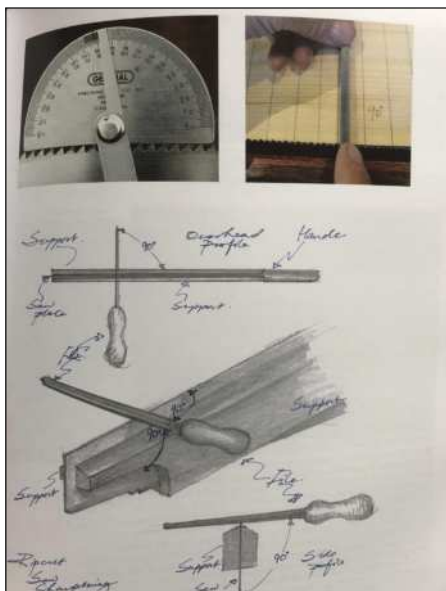
Essential teaching section

There is one photo/section that I regularly use when teaching in the Layout Tools chapter. It is about marking knives. This covers the various pros & cons of several types of knives. One image shows the way the bevel on a knife can affect the wood when marking out.

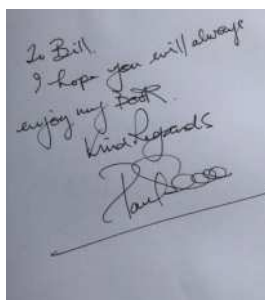
The importance of the bevel being positioned in the waste of a joint, is summed up in one clear image, the knock-on being that scribing around a dovetail to mark for pins, where the access to the waste area is blocked, makes the knife selection particularly important. This is what I meant about breaking down each process, thinking about small details and then enjoying each process of your woodworking.

As a tip, if you ever wanted a solid way to improve your woodworking skills, look at the first two chapters and really get into detail on your sharpening and marking out. Decide on a consistent toolkit and practise. Your quality of work will improve greatly as you are focusing on foundation skills and building your craftwork from the base upwards.

I would also like to highlight the section in Paul's book which covers the Coping



Of Bill's many books *Essential Woodworking Hand Tools* is the only one he's wanted to be signed (right). Paul dedicates 29 pages and 68 illustrations in the sharpening section



the furniture faculty die, the workshops get quieter, emptier and finally the tools and equipment sold or disposed of. I campaigned to keep the courses open and was eventually awarded Campaigner of the Year for my efforts. On a more positive note, there have been announcements recently that those decisions have been proved to have been wrong with some courses coming back, so I will watch this space and reserve judgement until I see further details.

Paul's book captures the intangible heritage of the craft, through recording his acquired knowledge and experience. He names the craftspeople who have inspired and taught him during a life-time devoted to his woodworking. The final paragraph of his Introduction says: "My hope for this book is that people will get off the conveyor belt of 'do it yourself' woodworking, using mass manufacturing, and they will discover what hand-tool woodworking has to offer. The footprint and finances involved are much smaller and the benefits far greater. The health and safety risks are far less and the sense of accomplishment is immeasurable."

Fewer training courses results in fewer trained craftspeople, then fewer woodworking businesses, and fewer suppliers, and the more importing of poor-quality, mass-produced items, and so the downward circle continues. Fashions change, less knowledge about techniques is passed on from word of mouth and that intangible heritage is at risk. Paul Sellers has tirelessly been an advocate for hand-tool woodworking and has educated millions via many methods. This book is in the same category as those of Charles Hayward, which are still inspiring woodworkers today, but with modern publishing standards and imagery.

Essential Woodworking Hand Tools is Paul's Magnum Opus, its importance to our trade and craft should not be underestimated, and if you only had one woodworking book, this should be it.

Essential Woodworking Hand Tools is available from rokesmith.com/shop for \$46.00 or £35 plus p&p. Follow Bill on Instagram @cravenconservation.

Saw: 10 pages of images and sketches. The comparisons between woodworkers' coping saws and jewellers' saws is covered in detail. It reminds me that when we were training to cut marquetry veneer packets, we were given a jeweller's saw an old English penny, and we all had to saw around Britannia, including her trident. The 'ping!' of snapping blades and some dubious language echoed across the workshop, cutting through the intense concentration and sawing. That penny sits on the tool shelf in my workshop today.

Covering each tool

This is a reference book and can be used when you need information on a particular tool. However, *Essential Woodworking Hand Tools* is also a how-to course that can be worked through, and it is just a good read. Each tool is covered in such detail including the recommended techniques and common uses, while capturing the essence of woodworking and a subject that cannot help but be technical is delivered by a woodworker to woodworkers, in an inspiring way and easy to understand.

In his Introduction to the book, Paul explains why he felt he should write it. I feel having read it and having seen such a reduction in vocational skills in schools and colleges, that we need to preserve both our tangible and intangible heritage. These skills and this knowledge need recording and passing on to future generations before they are lost. My old university, Bucks New University was built on the back of the furniture trade in High Wycombe. In 2014 they made the decision to turn their back on it and closed most of their furniture-related courses; a terrible decision which we told them was very short-sighted. I was on the last degree course that went through, and I watched

Simply Japan

Nick Gibbs applauds a re-write of a Japanese classic book



If the tables and chairs emit a geometric, stark look, that'll be demolished once you get *Simple Japanese Furniture* in your hands and stroke your fingertips across the vellum front and back. Perhaps you can tell a book by its cover. If that's really the case, then this re-working of a 1950s classic, reviving those decades of DIY self-sufficiency with a nice touch of contemporary design, is a welcoming place to find new projects to make.

Elsewhere this issue, *Quercus* reader Justin Emrich, writes how Lockdown inspired him to embrace Paul Sellers projects, and his house (and doubtless those of his friends and family) could now be an extension of the great man's home. In its own way *Simple Japanese Furniture* can do just that too, perhaps for the early-doors woodworker.

The original book was first published in 1953, with the projects conceived and made by the industrial design group KAK, comprising three young pioneers who dreamed of better post-war industrial design. That the original book was entitled *Making Use of Ingenious Ideas:*

Woodworking at Home, reminds us of a time in the world when resources were scarce and there'd been a five-year hiatus for mankind. Old-school craft might be the order of today's day, upon which *Quercus* thrives, but perhaps there is scope for exploring other styles to suit changing times. Find out next issue when we show how to make a tall stool, Japanese-style with only a few tools.

Simple Japanese Furniture, by group monomono (GMC Publications), is paperback, 184pp, and costs £16.99.

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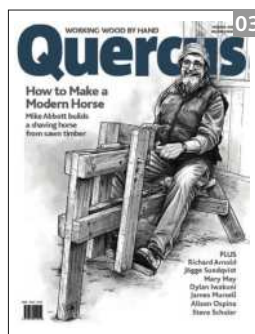
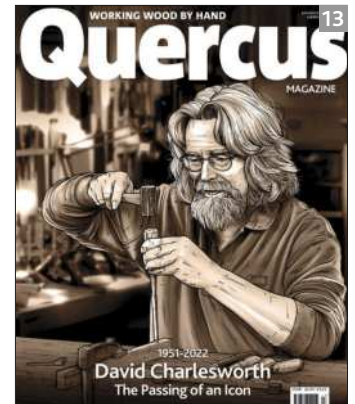
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Lessons in Precision

Friend and student, *Derek Cohen* pays tribute to David Charlesworth and his quest for perfection

The recent passing of David Charlesworth came as a surprise. Although I knew he had been seriously ill a few years back, he never spoke of this in the occasional correspondence we shared. I feel fortunate that I got to know first-hand a little of the thoughtful and very human person behind the videos, books and many magazine articles. I regret we never met in person. In David we have lost one of the most influential and important woodworking teachers of the past generation.

