

WORKING WOOD BY HAND (MOSTLY)

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MAGAZINE

EXCLUSIVE

The Order of the Carter

How Planemaker
Bill Carter Joined the
Makers' Hall of Fame

PLUS

Viv Walker's Wavy
Scottish Bowl Repair

Rasmus Vik's
Swedish Axe Head
Anne of All Trades'
American Video Blogs
Dylan Iwakuni's
Special Japan Report



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Curtiss Carr during his time as an intern at the Marc Adams School of Woodworking
Photo courtesy of Diane Drake, MASW



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Find out how the English mitre plane maker has been inducted into the *British Planemakers' Hall of Fame*

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ILLUSTRATION BY OMI GATES



Viv Walker replicating the fasteners that would have repaired a cracked ancient Scottish bowl



A new workshop complex for making and courses near Mt Fuji in Japan nearing completion

Quercus

His journey has been fascinating, cheerful and inspiring now that planemaker Bill Carter has been inducted into a hall of fame, *Goodman's British Planemakers*, especially as his plethora of mitre planes has been made in his garden shed. And now you can enjoy more than 200 video blogs, filmed by his wife Sarah, of his making exploits and experiences, with a smile and advice for anyone.

Touching on the value of social media, we review a chosen selection of Anne of All Trades' own video blogs, selecting our top three. Yet, there is still room for old school media, with an extract from Gary Rogowski's insightful book *Handmade*, and a review of *Craft Britain: Why Making Matters*, which sets a mark for the values of balancing tradition and contemporary Craft & Art.

In that frame of mind, Robin Gates promotes the much underrated dowel joint, devising his own austerity approach to dowel making, and elsewhere he questions the value of an old smoothing plane with disposable blades. Personally, I've heartened to have returned to Harrogate for the Northern Woodworking Show, finding new products, catching up with friends, then returning on an adventure.

Nick Gibbs, Editor

Credits & Production

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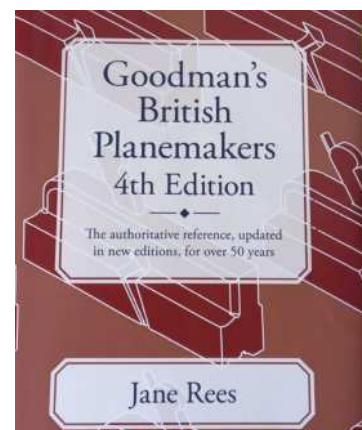
info@quercusmagazine.com, @quercusmagazine

The Planemaker

Having been added to planemaking's hall of fame, we ask Bill Carter how he has achieved this feat

There is a pantheon of British planemakers, Goodman's list, which opens with Robert Hemings, in London, who started making in 1676. Then it works its way in time through Londoner Thomas Granford, Bristolian Samuel Jeenes and William Reynolds in London, all four of them producing planes before the end of the 17th Century. Then, in the 4th Edition of *Goodman's British Planemakers*, four new 20th Century makers have been added. Published in 2010 and produced by Jane Rees, it lists the quartet as Philip Edwards (Dorset), Oliver Sparks (Leicestershire), Karl Holtey (Sutherland) and Bill Carter, who makes his highly-reputed and highly-valued planes from a shed in Leicester. His old English mitre plane replicas can sell for many pounds, often to collectors, but they are equally-valued as working tools. Somehow, Bill still considers himself to be no planemaking expert, perhaps because even after making more than 1000 planes, he is always adapting his gems, searching for new ideas and historic features to replicate what was made centuries ago, starting himself as a cabinetmaker turned planemaker, dealing in tools to help fund his passion for learning how to make replicas of English mitre planes from the early days of metal planemaking onwards.

Also known as Bill, W.L. Goodman, the founder of Goodman's British Planemakers, was a fascinating man. Born in 1903, he studied teaching, having worked since the age of 14 in the machine shop of a firm making bakers' sundries. "My first job every morning," he wrote in the 2nd Edition of *British Planemakers*, "was starting up the gas engine in the cellar. This drove a line of shafting to which the machines were connected." In 1928 Bill Goodman graduated and in 1931 became a Member of the College of Handicraft, working as a woodwork teacher for the rest of his career. "Questions asked by his pupils," Jane Rees writes in her introduction to the 4th edition, "led him to discover the complete dearth of literature about tools and trades." So he researched the topic himself and his first articles on the history of woodworking tools were published in *Practical Education* and



Bill Carter's planemaking career was inspired by an issue of *The Woodworker* magazine and has reached its summit by inclusion in the 4th edition of *Goodman's British Planemakers*

School Crafts, the Journal of the Institute of Handicraft Teachers. He retired in 1960 to write and research, producing *Woodwork, from the Stone Age to Do-It-Yourself* and then the *History of Woodworking Tools*, which was published in 1964. A fascination in tool dating led him to produce *British Planemakers from 1700*, and then the larger second edition. Mark and Jane Rees have taken over since then, starting with the third incarnation in 1993.

Bill Carter also started his working career young, aged 15, working for a neighbour who was just starting to make, ironically, sheds. "It was just him and me, making sheds in 1954," he told us at the Preview Day for a David Stanley Auction in November. "They were the best sheds in England, and we got to having about 15 blokes. We finished them mainly in feather-edged boards. Everybody else sawed the ends and left them like that, but I

planed the end-grain with a Stanley No.4 smoother. I'd go all the way around the shed to plane the ends, and the boss used to tell me off, and say 'there's no need to plane them, just leave them ripped,' but I wouldn't. All my working life I only had that smoother."

Making sheds as an apprentice with Rigid Portable Buildings was Bill's introduction to woodwork, having done no more than one lesson a week at school. "I wanted a carrying case for my tools, with a drop-down front and two drawers. We had a foreman. He told me how to make one with dovetails, which I'd never done before. So I did the dovetails for the first time and put the box together and rounded all the dovetailed corners. They're normally square. My boss said: 'I would never round the corners, they'd show all the



One of the defining features of the mitre plane is the narrow mouth



cracks.' Mine were perfect." Of course. Eventually Rigid Portable Buildings closed in 1962, so looking for work, Bill became a milkman. "What an experience that was. I hated it. It was back-breaking. You had to get there early in the morning and stack your float. You were bending to pick up the crates all the time. They gave me a run in a village called Thurmaston, outside Leicester. It took me ages to get there and I'd be delivering milk till 6 o'clock in the evening because the round was so long."