For many, David is synonymous with 'The Ruler Trick', a sharpening method, and while he might have believed that this was a crowning technique, it would be downplaying his greatest offering in my opinion. David encouraged precision in technique, and this opened the way to improved skills and better work. When I was asked to write this article about dovetail chisels and dovetailing, it also gave me time to reflect on what I had learned from David. Given that I am a psychologist, it is probably not surprising that I like to analyse everything.

David and I corresponded a few times every year. There were times when he wanted to discuss tools or joinery with me, while at other times it was to ask my advice about behaviour on woodworking forums we shared. I thought David was the most enlightened teacher and certainly one of the most influential. He always looked so calm and composed, but he was quite a sensitive soul, and vulnerable to the slings and arrows that inevitably were fired at him. It has occurred to me that there were three stages that I went through as a woodworker influenced by David.



Derek Cohen is a clinical psychologist as well as a passionate woodworker, living in Perth, Australia. He has made many tools himself, and has written articles for *Fine Woodworking* and *Australian Wood Review*. He calls himself 'Sigmund Freud in the Workshop', and you can see some of his work on his website inthewoodshop.com

Stage One: New Reader

The first stage was initially reading David in *Furniture & Cabinetmaking* magazine a few decades back, and later purchasing his three books, which included his articles. In my naivety, all I could see was these amazing hand-tools he wrote about: his infill planes, his Stanley No.5½ (the 'Super Smoother'), but most of all his beautiful Japanese chisels. One maker caught my eye, Koyamaichi. This was about 25 years ago and long before Koyamaichi were

available for purchase from Lee Valley [these are no longer available from Lee Valley. The Japanese dovetail chisels they show are now forged by Takao Shibano, at \$429 per set]. I searched everywhere, fruitlessly. Finally, about 15 or so years ago I won four NOS (New Old Stock) Umeki-Oire-Nomi (dovetail chisel) on eBay. Then, out of the blue, I was offered a few more and, even better, they were hand-made for me by Mr Koyama specifically for dovetailing. There is significance in this since Japanese 'dovetail' nomi are not actually made for dovetailing. Although they are triangular in shape, they do not come with fine lands and, instead, are more likely to have thickish sides. The ones Mr Koyama made for me came with very fine lands; he couldn't understand why I wanted this.

The set of six Umeki-Oire-Nomi chisels, including a fishtail for the corners of pin sockets and a Sokozari for clearing chips from a mortise, is really all one needs for dovetailing, and provide the sizes used for the range from skinny 'London' tails to wide pins.

Most readers are likely familiar with the laminated construction of Japanese chisel and plane blades, where an extra hard but thin cutting layer of steel is married to a thicker layer of soft steel or iron. The steel usually ranges between 60-68 HRC, while most Western steels don't surpass 59 HRC. Further, the steel is hand hammered, which creates a very fine grain structure. The result is a chisel which sharpens to a very fine edge, which will be held longer than with Western blades.

Stage Two: Methods

When you begin using Japanese chisels correctly, you are ready to move to Stage Two, which is all about method and technique. The reason that these chisels are hooped and have a short handle and blade is that they are designed to be used with a gennou, a steel-headed hammer. The combination of chisel and gennou creates an instrument of precision. And this is what David was all about.

One of my enduring mental images of David is him tippy-tapping a chisel. He was not being tentative or cautious; he was applying just the right amount of downforce required, for example, to a specific depth. It is not possible to be this accurate by instead pushing the chisel.



Six Umeki-Oire-Nomi sized chisels (above, from top) 1in, ¾in, ½in, ¼in, ⅜in, and ⅛in. The lowest chisel is a fishtail chisel, which is used to clear the corners of pin sockets. The chisel to the right is a Sokozari, which is used for clearing chips from a mortise. A set of Kiyohisa slicks (right)





The bow-fronted cabinet Derek recently made for his wife, who calls it 'The Harlequin'. Designed for sewing accessories, it is made from maple. Overleaf Derek shows how he made a drawer for a workshop cabinet (below). The 18mm drawer front is merbau, which is a hard and tough timber. The 7mm sides and 14mm back were part of a Tasmanian oak (which is a Eucalyptus) panel. Tassie oak is ideal for minimising wood movement. For the dovetailing Derek has a Moxon vice clamped to his bench (right)



Japanese oire-nomi, or bench chisels, are designed to be used this way. They are not the most comfortable for paring. Instead, a long-handled slick is preferred for paring. Clearly, David also preferred Japanese slicks, and even had Lie-Nielsen manufacture a long handle for their bench chisels for paring.

Some likely view David as a perfectionist. I do not see him that way. Perfectionism is its own enemy, with fear of imperfection leading for some to paralysis of effort, and dissatisfaction with even the best of efforts among others. Woodworkers are so prone to being sensitive to making errors, and yet point them out to others!

David was all about precision and accuracy, not perfection, as working with precision and accuracy will lead to success. That was his aim as a teacher.

David was a master analyst and broke joinery down in a way that others could understand and follow. He perfected a number of techniques for accurate

work with chisels. Other teachers used these as well, but no one demonstrated them as well as David did, in his videos and illustrations. My favourite two are the 'release cut' and 'tenting'. He also emphasised the use of cut lines and working with square boards (overleaf).

Stage Three: Mental Set

Stage three is the developing of a mental set or attitude, which opens the way to independence as a craftsman.

One of the reasons we attend training, be it through a university degree or learning skills of a craft, is to be qualified for work. But a much more relevant result is that we develop a philosophy of method: how we evaluate and solve a problem. The teacher's role is to act as a guide, to prepare the student. Eventually, the student must find their own way in life.

One of the attributes I admired in David was his flexibility. His writings are filled with his excitement on discovering a new method. I recall how he had to do a

double-flip when he realised that a close-set chipbreaker trumped a high angle backbevel (which he had championed for decades) to control tearout when planing. He became an advocate for the double iron.

It is easier to move on and find one's own creativity if there is a solid foundation based on understanding. Over the years I stopped using some of David's landmark methods, such as the 'Ruler Trick', his honing guide and sharpening methods, and moved into hand tools and freehand methods. The methods changed but the mentality stayed the same.

Recently I made a cabinet for my wife to store sewing accessories, which she affectionately calls 'The Harlequin'. The cabinet's maple bow-fronted case has mitred through-dovetails which are also rounded, and the drawers are shaped to match the bow which necessitated half-blind dovetails with compound angles..

Inside the drawers, the bottoms are attached with beaded slips in the manner of David's work.

Half-Blind Precision

Derek Cohen cuts half-blind dovetails with an exactitude of the Charlesworth Way

Some may take the view that dovetails are just another joint and not worth all the attention they receive. My opinion is that there are many parts making up a design, and each and every one of them deserves consideration, both to form and function. To those who fear that 'classy' work involves disproportionate effort and time, I would like to illustrate the steps involved in building drawers. While a number of my techniques here are different from David's, what we share is an approach that minimises errors.

I was in the process of building a small storage chest for the workshop when the request came to write this article. Consequently, the wood used comprised a few offcuts, and they were a bit of a challenge in themselves (Pic.1). Important tools include a Western rip dovetail saw (for dovetailing), a Western crosscut joinery saw (for the shoulders), two Japanese-style cutting gauges and a Daruma style gennou (to honour David, who preferred these), a fret saw, and various other odds-and-ends. And Koyamaichi dovetail chisels, of course!