The floats may only have been battery-powered but they were dangerous. "The brakes were utterly useless. They only did about 15mph, yet when you came up to a junction you'd put your foot down but nothing happened. When there were cars coming along the road you had to judge when to start because it took so long to get across the road." He didn't stay long as a milkman, and then made another career switch to work for Securicor as a guard in an armoured vehicle, along with a driver. "When you were in the back there was a little hole where they passed the money, but there was no way of getting out. And you sat there thinking that if anybody throws a smoke bomb or something through the hatch, you've had it. You couldn't get out. And that used to worry me."

From 1963 to 1972, Bill worked as a carpenter for a plumbing company in Leicester, when grants were being given to convert the back bedroom of a terraced house into a bathroom, for which Bill would build an airing cupboard and much more. That was followed by a spell as a shop fitter for City Design Oadby, working with a Danish compact shelving system, fitting anything from shops to shows and even hotels. "We used to do Crufts at London Olympia every year," he said in November. One might imagine he didn't need that No.4 smoother for fitting Danish shelves. "Yes we did," he replies. "We had to use all manner of things, and from the very best materials." Of course.

Plane dealer and maker

Bill's final stint as a full-blown employee was cabinetmaking for the Leicester Museum Service, from 1975 until in 1987 when he 'retired' and became a full-time plane dealer and maker. There were 13 museums in Leicestershire, but only two carpenters, so he was always on the move. "Every time someone got promoted they'd have their office done out. You'd do up an office one week and rip it out the next. I was a qualified joiner and carpenter but they immediately gave me a cabinetmaker's money because I could do whatever they asked me to do." And it was during that time that Bill saw his first Norris plane. "A man at work had a Norris and I saw it and I knew what it was and I thought 'I want one of them'. So I advertised for one but it got stolen."

A few days later, still yearning, Bill is sitting around with his



The bodies of Bill's planes are often made from the backs of old tenon saws, which he splits apart and then saws in half

mates at work when an outside joiner walks past and happens to see Bill's friend's Norris, and says that's he's got one of those at home. "So I run after him and ask: 'Have you got a Norris?' And he replies 'Yes, I'll bring it in tomorrow.'" So he brings the Norris round the next day. It was an A5, which Bill says would be crabby today but was the bees' knees then. Bill asks how much he wants for the plane, to which the chippy replies that he has a caravan and needs a new Calor gas bottle for £10: "He gets his Calor gas, I get my Norris."

A few weeks later all the cabinetmakers' kit got stolen from the museum. His bosses said they'd buy them run-of-the-mill ordinary tools, but that he'd have to find the more specialist tools himself. "So I went all the way round Leicester, chatting everybody up, seeing if anybody had got a Norris. My old boss, with whom I'd served my apprenticeship making sheds, found one for me from a brickie. It was the same model, an A5, but the museum paid £70."

Bill started asking his friends in the building trade around

Leicester to ask anyone they met in their travels to see if they'd got a Norris. "I wanted a better one in rosewood. I'd never seen one. But I knew of them. I tried everywhere. Then two of my mates were in an empty house with some painters, carpenters and plumbers all sitting around the wall of the room, having lunch on the floor. One of the chippies says to the other that he has a Norris plane. It turns out he had a 50G. It was special to me, and they still are today. The carpenter had been given it by his boss for serving his apprenticeship. He brought it round to my house when my missus went out. The chippy had seen one in a cabinet in London, and knew they were worth about £100. He came with a fillister and a plough plane as well which I didn't want, but I knew I could sell them."



The Mitre Making Slideshow

One of the earliest indications of Bill and Sarah Carter's media career, and initially only available on CD, was a slideshow of images to illustrate the making of a mitre plane. For this Sarah photographed the step by step process, and we published many of those images in our sibling magazine, the late *British Woodworking*. Sadly the CD is no longer available so here we are repeating a handful of images, not having space for the full gamut, with the film being available on YouTube as *No.80 Part 1 Making a Metal Mitre Plane*, and then in random order from No.75 Part 2, and onwards from there, finishing with Part 31 (No.46). Things get a little confusing in Part 12 (No.65) when Bill has to alter his operations because it is raining and in *Part 13 (No.64)* the memory in Sarah's video camera runs out, and at one point he decides to do some making instead of visiting one of the David Stanley auctions. So starts a film, with a chuckle each time.



Bill halves the brass back of a tenon saw to make the body of a small mitre plane



Using a wooden template (based on earlier planes), Bill guides a saw to cut the tails on the body (above). It takes a lot of hacksawing, knocking out of waste with a hammer, some filing and drilling for the body (below) to be ready for bending



Inserting the bridge with a wide washer as a spacer (left), then the body is bent around the end of a metal rod using sash cramps (right)



Fitting the bridge into the bent body (left), and the body is tightened with a washer spacer and again can be peined on an anvil (above)



The halves of the sole must be carefully joined by filing, otherwise they might buckle or twist (above)



Marking out the joints on the sole (left) with the assembled body. Bill then cuts and files away the dovetails on the sole, and then fits one half of the sole (above left) ready for peining having made sure everything is flat. Then the joints on body and sole can be filed flat (above right)



The little plane ready for lapping on the plate (left). The iron is an old one split into four (above left), then the wedge is cut and filed to shape (above right)



The finished little English mitre plane, stamped with one of Bill's marks

Much umming and much ahing was done, and in the end Bill, who happened to have £100 at home, asked how much he'd want for the 50G. "He said he wanted £100 for all three. It was like a Rolls Royce to me. I just fell in love."

The new dealer

So then Bill started advertising for tools to buy and sell in *Exchange & Mart*. He had two competitors (both of whom can still be found at David Stanley Auctions), taking large ads, all of which, Bill says, would end saying '£300 paid for Norrises'. "So I used to put, £500 paid for a Norris. Most of the time I hadn't got the money, but it brought in a lot of people. And if the tool wasn't in mint condition, which was normally the case, you'd buy it for whatever you could sell it for, plus a little bit extra."

Meanwhile Bill was still working for Leicester Museums. At about that time he saw a photo on the cover of *The Woodworker* magazine of a man making a replica Norris plane. He had been selling plans for replicas, but had given up by the time Bill saw him on the cover. It said in the article where he lived, which happened to be close to Leicester. "So I went to visit him and bought the plans showing all the basics and the dovetailing. Some of the measurements were wrong." Novices were told to leave an extra $\frac{1}{32}$ in extra metal on the body and sole for dovetails, when really, says Bill, you need to double that at $\frac{1}{16}$ in. There were also issues with the adjuster and bevels on the cap iron. "I said to myself that I know how to do it now, despite having never done any metalwork in my life, not even at school, so I'll make one, and I'll make it 3ft long." Bill's logic for what sounds like bravado was that no one had ever found one that long, but he couldn't find brass and steel long enough, so he made a 2ft one instead.