Good tools do not make a craftsman, but I would rather use good-looking and ergonomic tools than not. Inspiration comes from something well designed and well made, whether they be tools or furniture. At the centre of the bench is a Moxon dovetail vice.

While David was a master with chisels, he preferred machines for much of his joinery, such as a bandsaw for sawing dovetails and removing the waste. My preference is to use hand-tools for all but

the preparation of stock. It is not so much the choice of tool that is important, but the way they are used.

I use a fretsaw to remove the waste from a tail to within 1mm of the baseline. The remaining waste is easily removed without pushing the baseline back (Pic.3). The preparation of the tail board is the start. But now we move on to the pin board, and this is where it gets more interesting. Precision work requires the best of marking out. Woodworking is really nothing more than working to lines. We must ensure that we work to the lines, as precisely as possible. Introducing the

blue tape method (Pic.4). In 2011 I began developing the blue tape method (Pic.4), owing to a combination of ageing eyes which struggled to see the fine lines in the end grain of dark wood. Begin by covering the ends of the drawer front, and scribing the shoulder lines. My Moxon vice enables the tail board to be clamped to the pin end (Pic.5), and this helps to prevent any movement which may throw the transferred marks out of accuracy.

Simply peel away the tape inside the sockets (Pic.6), and you are left with crisp and clear lines against which to saw. How easy is that.



The 18mm drawer front is merbau; a very hard and tough timber. The 7mm sides and 14mm back were part of a Tasmanian oak (which is a Eucalyptus) panel. I seek out Tassie oak for drawer sides as it is sold locally in quartersawn form. This is ideal for minimising wood movement



A Japanese-style cutting gauge was made by Derek, based on a Japanese mortice gauge (Kinshiro), which uses two knives. The metal is laminated steel from a Japanese blade. David Charlesworth used knife gauges he converted from Marples pin gauges



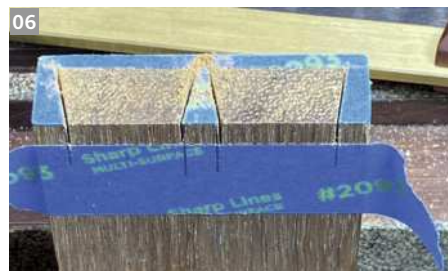
Removing 1mm of waste after fretsawing



Derek's blue tape method (introduced by him in 2011), is good for end-grain (above) and for transferring lines held on the Moxon vice (left). Peel away the tape inside the sockets (below) and you are left with crisp lines for the saw



Derek prefers hand-tools for all but preparation of stock



The release cut

Now is the time to consider a 'release cut', which David was fond to mention. The concept here belongs to Tage Frid, who would hammer steel from a used bandsaw blade or a scrape blade into the saw kerf. In 2011 I created a specialised tool for this, the 'kerfing chisel' (Pic.7), with a scraper blade on the end of a chisel handle. Others, such as Rob Cosman have since come up with similar tools.

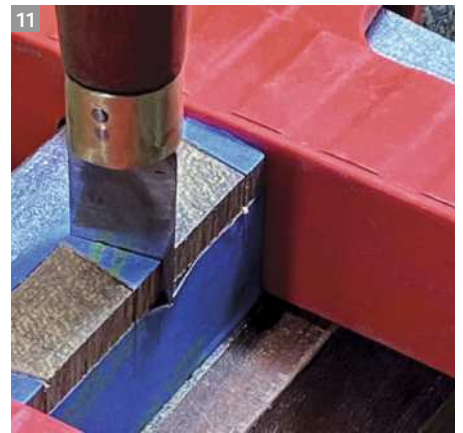
The idea here is to extend the triangular kerf (cut with the dovetail saw, Pic.9), which then means that the waste is severed at the sides of the socket. This facilitates easier removal of the waste with a chisel. Lay the board down, and create a chisel wall at the baseline (Pic.8). This will prevent the chisel being forced backwards. Chop down at the baseline (Pic.10) to sever the wood fibres, and then split out the waste. Continue this until close to the end of the socket baseline (Pic.11), and then return the pin board to the vice, making sure that the socket is level with the chop, to remove the remaining waste in 1mm slices (Pics.12-14).

The chop will act as a paring guide to ensure that the floor of the socket is square. Use a fishtail chisel (Pic.15) to clear the corners of the sockets (Pic.16).

If you have worked accurately, you will be rewarded with a good fit that does not require any further tuning (Pic.17).



The 'kerfing chisel' (top) is made from used bandsaw blade or a scraper. Make sure you have made a chisel wall (above, as shown on the tail board) then cut the triangular kerf with a dovetail saw (right), then hammer down (below) the 'kerfing chisel' with the board clamped to stop splitting (right)



Having sawn and 'released' with the 'kerfing chisel' return the pin board front (above) and chop the sockets level (right, and far right)



Use a fishtail chisel (above) to clear the corners of the sockets (right) for the perfect fit (far right)



The Triple-C Method

Max Neukäufler shows how to navigate from log to spoon with confidence

If you asked a number of spooncarvers about their motivations and why they enjoy the craft, I bet a great number would say: “I love the process”. Spoons are such a wonderful example of functional beauty in all their facets, but what seems to really fascinate practitioners is putting to use the tools and skills.

Growing up, and even now, my interest in different cultures, crafts and abilities has been the driving force behind my travels and long stays abroad. What ultimately intrigues me the most though is the overlapping and criss-crossing paths I was fortunate to discover between activities even as seemingly unrelated as Kyudo (which is a Japanese style of archery I studied in Fukuoka, Japan), spooncarving, and grappling (which is a term to describe the combination of sports and arts like judo, Brazilian jiu-jitsu, etc...). Ultimately, they all involve the human body and mind, which helped me connect fundamentals and principles between different skills I get to learn and teach for a living.

I say to myself there is a spoon in that log, I am certain, but how do I go about freeing it? Let me quickly set the stage as I think the ‘coming about’ of a teaching method can be quite important for learning. I guess I would call myself easily distracted, putting it mildly, or in woodcraft terms, I often can’t see the forest for all the trees when it comes to tasks. Aren’t there so many paths, forks, turns and possibilities with that log in front of you, or life in general? Discovering my tendency for the proverbial ‘paralysis by analysis’, and trying to lever some cross-over skills from my various sports backgrounds, a system seemed to be a promising prospect to guide me through the fog. I had felt sort of worried, even anxious, starting into a new piece of greenwood for the first several years, lacking a truly coherent set of fundamental principles.

There was a phrase stuck in my head from years before. Just a kid at the time, I had read the following words in a book about Plains Bow building written by a member of the Mandan tribe, and I paraphrase: “If you want to make a bow, find a stick of suitable wood and cut everything off, that doesn’t resemble a bow.” Easy enough, right?

Well, you’d think so. In all honesty, this principle seems wonderful and highly refined in its own right to me, now that I



‘Iki’ spoon in carbonised rowan refined with milkpaint

look at it years later, but at the beginning I would have been hopelessly overwhelmed.

Early on I would ‘beaver’ into the log from all angles, trying to reveal the spoon within, so busy finding my way through the process there was little capacity left for creativity and exploration of shapes and designs. I needed a system based on simple verbal cues, ideally a catchy abbreviation, easy to remember and teach, guiding my scatter-brained self along. Thus,



‘Sidewinder’ cooking spoon in spalted hornbeam

the ‘Triple-C Method’ was born. I realised my personal key to creative freedom was compartmentalisation.