"I've learnt since that when you make dovetails in metal you can never get them to fit first time. If they fit the first time they are loose, but I worked like a woodworker and tried to get them as tight as I could." Of course one has to be careful because once the metal joints are together you'll never get them apart or you'll distort the metal. They don't have to be as tight as you might imagine, but Bill didn't realise that then. "So I said to Sarah that the next side I do it will fit first time. I don't care how long it takes me but it's going to fit nicely and it's going to be tight. I called her down to the shed and asked her to be a witness. I got it in but I couldn't get it out." It turns out the dovetails don't have to be that tight, which is why Bill has since realised that the



When it came to making a new bed (above) Andy Tuckwell turned to his Carter mitre plane (right) for assistance, particularly working the most visible pieces with and against the most interesting grain



$\frac{1}{16}$ in spare metal above the joints all around the body is what is required to spread the dovetails by peining, like rivets top, side and bottom. Gaps are only revealed after grinding and filing.

Moving to mitres

In the end Bill made only two Norrises. He began reading the David Stanley catalogue as a reference and was taken by the English mitre planes, which were inexpensive then. In fact he'd never heard of such a plane at the time, but decided he'd like one. "I had no idea what I wanted to do then, I just wanted to make planes, but I realised that the smaller the mitre plane the rarer the mitre plane. I believe that the miniature mitre plane is the rarest of all English planes." Bill will tell you that no one really knows for



Video Gave Us the Workshop Star

In the last seven years, Bill and Sarah Carter have made more than 200 YouTube videos, filmed inside or outside his shed

Just as Shrenik Savla-Shah suggested last issue, the 210 video blogs Sarah Carter has made with her husband Bill, in or around his shed, combine tips, planemaking techniques, tool history and a good mix of banter and friendliness, not to mention perpetual camera-work and direction by Sarah. Bill is forever making comments about her filming, making frequent requests for close-ups inside the dark workshop, meanwhile embarking on another story beginning "Incidentally". The films are occasionally reminiscent of Ronnie Corbett monologues. Fortunately Sarah is always there to nudge Bill back on course should he reach a proverbial dead end.

Since there are so many videos to view, and because YouTube is so frustrating when it comes to perusing one particular channel without being sent elsewhere, it is hard to choose a favourite, at least without knowing what lurks within. Sadly Sarah doesn't have a list of their films, just as we don't have an index of content in back issues of *Quercus*. Perhaps someone could solve both those conundrums. So what follows are no more than gems we have chanced upon, with a few exceptions recommended by fans and by the Carter Films crew.

If you assume a mitre plane is used for no more than tidying up a joint, then watch the video blog from 10th October 2020, when Bill thanks an American friend for sending him a 15lb burr. Many of his films include notes of gratitude or asides about fans around the world, or contacts in the UK. In this case Bill says the burr doesn't need sanding, going on to illustrate the versatility of a Carter mitre plane. Incidentally all his planes have an identifying stamp, more often than not in his flowery hand-writing. Back to the massive burr. "You can remove all the marks with a mitre plane," he claims, going on to prove his point with remarkable speed. He ends the video by finishing the beautiful, unsanded surface with a floor polish wax he says he used during his time cabinetmaking for the Leicester Museum Service. Since the brand is mysterious, he also recommends Shane Skelton's Peacock Oil. Trouble is that we can't remember in which film this burr story is featured. And neither can Sarah!

If he wasn't famed for his planemaking, the Blunt Chisel Technique for paring might be considered as iconic as David Charlesworth's Ruler Trick is for sharpening. In No.26 Bill grinds away the bevel on a chisel to leave a flat end with which you scrape a little like using a paring chisel, with or without a burr. Showing how it's used to shape a nib on the wedge of a mitre plane Bill says the method is invaluable: "I find it impossible to do this even with a sharp bevel; but with a blunt one it's dead easy," and he goes on to show the trick employed for many other purposes including flat surfaces when you'd normally use a paring chisel or small shoulder plane or bull-nose. "You can't go up the grain like this with a sharp plane," he boasts.

And if that's not enough there was the time Bill gave a talk on Bench Talk 101, discussing the history of the English mitre plane, from the first metal ones in the late 18th Century. As is typical, Sarah ends Bill's flow after 30 minutes, but the chat lasts at least half an hour afterwards, and probably more.



Bill discussed the design of mitre planes in one of the early episodes of Bench.Talk.101



No185) Demonstrating My Beautiful 22 1/2" Norris Jointer.

2.5K views · 9 months ago

Bill Carter



No26) The Blunt Chisel Technique with Bill Carter

12K views · 5 years ago

Bill Carter



No2) Sharpening a Plane Iron with Bill Carter: Part 1

3.3K views · 5 years ago

Bill Carter



No190) Two Mitre Planes.

864 views · 6 months ago

Bill Carter



Bill Carter's iconic Blunt Chisel Tip, which starts with the bevel ground off the end of a paring chisel (left) to make it flat across the end (above) for working in any direction, into any tight spot, on any wood and along, across or against the grain (right)



certain why they were called mitre planes. They tend to be longer than a block plane, and are usually between 7in and 12in, square sectioned with a rounded heel and they are dovetailed. Most have a toe and a heel to extend the sole. "I started making them," Bill remembers now, "because there are less materials and they are quicker to make, and I needed them for making more planes." After all you need a tool to make a tool.

Since then, of course, Bill has made 100s of mitre planes of all different sizes, shapes and materials. "I copy the rarest of English and Scottish planes," he says. "Other planes are more ornate: Dutch planes are carved all over the oche, but English ones are always bog standard." Bill's planes are known for their cupid bows, and he uses various marks and colouring techniques to give the tools some age. "I spend a lot of time messing with them. I can't leave them alone," he says laughing. Bill Carter laughs a lot.

His planes are valuable now. "He just swapped two of his planes for a car for me," Sarah says. Bill adds that he used to pay his accountant in planes. Some people buy them for collecting,

others for using, and some for a bit of both. We were told at David Stanley's in November by *Quercus* reader Andy Tuckwell that he's been using his one recently to plane the ends of a bed he's been making. "I'd arranged for the pieces with the most interesting figure to be most visible so I needed to get the surfaces as near perfect as I could. My ordinary planes couldn't cope with the reversing and rising grain in places, but Bill's little skewed mitre plane could shave tissue-thin wisps of wood and leave a lovely smooth surface wherever I needed. Very satisfying!"

Goodman's English Planemakers

Not only has Bill Carter been added to *Goodman's British Planemakers*, but he is now famed around the woodworking world for the amazing quality of his tools and the depth of his knowledge, though he continues to say he's no woodworking expert. His reputation has grown since he and his wife Sarah began making videos of his planemaking and interests, posting them largely on YouTube. They are so entertaining, as well as informative and inspiring, that it's worth subscribing to their YouTube channel just for their films. You'll learn great tips that Bill has ostensibly discovered for planemaking, but can assist any woodworker. You'll learn how to use grinding wheels flat on the bench to flatten plane soles, and of course his famous Blunt Chisel Technique for easier and more effective finishing than any plane can achieve. In the last issue of *Quercus*, Shrenik Savla-Shah wrote how Bill's online presence has inspired him to make four mitre planes. "I identified that only a few files of different shapes, a scribe, an anvil and a bench vice were the tools I needed to get," he wrote. "The third plane is over in Ireland and the second one is now somewhere in America."

In Canada the well-known planemaker Konrad Sauer considers Bill "an inspiration", a compliment shared by Karl Holtey in Scotland and CR Miller in Australia.

Bill was one of the earliest speakers on Bench.Talk.101, and has friends and acquaintances all around the world, exchanging ideas and making planes for the interesting pieces of wood they send from thousands of miles away. Yet he still considers himself no planemaking expert. And so, we hope, Bill Carter will be making English mitre planes for many years to come.

You can learn more about Bill's work by visiting his website billcarterwoodworkingplanemaker.co.uk, @bill.sarah.planemaker on IG and view Sarah and his videos on their YouTube channel.



From Harrogate to Cowes

In busy months since QM15, *Nick Gibbs* is back on show and inspired by cars, words and music

The Northern Woodworking Show (aka Harrogate) in November was a step forwards for so many exhibitors and visitors, a plethora of both. For most it was business as usual. For me it was a memory lane of events so many years ago, before the venue had been so significantly upgraded, being now so much lighter than before with standholders no longer having to pay extra for lighting.

In my case it was to be amongst my Classic Hand Tools friends, who soon will be stocking *Quercus* for the first time. They were selling almost all of the remaining tools from David Charlesworth's workshop, before putting the star pieces for sale online until early December, by which time they were largely sold. Amongst their Lie-Nielsen, Veritas and Japanese saw sections were Mappa Tools, displaying their own distinctive mallets and trialling their prototype planes. And it was great to meet fellow Dutchman Titus Baptist who sells *Quercus* in his Arnhem shop.

Around the show there were others to meet for the first time, in particular Shane Skelton, so well-known for his saws, and Steve Langton, who has taken over Tom Thackeray's Windsor chairmaking and course-running business. I'd not met chairmaker Peter Tree, nor regular sharpening contributor, Richard Wile who was in Harrogate to promote Lee Valley and Veritas products. He promised to send us a new honing guide, which he has done, only for it to be delayed in the Royal Mail strikes. All I can say is that it resembles the Eclipse, with a single wheel and side clamping for blades.

On the way back I arranged to juggle my way home. On the day before going to Harrogate I'd crammed in a Sheffield visit to see Robin Wood of Wood Tools, and meet his team and have a tour of his workshop. It is such a familiar town, my day there reminiscent of being driven round one day by Ashley Iles and another time when I tried to find every British tool manufacturer in the town, using my

THANKS FOR TAKING THE PHOTO ROBIN WOOD



In Sheffield, outside Wood Tools

nascent Sat Nav through the rabbit warren of streets and lanes. Now, I need to admit that when my tiny Ford gave up the ghost in France on my way to Le Shack, my small French cabin in Normandy, I decided to buy the car I have always, always, always wanted to own. So I searched for an old Porsche 924. Now please don't think I am a Porsche fanatic (nor very wealthy), but I have lusted after a 924 since as a boy I was given a Matchbox Jensen Interceptor, with the same shapely rear window. Fortunately I picked up my 1985 924 for a bit of a song off Autotrader in May, and love it because it is grey/silver and is of a condition neither concours nor renovation. It is ideal for everyday travel.

Robin Wood was so impressed and delighted (realising the purchase is not a symbol of a *Quercus* fortune since the car only cost £4000), as were standholders at Harrogate watching me unload my magazines and gear from a sports car amidst so many Transits. So it was that

four days later I left the show in my muse on an Odyssey to catch up Steve Langton, Ray Iles of the Old Tool Store, and finally Peter Tree, whose workshop sits far down a track. The 924's fan belt had been squeaking for a few days in Yorkshire, which I put down to the damp, inclement weather, but it got worse as I drove back along Peter's lane, heading South to friends in Lincolnshire. Checking across my James Bond row of dials I was shocked to see there to be no Volts, and once I'd checked the fan belt realised my alternator was stuffed. I then made a terrifying trip to my lodgings, sure that my battery would lose all power in an Apollo 13 "We have a problem Houston" way, and I'd be left stranded and vulnerable on a country road with neither power nor lights.

Jazz on The Bridge

All went well in the end, and ultimately after three AA relays I reached QMHQ on the Isle of Wight. Production of QM16 started then, this issue enjoying the sounds of Sonny Rollins jazz throughout, inspired by reading Gary Rogowski's book, *Handmade*, in which he notes the 1960s musician's time leaving studio work for months, and spending weeks on Williamsburg Bridge to practise. I couldn't recommend more Sonny's album *The Bridge*. The same is true of Twyla Tharp's *The Creative Habit* book, which Gary also recommends, the most tempting section of *Learn It and Use It for Life* being that which says: "Before you can think out of the Box, You have to start with a Box". As the well-known choreographer writes: "Everyone has his or her own organizational system. Mine is a box, the kind you can buy at Office Direct for transferring files... I start every dance with a box... [and] document the active research on every project. If you want a glimpse into how I think and work, you could do worse than to start with my boxes." In my case you could do worse than find my pile of identical plastic folders and then read each issue of *Quercus*.

Building on Carousel Ikeas

In his new Swedish home, *Martin Sturfält* takes on the challenge of fitting rotating kitchen shelves

Making this corner cabinet was by far the most challenging part of the kitchen build. From our previous house, we knew that the internal corners are always a bit of an issue. There is potentially a lot of space in a cabinet like that, but how do you make use of the back end of it in a practical way? Whatever you think about Ikea, they do have some clever solutions for these kinds of things, so for inspiration we decided to take a look at what they had to offer. It turns out that they have this rather clever rotating shelf system. Not only does it rotate out of the cabinet but once fully turned 90° the shelves then slide out, providing full access to your pans right at the back of the shelves. Luckily, the hardware package with two shelves and the rotating mechanism is sold as a separate kit, so we decided to go with that and build our own cabinet around it.