By breaking down the bigger picture into puzzle pieces, I knew what the task at hand was, which freed up mental space to let new ideas flow and discover rabbit holes to learn from. In future articles I will talk a little more about underlying principles that further enable you to carve efficiently and safely by reducing mental and physical fatigue during the process.

Finding a three-dimensional object inside another is a mind-boggling endeavour, yet one of the most satisfying skills one can pursue. Splitting it up into two-dimensional profiles ended up being my strategy. The beauty of understanding fundamentals and reasoning means to gain the freedom to explore off the beaten path at will, always able to return, if things get too hairy.

The Triple-C: Crank

I am a sucker for functional lines as the ultimate standard of naturally occurring beauty, which is why I regard the ‘Crank’, or angle between bowl and handle of a spoon, as a highly important design element. Focusing purely on this step initially sets the stage for purposeful marriage of elegance and ergonomics in the end result.

Our half log or billet of choice is split out and prepared, the axe is sharpened to a keen edge. I’d love to hold here and go further into detail about those matters, but this article would become a book. Maybe it should someday.

At this stage I build the foundation of the final spoon look and feel by axing out the bottom of the later bowl at an angle of my intended degree. This is followed by the underside of our handle-to-be, leaving you with a flat top and triangular bottom.

Once established I opt for using a sawn stop cut at the deepest point of the bowl as my preferred method for safe and repeatable progress. There are several possible axing techniques to be implemented at this stage, all aiming towards the bottom of the saw cut from each respective end of the blank. Many rabbit holes along the way to dive into head first, but for the sake of this first article, I will take my own advice and stick to the red thread. As you can see at this point, focusing our attention on one design element at a time, supported by the verbal

"Fueled by a childhood passion for blades," writes Max, "the outdoors in my Austrian Alps and various distant cultures. I started crafting very young." In 2010 Max discovered spoon carving, and in 2015 he went full-time as a teacher, carver and tool maker/designer.





Top left to right: birch billet in radial grain orientation; bottom 'Crank' axed in; and 'Crank' matched. Bottom left from right: design drawn and stop cuts sawn in; 'Circumference' axed out; 'Cleaning' done



Top left to right: 'Circumference' carved and initial hollow done; 'Crank' carved in; and top profile 'Cleaning' done. Bottom left to right: tools for the axing stages; carved 'Crank' transition; bottom profile 'Cleaned' and showing the basic tools for the knife stages

cue 'Crank', helps realising the task at hand without getting distracted.

Circumference

Now, done axing out the first 'C' or side profile, we can move on to the second one, the 'Circumference'.

Obviously, I prioritised a catchy abbreviation to find the most elegant terminology, but I hope it does the job. The order in which I am working isn't set in stone, but I have found it advantageous after trying several approaches, as thinning out the billet in the first step makes the upcoming task a lot more manageable. If we view the 'Crank' as the side profile, 'Circumference' is the shape or profile seen from top and bottom respectively, but without primarily paying attention to anything but the mere outline. That helps also in the initial design process to better evaluate proportions and symmetry.

I start this stage by drawing my spoon free-hand or by using a template. Working with a somewhat evenly thick billet of parallel top and bottom aids significantly in axing out the second 'C' implementing whatever workflow you prefer. I personally like using stop cuts at the neck and trimming the ends using a saw, just to keep things efficient and repeatable especially when working on a bigger batch.

One of the most crucial details in axing out blanks is to keep side and top profiles, 'Cs' No.1 and No.2, perpendicular to one another. Distorting them into a rhomboid cross-section leads to issues later when blending them together.

Cleaning

Well, there was the Segway, we just need to stick with our abbreviation scheme, so

let's go with 'Cleaning' for the third 'C'.

At this stage we have got ourselves two independent profiles and a whole bunch of right angles. In order to prepare the blank for using the knife, we want to get rid of as much bulk as possible. I like to chamfer all corners on the bottom to a degree that still leaves enough meat to have some freedom during the knife phase. The resulting ridgelines can be treated the same way until the desired degree of rounding and fading is achieved. I do not shy away from using a variety of alternative axe



Scandinavian eating spoon in pin cherry with signature chip carving

techniques to the extent of this wonderful tool's potential.

So, here we are, our roughed out blank in hand, enough material left to play with, yet not as much as to fatigue ourselves using a knife. It's all done along a systematic path, leaving plenty of room for creativity and evaluation as we went. Moving on to the knife, we will recognise a few old friends. I want to cover this part without getting hung up on technical details, about which whole books have been written.

As I mentioned before, the practical aspect of this approach is focusing on single compartments rather than the end result. This makes it easy to swap stages, going back and forth or even leaving out steps, eventually not paying attention to them at all. Control over the process now leads to freedom eventually, a concept I find true across the board of skills I practise. When carving from the axed billet to an 80% blank, which is my intended drying stage, I am starting in reverse by cutting the 'Circumference' shape down to line and symmetry as precisely and perpendicular as possible.

Once satisfied, I put in an initial hollowing step to create thin rims around the bowl. Fading bowl and handle into each other with a sweeping compound radius is a lot easier this way, and thus we arrived at the second stage of our knife work, the 'Crank'. Whatever edge we created on the top, can be used as guideline matching the bottom as we keep going in a reverse manner through our order of axing stages.

We are left with 'Cleaning' it all up, or rather, blending, chamfering and rounding, as we continue towards our desired shape. At this point the infamous Pareto principle (which states that 80% of work mostly



Proprietary 'Kayak' spoon with Sayagata kolrosing inspired by Japanese sword fittings used by the author (above)

takes 20% of the time, while the last 20% of completion takes the remaining 80% of the time) strikes again as this stage can take infinitely longer than anything we have done so far, to get to the wanted result. Personally, I take my blanks to about 80% finished, leave them to dry and still have enough meat left to adjust and correct for possible warping.

Now, all this sounds like a lot, yet in my experience the initial challenge in learning a more systematic approach is ultimately beneficial and you will focus less and less on it as the concept becomes second nature. On the other hand, carving into the blue without a frame of reference might seem like a freeing approach at first but soon becomes a limiting factor, leading to plateaus and frustration as I have experienced as a full-time carver and teacher time and time again.

Carving is a creative challenge that can also lead to stress. Under stress we never rise to our goals but fall back on our system, meant to instill confidence in us tackling any obstacle with a plan. Having experienced this repeatedly in combat sports, wilderness situations and difficult craft projects, I am eager to give people the tools to become creative problem solvers rather than technical zombies.

I hope this humble attempt of an article is a first step in that direction and of any use to you. If you want to support my journey of learning and teaching craft, please visit woodsmansfinest.com, which serves as a portal to my shop of handcrafted goods and my online course platform with more than 100 hours of content. You can also follow me on Instagram at [@woodsmans_finest](https://www.instagram.com/woodsmans_finest).



A batch of 'Kitchen Buddies' (above), finished carved, waiting for paint and oil. Fluted accents (below) on the back of a Scandinavian eating spoon from apple wood. Carbonized 'Sidewinder' (right) serving/cooking spoon from birch with acrylic paint



Pining for Craftsmanship

As a chairmaker, *Andy Glenn* is dedicated to educating new generations & new types of woodworkers

I am a craftsman. I work alone, making chairs and custom furniture and craft pieces from my Waldoboro, Maine, shop. My training started in Boston, Massachusetts, at the North Bennet Street School, and I have been a woodworker ever since. I've enjoyed a few different woodworking experiences; repair and restoration shop, I spent a season as shop help for Phil Lowe; a brief stint at a boatyard (grinding fiberglass on tugboat rehabs, not crafting shapely wooden boats); a few years in a cabinet and furniture shop; and in various educational settings.