The hardware is designed to be screwed into pre-drilled holes in a matching cabinet, but as I wanted to integrate it with a bespoke solid wooden carcass, some prototyping was needed. An off-cut of roof material with two posts attached representing the opening in the face-frame served me well in determining that the shelves were free to rotate (Pic.1) without any fouling.

Whereas the metal parts are super-clever and very sturdy I decided to make my own shelves, as I really wasn't keen on the fibreboard ones from the Ikea package. I simply copied the shape onto the pine stripboard I was using, sawed it out and refined it with a spokeshave and a file. The central metal part around which the shelves pivot is screwed into the bottom of the cabinet at the bottom and into a wall at the top. I however decided to reinforce the centre by means of a solid wooden post which takes the screws instead as they have to take a considerable load when the shelves are loaded with heavy saucepans and fully extended.

The entire corner cabinet is L-shaped and the rotating shelf part takes up the long section of the L, whereas the shorter one is a smaller cupboard housing a gas canister. Again tolerances were tight and in order to be able to get the canister in and out of the cupboard I needed to make one part of the face-frame detachable. All in all this cabinet included much more joinery - dadoes, half-laps - than the rest and presented a nice challenge. It was quite a big learning curve and really fun.



The carousel and shelves in place in the finished cupboard (above). The first stage of prototyping (Pic.1, below left) and midway through assembly (below). Note the sturdy central post to which the carousel hardware will be screwed





The finished carcass (above) and a view from underneath (below). The two mortise holes in the face-frame are where the legs will be attached



The face-frame assembly (above). There is a detachable upright on the right of the small cupboard face frame so that a gas bottle can be slid into the cabinet as it is a tight fit



Copying the Ikea shelves onto the shelf material (above) One good thing with the Ikea kit is the the metal hardware also comes with two fibreboard shelves which can be used as templates for your own design.



Using a brace and bit (above) to transfer the holes from the Ikea shelf onto the solid wooden one

The Perfect Integration

On his way to UK for a course in January, *Dennis Hiorns* explains how he puts hand power first



After resawing, drawer sides are quickly dimensioned with a bench plane (above). Resawing drawer sides with a hand rip saw (above right). An antique chair disassembled and ready for regluing (above right). Removing saw marks without sanding (right) and matching moulding profiles without a router (far right)

I started my Hardwood Craftsman woodworking business two years ago as a second career, having retired from 27 years in law enforcement. I had already been a woodworking hobbyist, using mostly hand-tools. But when I started building cabinetry and simple furniture professionally I rented a 1500sq.ft shop with a friend and we started outfitting it with a few power-tools (tablesaw, jointer, planer, etc...). I thought that efficiency was the primary route to success. But I quickly realised that there are plenty of people out there who value quality furniture, and doing nice work (on time) is what makes my business profitable. Hand-tools permit me to do the nice work, and using them efficiently allows me to produce results in about the same amount of time as power-tools.

I'm not a factory that does

mass production. I build individual bespoke pieces of furniture and cabinetry, as well as repair antique furniture. Power-tools need to save a lot of time to make them worth the noise and dust. Say I have four plywood shelves to which I've applied hardwood edging, and now I need to flush-up the top edge, my router with the lipping attachment can do each shelf in about 10 seconds, compared to about one minute per shelf using a block plane. But in the time it takes me to set up the lipping attachment I could have already done two shelves. So by using power-tools I save less than two minutes; not nearly enough time to draw me away from my hand-tools.

My Lie-Nielsen Low Angle Block Plane is always within reach of my bench, and it often spends the entire day in my apron. I use it mainly for flushing up hardwood edging and removing saw marks from

rip cuts. But when it's on me, I find I reach for it for a variety of other uses as well: rounding over corners, quickly levelling the joint between two edge-glued boards, or planing through rough stock to see the beauty underneath.

Of course, chisels are invaluable in any shop for the multitude of paring and chopping operations. And a card scraper can quickly address problem areas that would otherwise require the noise and dust of a random orbital sander.

If I have multiple cabinet drawers to make and I need 1/2in stock, I will resaw it with the bandsaw or use the power-planer. But if I need one piece of 1/2in to replace the side of an antique drawer, I always reach for my hand rip saw. It might be quicker on the bandsaw (unless the resaw blade is not currently installed), but for just one or two boards I find it more

satisfying to use a hand rip saw and jack plane. Of course, I don't own a dovetail jig.

Disassembling and regluing antique chairs is a regular task in my shop. Once the chair is apart, I need to clean out the mortises carefully, without removing too much material. In this case, I use that original cordless drill; the brace and bit. This also allows me to drill holes precisely and carefully close to the edge of the board, as slow as I need to maintain accuracy.

I've recently fallen in love with my two pairs of hollows and rounds. Matt Bickford's *Mouldings in Practice* is one of the best instructional books I've read, on any topic. I simply can't make the argument that creating an ogee detail on the edge grain of ash is quicker with my hollows and rounds than with a power router, but the satisfaction of cutting your own mouldings by hand can't



Dennis in his hand-tool workshop (above) and a new ash table leaf matched to an existing table profile (below)



be beaten by a screaming, dusty, terror of a machine.

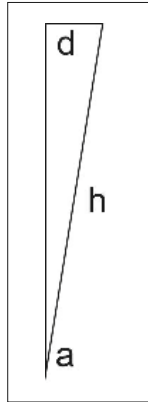
It's important to recognise that I can only be efficient with everything above if I also take the time to sharpen my tools frequently. But once you're in the habit of using your hand-tools, you develop a system of sharpening and get really good at quickly honing your edges.

I'm not saying that I choose to operate my business using only hand-tools. I can rough mill hardwood much more quickly with my 8in jointer and 15in planer, and there's no way I'm touching plywood with my hand-tools. But the time savings of power-tools has to be significant to draw me away from a beautiful hand-tool.

Dennis operates The Hardwood Craftsman, a woodworking business in Madison, Wisconsin. Follow Dennis on Instagram at @hardwood_craftsman.