From an early age, I found the woodshop offered a place to express creativity and beauty. I love functional, well-crafted pieces, which is probably why I'm drawn to chairmaking; a hand-made object that draws me in. When looking at furniture, I like to see the 'human' in it. Refined or rustic, I look for the artisan behind the construction. I suppose that's why I'm drawn to craft. There's a humanness that connects everyone in the field; from those who make to the user who lives with and enjoys a piece.

My first woodworking experiences came in grandfathers' shops. One was the town milkman, and he had a hobby shop in his basement. We'd take old milk crates and create small, painted gifts for our family. We built pinewood derby cars and CD boxes in his basement shop. I have great memories from that time. My other grandfather was a farmer. His shop was woodworking, metalworking, and anything else that needed to be repaired or fabricated on the farm. He could make just about anything; he crafted the built-in black cherry cabinets for their old Victorian-era farmhouse and also the back bumper for the farm truck.

People in the shop

The engagement with woodworking came from those early experiences, from simply being in the shop with people I loved. It didn't matter what we made. I looked for any opportunity to join them in their shops. It was two-fold, both the work and my family. As a kid, Saturday mornings in the shop became my favourite time of the week. I still feel that same anticipation at the start of each day, with a rush of excitement to get into the shop and the possibilities ahead.



Andy Glenn in the workshop (above). Armchair (left) in black oak, hickory bark made in 2020. Shaker-style wooden carrier (below)



minister, it was the first inter-racial and co-educational college in the Southern United States, and openness and inclusivity remains an enduring emphasis of the college. Furthermore, tuition is free, and Berea hires each student for pay as a federally-recognised Work College. While students come to Berea from throughout neighbouring Appalachia, all over the USA, and around the world, there is one common denominator: the students are of high academic promise with limited financial resources.

Students have work opportunities available throughout the college, and that includes the Craft Department (positions within the wood shop, weaving, broomcraft and ceramics). I led the Woodcraft department and worked alongside the students for four years; as a student trainer, instructor, designer, and maker. Most students were inexperienced when

Teaching others has been a big part of my woodworking career. I taught short courses at North Bennet Street School to adults, the community, and as an instructor in a partnership program between NBSS and the Boston Public School System, teaching woodworking classes to neighborhood middle schools. From 2017-2021, I worked at Berea College in Kentucky.

Berea College is unique in a number of ways. Founded by a Presbyterian

Megan Fitzpatrick (at the back) leading students through a glue-up of an Anarchist's Tool Chest in June 2022



COURSES • Pine Croft

they arrived in the shop. It was our job to train and lead them through our pieces, which the college sold and then used any revenue to support tuition (bcstudentcraft.com).

Craft has been a part of the College since 1893, making the purchase of a woodworking school (formerly the Kelly Mehler Woodworking School) consistent with the college's commitment to craft education. It is now named The Woodworking School at Pine Croft, about two miles from the centre of campus, and is tucked into the college's forest. (Berea College sustainably manages roughly 10,000 acres of timber in central Kentucky.) We will get into the woods to harvest hickory bark and collect the oak during the summer class session.

Pine Croft is an opportunity to engage with a different audience. It's open to adults at all skill levels, really, anyone interested in woodworking. Classes range from one day to seven-days long. Aspen Golann and Megan Fitzpatrick (and I taught a couple as well) taught during our fall 2021 session. We're gearing up for Spring 2022 Session right now, with Michael Puryear and Dawson Moore joining us in April. The college students are also involved, stopping by to visit, and also to serve as shop assistants as their class schedule permits.

Season of classes

Pine Croft's first season of classes was scheduled to start in Spring 2020 (you can see that challenge there). We offer classes to the woodworking community, taught by a rotating group of renowned and diverse instructors, all in a small-class setting in a beautiful spot in Kentucky. I lead about half the classes at Pine Croft (find the full schedule at pinecroftwoodschool.com). The schedule and offerings will vary for on-coming seasons.

Our workshop students come with different objectives: some are contemplating a career change and are considering a change toward woodworking. Others are amateurs, working wood for the pure enjoyment it gives them. Some are recently retired, looking for skills to engage them during the next phase of life.

And the next session of classes is in November 2022. Pine Croft will be welcoming two guests, with Andy teaching classes. Rob Speice, the Head of Woodcraft at Berea College, will teach a contemporary wall cabinet class. And Eastern Kentucky chairmaking Terry Ratliff will join the session to lead a two-day greenwoodworking and hickory bark class. Terry's been building gorgeous mountain chairs for over 40 years. Details & contact info is at pinecroftwoodschool.com.

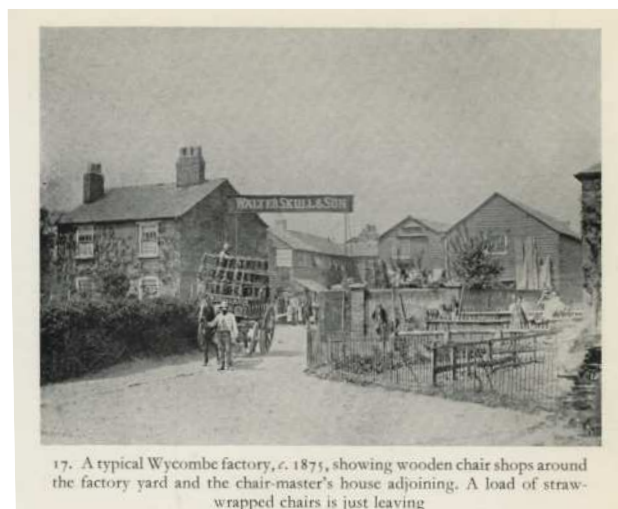
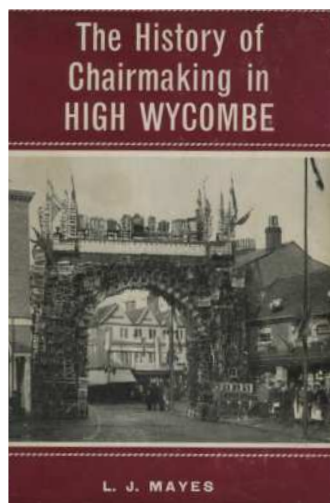


Pine Croft in Berea, Kentucky, USA (above). Students during Fall 2021 (left & top). Ladderback, ebonized red oak and leather (below). Wooden carrier class 2021 (bottom)



Another Railway Story

In an edited extract from his classic book, *John Mayer* relates how chairmakers took to vans and trains



By 1830 a good deal of unrest was brewing among the working-class population. The farm labourer was seeing one threshing machine take the place of a whole gang of men wielding their flails on the threshing floor and the paper-maker could see the introduction of machines designed to replace all but a handful of labourers and a few supervisors in the mills which had given employment to scores of well paid men. The paper-makers combined and smashed the machinery and the farm workers joined them and smashed the threshing machines and burned the barns that housed them, but all to no purpose as far as continuity of employment was concerned; machines had come to stay and paper-makers and farm labourers would be looking for fresh employment.

Chairmaking used no machinery, even the conversion of round timber to plank was entirely hand work in the sawpits, and though the newcomers were unlikely to earn the comparatively high wages paid in the mills it was at least better than the only alternative, work on the farms where the machines

were already displacing men and forcing down wages and where general distress and seasonable unemployment were too usual to be considered. Here were new recruits for the industry; what of customers for the products?