Inclined to Test a Square

Commenting on a tip last issue, *Norman Billingham* offers his marking advice



A cylindrical square on a surface plate (top left) provides an accurate 90° reference. Attaching a washer around the power off button (far left) reduces the likelihood of accidentally turning the device on when putting it away. Geometry of a 'tilted' square of length (above) 'h' deviating from 90° by an angle 'a'. The set-up of straight-edged board (above left), tape and scalpel for testing a square. Tape cut through with square to left (above centre), and the cut piece removed. The square flipped over (above right) and slid up to the cut edge reveals any discrepancy from 90°

I always enjoy reading *Quercus*, however I take issue slightly with Charles Mak's article in the December 2022 issue (QM15) on using a digital inclinometer in the workshop to test his squares. I have one of these inclinometers and I agree that they are very useful gadgets. I use mine a lot, for setting up machines both in woodworking and in model engineering, but they do have their limitations for precise work.

Many of these simple angle gauges have a stated resolution of 0.1° but usually a claimed accuracy of +/- 0.1°. This means that a reading of 90.0° could easily be 0.1° in error, either above or below 90°. Some of them claim to read to 0.01°. I would take this with a pinch of salt for a device with such a small base. On mine the contact surface is about 1.5in long. A tilt of 0.01° would imply that one end is 0.0003in higher than the other. Although I've not tested one of these, I'd be very reluctant to rely on that sort of accuracy. The most accurate square I own is an engineer's cylindrical square (Pic.1). These consist of a hardened steel cylinder (my small one is about 6in long and 2in diameter) which is precision ground on its outer diameter and across its ends. When standing on an engineer's surface plate they produce an accurate 90° reference (mine is specified to be less than 0.0001in out of vertical at 6in. I tested my inclinometer on this setup and routinely get readings of 89.9° and 90.1°, as well as 90.0°.

Imagine a square which is placed with one arm on a horizontal surface, so that the other should be a true vertical. If we take the length of the square being tested as the hypotenuse of a right-angle triangle with a tilt of α degrees from true vertical (Fig.1) then the deviation, d , at some distance, h , is $h \times \sin(\alpha)$. If α is 0.1° this means that d is $h \times 0.00175$. So at 12in away from the base of the square the deviation could be as much as 0.021in (21 'thou') and could still give a reading of square. Even a cheap combination square should be very much better than this. BS939, the standard for engineer's squares specifies that a Grade B square should be no more than 24 microns (around 0.001in) in error at the tip of a 300mm blade.

The only guaranteed way of getting a true square is the method originally developed by Whitworth, in which three squares are tested against each other in pairs; only if all three are exactly square will all possible pairs match. However, this is not really practical in the average workshop, nor is it normally needed.

Drawing lines from a known straight edge will be a better test for a square, but is not always easy to judge with pencil lines. The method I use, which I learned from a professional cabinetmaker, is to use a piece of melamine-faced board, which has a good straight factory edge. I put a piece of brown parcel tape on the face of the board and use my square with a fine scalpel to cut through the tape. If the cut off piece is peeled away then the square can be flipped over and slid up to the cut edge – even tiny deviations from square are easily seen.

Another problem with the standard inclinometers as supplied is that it's very easy to press the on/off button by accident when returning the gauge to the soft storage pouch, leaving the device turned on to run down the battery. I get round this with a drop of Superglue attaching a washer to the front panel so the battery lasts a lot longer.

The Pioneering Birch

Thank heaven I live in a birch forest, writes *David Godber*, praising the versatility of a northern wood

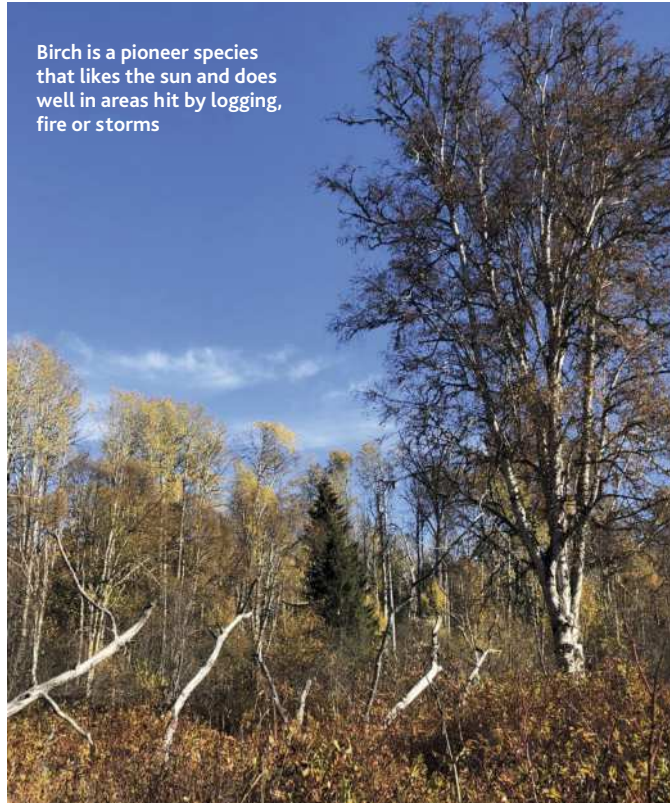
Every project requires a decision to be made about the species of wood that will be used. A decision might simply be based on what scrap wood you have lying around the shop that's still big enough to be useful. It might be determined by what the plans recommend. Outdoor work calls for more rot-resistant wood than indoor projects. Maybe you've been given something exotic and planned the whole thing around its wild grain. Could be you're one of the lucky ones who has a well-stocked supplier nearby, excess cash and can just pick any wood that suits your fancy. Or it could be you live in the near north of Canada and have just one option when it comes to hardwood. If that's the case you'll be glad your only option is birch. Lucky me.

There have been times when I've envied those chairmakers who can choose between multiple species for their work. "I like to use maple for the legs. It's such a joy to turn." "I rarely get failures when bending ash for my arm bows." "You can't beat oak when a piece needs to be strong and it rives straight as an arrow." I shudder when I remember that as a child in eastern Canada we used oak and maple to heat the house. I should have squirrelled pieces away in my room to save for a more noble purpose. Alas the folly of youth.

Pine and spruce

I now live in a forest surrounded by trees, but the vast majority are the lumber producing variety of pine and spruce. Wonderful if you're building a house (which I did), but not so great if you want to make anything else. Before you begin to pity me and start sending gifts of hardwood through the mail you must know that I've been

Birch is a pioneer species that likes the sun and does well in areas hit by logging, fire or storms



blessed with an abundance of birch. Over time I have come to appreciate that the birch tree is the Jack of all trades when it comes to wood. It's never found at the top of the list for anything, but it's always hanging around nearby. A birch has a pale almost white sapwood with a darker reddish brown heart. It is a closely grained, diffuse porous wood which means it can be unremarkable; to its advantage when you don't want the distractive grain. Burls can be quite spectacular and spalted birch is eye-catching.

This diversity means that birch has a wonderful flexibility. It doesn't bend like ash or oak but it does alright. I've bent bows for balloon back chairs out of birch with satisfactory results, but you do need to pick your pieces for bending carefully. With the right piece

I've bent green birch for oval shaker boxes without even soaking first. Spooncarvers will agree that birch is a delightful wood to work. Soft and easy on the hands but still easily burnished to a lovely, touchable finish. Birch turns wonderfully, especially when green. One of my great joys is turning chair legs on the pole lathe with great streamers of shavings.

Birch grows well in most soils but seems to prefer them to be well-drained soil, and useful in identifying gravel. It also prefers sunny locations as a pioneer tree. Growing in soil newly disturbed from logging or fire, it forges ahead and prepares the ground for it's longer lived brethren. The average lifespan is 80 years making it similar to humans. If worked young enough it can even be coppiced.

There is more to the birch

tree than just the wood fibres. White and papery, its bark is perhaps its most recognisable feature, used for starting fires, making baskets and canoes, and as a waterproof roofing material. It can even be used as paper. The inner bark can be eaten as a survival food or dried and ground up and added to your flour.

The sap, while only half as sweet as the sugar maple, can be reduced to make syrup. The birch wine I've made has received mixed reviews. We now tend to drink the sap as is. This is legendary for its health benefits much like the Chaga mushroom that grows on the birch tree. You can make tea from the leaves as well as a dye. I haven't even mentioned its value as plywood. The tonal qualities of birch make it ideal for speaker boxes and if the grain was more extravagant it would be more widely used for musical instruments.

Found in temperate northern forests around the world it is culturally significant. Many Russian folk songs feature the birch. In Celtic mythology 'The White Lady of the Woods' symbolises new beginnings as it's one of the first trees to leaf in the spring. In Finland it is still common practice to thrash oneself with thin birch branches while enjoying a sauna.

How fortunate for those of us in the north that our favourite choice wood should be such a good one. Perhaps birch's potential has been fully realised here simply because there was no other option. I like to think of birch as my desert island tree. I have come to appreciate its versatility and its value for so many cultures around the world. There is really very little it can't do.

Follow David by visiting silvertreewoodworking.ca or @silvertreewoodworking.

Birch is versatile, and can be used to make vessels, brooms, spoons, stools, coat hooks, chairs and is rot-resistant indoors



Secretive Dowels

A good jig and a gate-hook rescue *Robin Gates* from the pit of joinery despair

The minor irregularities of historic work done with hand-tools are, for me, precious reminders of a world before robots, some common ground with woodworkers down the ages. Here a wonky dovetail pin, there a saw cut beyond the line, it's the little things subject to vagaries of mind and muscle that inject real life into the thing made.

On the other hand, subjecting myself to the diarrhoeic tide of online woodworking stimulated by Covid had left me feeling almost reprimanded by 21st Century opinion on these, uh, 'schoolboy errors' where, being distracted for a moment, my chiselling had betrayed evidence of a wobble or my saw had trespassed beyond the waste. Given all that time for self-improvement I should have emerged from Lockdowns a dovetailing master, instead of which I'd fallen into a pit of joinery despair.

My therapy was a good spell happily banging stuff together with hammer and nails, having even more fun with riveting, and generally not giving a rat's derriere for the pernicketiness of 'perfect' joinery. But now I am all fired up and returning to the joiners' fold, I hope, with a new-found friend: the dowel joint.

Invisible and strong

As an inveterate recycler of timber from discarded furniture I've encountered countless dowel joints without appreciating how good they are, largely because they are invisible. The dowel buried deep in the wood is as secretive as a mitre dovetail and yet infinitely less demanding on the maker. A strategically placed dowel joint is also impressively strong, something I've cursed rather than praised while attempting to pull it apart. While salvaging timber from factory-made furniture I've found dowels where legs meet rails, in broad surfaces made up of narrower boards joined edge-to-edge, and for strengthening mitred corners. Dowels from the gate of a gate-leg table were found to be $\frac{3}{8}$ in (9.5mm) diameter and $2\frac{1}{2}$ in long, which looks about right for domestic furniture.

Dowels can be seen as the loose (meaning independent, not rattling about) tenons of round mortise-and-tenon joints, and bear comparison with a technique used by ancient Egyptians to join the planks in wooden boats. But my first dowel joints would have sunk without trace. Their hoped-for right-angles went every way but

perpendicular, while a surface assembled of smaller stuff turned out higgledy-piggledy as a wash board. Only two things were going wrong. One, the holes in complementary parts of the joint were not lining up, and two, I wasn't boring holes perpendicular to the surface. And yes, that means nothing was going right.

Assuming the meeting edges of the joint are flat, straight and square, it only remains for the dowel holes to be accurately vertical and in the right places, otherwise there isn't a hope of the joint closing properly. But even in younger hands than mine winding the crank of a bit brace can be an unsteady business, and there's always the possibility of changeable grain or a knot lurking below the surface throwing the auger bit off course.

Now this is where I take heart from the online gurus. Their dovetailing advice for ensuring lines are correctly angled, saws abstain from wandering, and chisels pare properly is simply this: use jigs! A crafty template will assist the layout, a magnetic guide control the dovetail saw, and a block steady the paring chisel, not forgetting to cordon off the area with blue plastic tape, wield a surgeon's scalpel, peer through an illuminated magnifier, and don the distressed chore coat to keep up appearances. Now the workbench resembles a scene from the emergency room, but the joint in peril has been saved. Cue the swooning Florence Nightingale to appear at Dr Dovetail's side bearing a tray for his saw-dusted instruments.

But seriously, a tool for marking dowels can be as simple as a right-angled plate (or several, in different sizes to suit a variety of work) with tiny holes for a bradawl, and you could keep an eye on verticality in the bit brace with the help of two try-squares placed at 90°; although that requires two eyes looking simultaneously in different directions, come to think of it. But hand-tool woodwork doesn't have to be a totally hair-shirt mission of self-denial, make do and mend, we may allow ourselves a new tool occasionally, even more so if it's a new-old tool soundly made in the USA.