Here again the Industrial Revolution was to help Wycombe's trade. Machinery was overcoming all opposition in the industrial towns, and if it was causing unemployment and want it was also raising up a new class of wage earner who helped to build and install the machines and kept them running afterwards.

Good wages & vans

These men, earning good wages, were occupying the new and better type of houses which were being built in long terraces in Northampton, in Leeds, in Birmingham, and wherever the new industries settled, and these were the customers for Wycombe chairs, provided always that those chairs were sound enough to satisfy hard-headed artisans and cheap enough to be within their means. A link with the industrial town became the Wycombe chair van. There is no record of the first Wycombe chairmaster to load a van and

take it off on a tour of the towns until he had sold out, but a most graphic description of the whole system in the early days was given by Benjamin North in his privately printed autobiography, in which he describes both aspects of van work. There is the simple selling of a load of chairs as quickly as possible and a hurried return for more, and the longer, more elevated progress which might extend for three weeks or so, during which the chairs were shown as much as sold and contacts established to aid in the development of new markets.

The logical development of that type of travelling, calling on retailers with actual chairs, was the manufacturer to send out a traveller with an album of illustrations of the various types of chair made by him, and this became general in the case of larger manufacturers about 1860, when pattern books came into common use. These showed engravings of anything up to three or four hundred varieties of chair, but this did not necessarily mean that the firm using the book made that number, for many firms used books which were a standard line produced by an anonymous designer and printed by a

local printer with covers left blank for overprinting with the user's name. No descriptive text appeared, each design merely bore a number and the traveller carried a 'key' giving description and price for each pattern actually in production, a system which meant that the pattern book could be current for years, all amendments to prices being made on the key.

Selling by patterns received considerable impetus from the coming of the railways, which made it possible for a traveller to make a tour of retailers quite economically, and, by sending his orders home by post as he received them, it was possible for the work to be put in hand and possibly the earlier orders could be despatched before he returned from his tour. It also meant that pattern books could be left with the big retailers, who could in turn show them to individual customers and orders so obtained could be delivered by rail. And new markets led to new ways to make chairs...

You can currently buy a copy of The History of Chairmaking in High Wycombe from the Oxfam online shop for £24.99. You can learn more about HW from the High Wycombe Society (highwycombesociety.org.uk).

The Edge

TOOLS & TOOLMAKERS

Push-Me, Pull-You

Jason Lonon and Paul Clark recall how they prototyped and now produce their unusual hand-tool



Paul Clark at his workbench (above left) and Jason Lonon by his forge fire (above right). The shave being used for pushing (right) to shape an axe handle

Of all hand-tools for working wood, the drawknife has a special place in my heart [writes Jason Lonon]. There is hardly another tool so versatile: able to take coarse and rough cuts, or the finest of shavings, guided solely by the will and skill of the user. It has no fences, depth stops, guides or adjustments of any kind. Here is a tool that truly works as an extension of the user's body, and connects hand, eye, and mind in marvelous teamwork. I first used a drawknife when I was a boy, and soon made a crude shaving horse to go with it.

Ever since, it has been one of my most used tools. I have used one to carve bowls, spoons, chairs, tool handles, point tomato stakes, and peel bark from walking sticks and fresh sawn lumber.

When I took up blacksmithing as a teenager, the drawknife was one of the first tools that I forged. I still have and use a drawknife that I made almost 20 years ago as a scaled-down copy of one my grandfather gave me. Since then, I have been a blacksmith, cabinet and furniture maker, and teacher. A few years ago, I

focused my business on only making a limited line of high-quality, specialised woodcarving tools. My favourites are the tools that are obscure and difficult to get right. Over the last few years, I have put together a team of independent craftsmen to work with me in order to make a greater quantity of higher quality tools. One of those craftsmen is my brother-in-law, Paul Clark, who is responsible for the design of our popular push/pull shave. Is it a Swedish push knife? Pull shave? A gentleman's drawknife? Or a new tool altogether? I'll leave it to him to explain.

Paul Clark on prototyping

My background [writes Paul Clark] is in metal fabrication, welding and machine work. With a lot of hands-on experience in engineering, product development, and manufacturing. I have worked a lot with hydraulics, electricals, and pneumatics. I have always been one to think outside the box, so to speak, and to try to improve things even if they don't need improving.

About 18 months ago as I was browsing the Internet, I kept coming across the

Swedish push knife and it captured my attention. It is a simple edged tool with two handles straight out from the blade, similar to a drawknife, but intended to be used by 'pushing' rather than pulling the knife towards yourself. On 25th June 2019 I made a quick prototype just to see what it was like. It was an embarrassing attempt, but something I could play with to see how the tool works and if it would have potential. I learned a few things from that sorry tool. A few days later I made a little less sorry second prototype, with thicker metal and a little narrower blade. This tool seemed to work a little better. I sent #2 to Jason to get his feedback and he thought it was intriguing but we both weren't really sold on the idea.

Back burner

At this point, which is common in research and development, the idea stagnated. I like to think of it as simmering on the back burner and melding, like a good hearty stew. We went on to other already developed ideas and made a bunch of hook (spoon) knives, straight blade Sloyd knives,



The push/pull shave at rest



Pulling to shape an axe handle (left and above). Jason Lonon (right) at his shop in North Carolina, USA, holding a hand-forged hatchet



and some small chipcarving knives. A year later, in July 2020, I caught a whiff of that simmering stew and went for another go at it. I really liked the tool. It gave a lot of control with the two-handed operation. You could move some material if you wanted, or finish a surface with a smooth knife finish. But I didn't like the un-natural way it felt in my hands. The straight handles weren't very ergonomic. The blade tended to catch in the part causing the tool to pivot around the handles, making the user have to grip the handles pretty hard. And with a straight blade it took a bit more energy than really seemed worth it.

So after picking this idea back up in July, there were a few improvements in my mind that needed doing. To solve some of these problems, I started with a 3in blade and put the handles at a slight curve in order to place the users hands in front of the cutting edge. That way instead of pushing or having the energy exerted behind the blade making the operator have to grip the handles tightly. It placed the cutting edge slightly behind the latitudinal line of energy, naturally allowing the blade to

follow rather than lead as a caster wheel wants to naturally follow. On prototype #3, I also put a slight curve on the blade letting it slice through the piece more smoothly. This was a great improvement and really was showing some potential. It needed a few more tweaks, and on 4th July 2020 I made prototype #4, which is almost exactly what we made in our first production run. But that's not where the R&D stopped.

Market research

We then posted a short clip on Instagram, which garnered a lot of views and sparked a lot of interest. With that, a fire was lit, and we started to look at it as a potential product to add to our repertoire.

Jason and I had a lot of discussion on blade geometry, handle design, etc. We tried several different blade designs. We did a single bevel, double bevel, offset double bevel, narrower and wider blades and probably a few more that I'm not remembering. We put these tools in the hands of some woodworkers and asked for their input. After a couple of weeks and

some good insights from the end users we did our first production batch of six push/pull shaves or as my kids call them the push-me pull-you from Rex Harrison's 1967 *Dr Dolittle*. These went on our website for sale around mid-August 2020, and were an instant success.

The design we settled on has a three inch blade on a slight convex curve, sporting a single 25° bevel, made out of 5/32in O1 tool steel. The tapered, octagonal handles each at about 5in long angled back towards the blade making the whole tool about 13in long. And being one not to let 'good enough' alone, we have since moved the handles another few degrees further on an angle just to make it a little more user friendly. Are we done prototyping this tool? I guess history will have to answer this one. If you have one of our tools we'd love to hear from you. Thank you for taking notice.

Follow Jason and his team on Instagram & Facebook @jasonlonontoolmaker, & visit his website jasonlonontoolmaker.com, where you can buy the shave for \$125.

Using a Shoulder Plane

Having compared designs last issue, *John Lloyd* explains how to put these versatile tools to use

As I mentioned in QM12, a shoulder plane has many uses, and when it's tuned and set up correctly it should be a joy to use. Its main function is to trim shoulders, but the absolutely critical part to this is that the blade is set with an even projection across its width and to a very fine shaving. This will involve a bit of fiddling around and a bit of trial and error on a piece of scrap. Adjusting the blade back and forth and side to side might involve reducing the pressure slightly on the cap, then re-tightening, and as we know, pressure on the cap can make the sole flex, so this is all a bit of a balancing act, and making slight adjustments to the cap tension can itself be used to make tiny adjustments to the depth of cut.

You will notice that the blade of a shoulder plane is slightly wider than the body and ideally the blade will project just a tiny amount on both sides of the body, if it's too much it will become a nuisance, but this can be adjusted by carefully grinding away a little of the blade's width.

Trimming shavings

So, for trimming shoulders the plane must be producing even, gossamer-thin, shavings across the whole width of the blade. In this state, minute adjustments can be made to get a shoulder to sit perfectly against a stile, and there will actually be no risk of breakout if a shaving is taken along the full length of the shoulder.

With the side of the plane held snugly against the cheek of a tenon, the shoulder cut will be at 90 degrees (if the plane's casting is square), and this will remove any angle caused, perhaps, by slightly wayward sawing of the shoulder. Having dealt with the shoulders, flip the shoulder plane through 90°



Petite shoulder planes based on the old English patterns have blades held in position by a wedge. They are lovely to use, but they're a little tricky to set up. A good starting point is to sit the plane on a nice flat piece of wood and insert the blade so that it lays it on its bed and sits on the piece of wood. At this point the blade should be pretty level with the sole of the plane and have a very fine setting, so without moving it from where it's sitting, gently insert the wedge and secure it with a light tap from a pin hammer. Now check the blade projection by sighting along the sole. If it's not visible, nudge the blade forward a little with a tap on its end. Too far out calls for a tap on the heel of the plane. But remember that a tap on the heel might need to be followed by a tap on the wedge to stop everything from falling apart. Adjust the blade laterally with just a little finger pressure on the blade, then everything can be locked in place with a final, slightly firmer tap on the wedge, though this might advance the blade a little. More trial and error may be required for the perfect, fine shaving

and it is the perfect plane to make any fine adjustments to the cheeks of the tenon.

The sometimes very long shoulders of a tongue, for instance on a cleated end to a table top, are another perfect use for the shoulder plane. The plane is slightly more difficult to hold at a right angle to the tongue because it provides less support than a tenon, but a little practice will pay dividends. Adjusting the bottom of a groove is another area where the shoulder plane excels, although a selection of plane widths is useful here, for different groove widths. Rebates can also be adjusted

with a shoulder plane, although the low cutting angle can occasionally cause this long-grain cut to tear, so be aware of grain direction. Making adjustments to mouldings is easy with a shoulder plane because the plane's slimness makes it easy to guide and control, using fingers as a sort of human fence, and the open sided plane with its exposed blade edges gives a clear view of what's being cut.

Even if I manage to convince you that shoulder planes are not the devil's work, there are going to be times when it's impossible for them to perform their primary function of

shoulder trimming. Any angled rail or stretcher is likely to have a tenon with its shoulder at less than 90° to its cheek, when this is the case it is impossible to use a shoulder plane effectively. If the plane is held at the right angle for the shoulder, it will only deal with part of it and will be rather precarious, consequently it is difficult to maintain the correct shoulder angle. In this case the only real option is to pare with a nice wide chisel.

Follow John Lloyd on Instagram @john_lloyd_fine_furniture or at johnlloydfinefurniture.co.uk.



The Multi-Purpose Plane

A shoulder plane can be used for the shoulders of a double-tenon (above) on a door rail, and for rebates (above right), but beware of tearing the grain. Shoulder planes can be used across the grain to tickle a rebate (or tenon, below right) or to clean up a housing (right). A chisel plane can be used for a stopped housing. Because it is quite slim you can get a really good feel for a shoulder plane, using your hands as a fence for rebates (above right) and for working on cross-grain mouldings (below left). Sometimes you have to hold the plane in both hands, working across the grain (bottom)



When not to use a shoulder plane...

Even if I manage to convince you that shoulder planes are not the devil's work (as David Charlesworth used to think) there are going to be times when it's impossible for them to perform even their primary function of trimming shoulders. Any angled rail or stretcher is likely to have a tenon with its shoulder at less than 90° to its cheek. When this is the case it is impossible to use a shoulder plane effectively (below left). If the plane is held at the right angle for the shoulder, it will only deal with part of it and will be rather precarious, and consequently it is difficult to maintain the correct shoulder angle. In this case the only real option is to pare with a nice wide chisel (below right).



Compass Tools

For cutting apertures and curves, *Robin Gates* finds the way using 19th Century saws

My first winter in this garden shed was spent working by the light of its open door, also feeling the chill of the north wind sharp as a Viking axe. Evidently the shed had stood for years but had never been used for more than storage, its dark hinterland populated by fat spiders and old wasp nests, meanwhile slowly leaning eastward on long-settling foundations. There was little to be done about the lean besides adapting to a world five degrees askew, but why I didn't immediately fit windows I can't reasonably explain. Indecision probably, and overthinking the issue, imagining that as a maker I should first learn to make wooden sash frames or lead lights or compose pretty scenes in stained glass, at least do better than cutting holes and filling them with boring sheets of acrylic. Ah, but there's the rub: cutting holes in shed walls. How would I do that? Yes, that's what had me shivering in a Scandinavian draught all those weeks, squinting at the pencilled line unsure which side of it I was cutting. I'd mislaid my padsaws.

The original multi-tool

Six months after our stressful house-move I was still finding tools shoved in odd places, and it was in the hollow of the spare wheel in the boot of the car I found those old padsaws wrapped in an oily T-shirt. Surely the padsaw with its adjustable, inter-changeable blade and turned wooden handle or pad – latterly beech but often rosewood or ebony in older tools – is the original and most underrated multi-tool. Better by far than those snazzy agglomerations of spanners, knives, tin openers, scissors and screwdrivers with their under-performing blades and handles torturing your palm like a fistful of scrap metal. A padsaw won't fit your trouser pocket so well or make a sexy advertisement but it's a proper-sized tool for any number of tricky jobs, the very embodiment of efficiency and comfort that hasn't changed much in 150 years.

At the business end there's typically a solid brass ferrule fitted with two machine screws securing the blade at a convenient length. This arrangement allows fitting not just a wood-cutting blade but a standard 1/2in hacksaw blade, file, knife, chisel and more besides. Even working with the blade at full length the handle provides a firmer and more hand-filling grip than a gents saw.



Cutting apertures for shed windows with the padsaw

But with the blade retracted to, say, two or three inches and a handle-to-blade ratio of around three-to-one this saw is precise and manoeuvrable as a scalpel. Working in a tight spot with a short blade you just need to beware of jabbing your wrist on the blade's protruding heel.

Putting aside my visions of fancy fenestration, I set to work with the padsaw making rectangular apertures and fitting my first shed windows. The technique is to bore holes at the corners using a bit large enough to insert the narrow blade, then imagine yourself a muscle-powered jigsaw with both hands on the handle and arms steadily reciprocating. Speed and a light touch are the key to success, letting sharp teeth do the work. Given pleasant thoughts and a fair wind the job is done in no time.

In fact there'd been some benefit in my delay since the windows would not now be so pitiful as acrylic plastic sheets. I'd found a pair of glazed cabinet doors and three stained-glass sashes only in need of light restoration. Once I'd sawn the apertures their rebated frames slotted into place as snug as tea pot lids.

At other times I've used the padsaw for sawing apertures for cables in the back of an audio cabinet and cutting the opening for a door's letter box. It was a padsaw which met the need for a fair curve through undulating moulded plywood where even a powered jigsaw would fail to find a stable footing for its shoe, not to mention obscure the line with its bulky motor housing. The nimble padsaw worked through as quietly as a bread saw through crusty wholemeal.

The long narrow blade, toothed on one edge, is perhaps the oldest of saw types, making the most efficient use of precious resources of metal. Whether the Ancients succeeded in making a primitive steel is uncertain, with surviving Egyptian and Roman blades being of softer metals toothed so as to cut on the pull stroke without bending, but sturdier narrow blades cutting on the push stroke appear to have been in use by the Middle Ages. To my mind this style of saw, of which the padsaw and keyhole saws are sub-species, reached the height of elegance in the compass saws of the mid-19th Century.

Buying old saws 'sight unseen' can



Cheese-head machine screws clamp the padesaw's adjustable blade (above). Extravagant and simple handle shapes (above right) of the compass saw and padesaw. The 19th Century compass saw makes a tidy exit from the kerf (below left). Touching up the teeth of the compass saw with a Stubs file (below). The narrow blade of the padesaw follows a curve in moulded plywood (right)



prove disappointing unless you're adept at straightening bent blades and enjoy the grating tedium of filing deranged teeth, but I got lucky with this compass saw bought on the basis of a blurry photograph. It was made by the esteemed Drabble & Sanderson at their Ebenezer Works in Sheffield. 'London' stamped on the blade indicates London spring steel, the highest quality saw steel then available, but if ever a saw was destined to be buckled on its first outing then surely this must be it.

Digging teeth

With that oh-so-shapely handle, all horns and determination, driving such a narrow tapering blade, how could it not end in some novice mitt piling on the pressure as it met resistance, teeth digging in like a row of tent pegs and the blade doubling up in agony. Fifty years ago that would have been me, and even now I hesitate to use the saw for more than research into how it works. I can only assume it was handed down by careful and sensitive workers because it came to me straight as a winding stick and with ne'er a chip to

those flourishes of the handle-shaper's art. With just a touch of the Stubs saw file to well-tended teeth it was very soon scything an arc through a 1/2in board of reclaimed mahogany, leaving barely a splinter on exit.

Taking such a saw in hand prompts further thought on design and function. Clearly a broad blade is beneficial when sawing to a straight line because the big plate of steel acts like a barn-door rudder helping to keep the edge sailing straight, but to follow a curve you need a narrow blade which can be steered left or right without binding in the kerf, and that's exactly as provided by the compass saw. The blade tapering from 1in width at the handle to 3/8in at the toe also has a pronounced taper in thickness from cutting edge to back, a feature imparting stiffness while allowing the blade to heel sideways in the kerf and be guided around a bend. Even so it took a spell of easy-going experiment to develop a safe technique, maintaining the curve by applying a gentle and constant sideways pressure while also keeping the blade perpendicular to the face of the board. And it soon became obvious

that the shapeliness of that handle was not designed for looks alone. Good control is essential for a narrow blade in variable grain as it is for a canoe approaching rapids, with eye, hand and cutting edge maintaining constant communication. That curvy grip with long close-fitting horns makes this saw an almost prosthetic extension of your arm.

Hybrid teeth

Excepting where grain follows the curve a compass saw must cut both with and across the grain and this need is reflected in something of a hybrid tooth profile, having the steep face of a rip tooth yet also filed to a point to sever cross-running fibres. The ultimate necessity for this lies in sawing a circular aperture inside a board, which is begun by boring a hole in the waste large enough to insert the blade, just as I did at the corners when fitting shed windows.

But I'll reserve this venerable saw for less workaday activities than hacking holes in shed walls, leaving that to padesaws and their replaceable blades.

Setting Tapes for Square

Canadian woodworker and author, *Charles Mak*, shares a few handy accessories for accurate assembly

In a previous article (Making a Square Measure, QM11), I covered two home-made tools for checking internal diagonals.

This time, a tape measure is the tool of choice for checking squareness, with three attachments that I occasionally use to make the job of measuring a little easier. There is a tape tip, a square check and a magnetic tip.

The tape tip is designed to perform several functions, including the use as a compass or as a marking gauge, but I use it mainly to measure the external or internal diagonals. The square check works in a similar way by straddling the corner of a case, and keeping the tape in the same spot for each corner.

The final attachment I keep is the magnetic tip, added to a tape measure to extend its reach. Typically, the end of the measuring tape can easily slide off the corner of a long diagonal during measuring. The magnetic tip increases the hook's registration surface, and I find it particularly helpful when working with large or long panels. If you use a tape measure to do your square checking, perhaps one of these little helpers is what you will want to be adding to your toolbox.



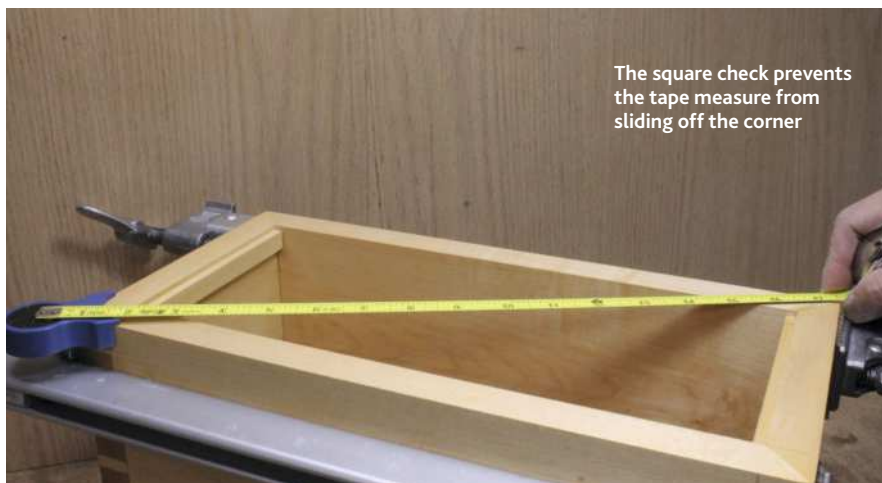
The rotating feature on the square check used in a three-legged chair project



From top to bottom, orange Lee Valley Tape Tip (\$7.50); blue Rockler Square Check for Tapes (\$7.99); and yellow magnetic tip (Magnatip, \$7.99 eBay)



The tape tip can be used to measure internal diagonals (above) and external ones (right)



The square check prevents the tape measure from sliding off the corner



The magnet on the tip allows the accessory also to be used as a pick-up tool

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Megan Fitzpatrick (at the back) leading students at Pine Croft (p52) through a glue-up of an Anarchist's Tool Chest in June 2022. Congratulations to Megan for being on consequent *Quercus* covers