Accurate and upright

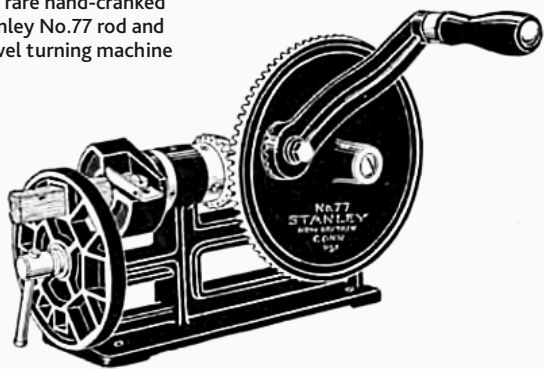
The Stanley 59 dowel jig has corrected both my dowelling deficiencies, placing each hole with the accuracy of a Ronaldo penalty while standing the auger bit as upright as the Statue of Liberty. A few delicate adjustments and precautions are needed before winding the crank of the brace, but if you appreciate good engineering I think you'll enjoy the procedure.

Having settled on the diameter of dowel you're using (more of which later) you select the appropriate bit guide from the set of six supplied with the tool. And by the way, if you're looking at buying a dowel jig do make sure the guides are with it; without guides the jig is useless and finding replacements may be difficult. The guides are bevelled around the top edge to ease fitting the bits and are numbered according to the bit or hole diameter measured in sixteenths of an inch.

A No.5 guide corresponds to a $\frac{5}{16}$ in bit, while a No.6 guide corresponds to a $\frac{3}{8}$ in bit (or $\frac{6}{16}$ in bit, as the guide sees it), and likewise a No.8 guide is for a $\frac{1}{2}$ in ($\frac{8}{16}$ in) bit. In this example I'm using a No.7 guide for a $\frac{7}{16}$ in bit.

The guide slots into its sliding clamp so as to rest flush with the wood and is tightened by a knurled screw, (continued on p22)

The rare hand-cranked Stanley No.77 rod and dowel turning machine



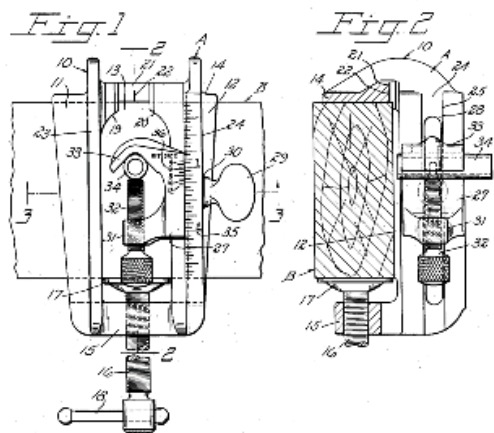
A fistful of dowels ready for grooving



The Stanley Dowel Drilling Jig

The Stanley 59 dowel jig is designed to correct any dowelling deficiencies, as it will place each hole accurately while ensuring the auger bit is upright. You need to make a few adjustments (3) and some care is needed before winding the crank of the brace (1). But if you favour good engineering you will hopefully enjoy the process.

Jan. 22, 1952
F. A. VOLZ
DOWELING JIG
Filed Feb. 11, 1947
2,583,283



The original US patent application was filed in 1947, and the patent was published in 1952



The Stanley 59 dowel jig assists with maintaining the bit vertical while winding the crank of a lop-sided brace. A Record holdfast clamps the work (above)



Stanley 59 jig (above) set up with auger bit & depth gauge for boring 7/16in dowel holes. A centre mark (below) aligns with the pencil mark squared across the wood



Making Dowels by Chisel & Gate

Riving squarish sections from offcuts will ensure the grain is straight (1), then one method for rounding is by pushing along the sole of an inverted plane held in the vice (2). You can knock the blanks through whatever plate you want, though placing it over a dog hole in the bench (5) is always a good idea. Lightly pointing the blank with a chisel makes it easier to tap it home (3).



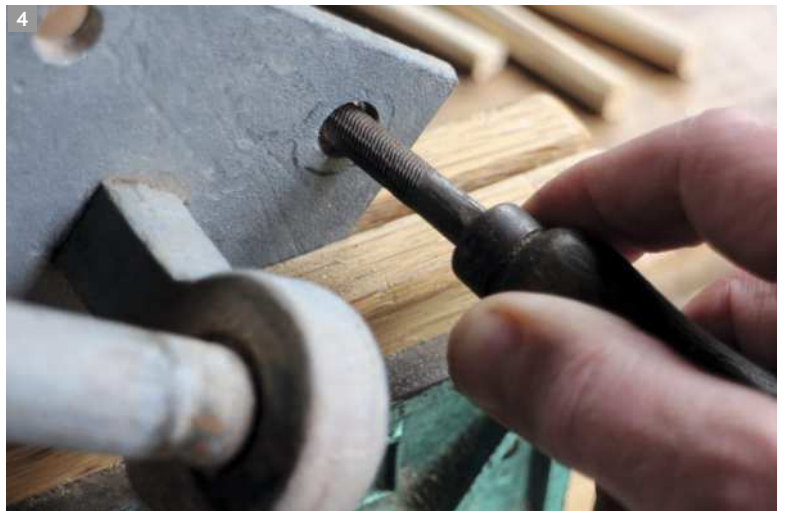
Using a butt chisel to rive squarish dowel blanks from a fir offcut



Roughly rounding blanks on an inverted plane gripped in the vice (above). Filing a countersink on the dowel plate with a rat-tail file (below)



Pointing an end (above) to ease knocking the blank through the gate-hook dowel plate. A lump hammer knocks the blank through the hole (below)



The blank emerges smoothly rounded and with fibres compressed

the clamp itself being tightened by the thumb screw seen to the right of the scale. The bit size marked on the clamp (the 7 is indicated by a line between numerals 6 and 8) is aligned with the appropriate graduation on the jig frame indicating distance between the centre of the dowel hole and the face side of the wood (in this case $\frac{7}{8}$ in). Now the jig may be clamped to the wood, being careful to align its central index mark with the pencil line already squared across, and is ready for inserting the bit. Bit depth is limited by a tubular gauge screwed to its flutes. With holes bored in one part, repeat the procedure on the second part and the joint should assemble squarely.

Even using the jig I can't be entirely carefree about the bit standing vertical because Stanley made allowance in the diameter of the guides for variation in the accuracy of bits on the market, besides which a standard Jennings auger bit seems rather long compared to the $1\frac{1}{2}$ in guide expected to keep it in line. Back in the day there were short auger bits made especially for dowelling. If the mind wanders I occasionally find myself leaning.

Still, it's good to see a little of what David Pye might have called 'the workmanship of risk' creeping into the process. The jig's main clamp accommodates wood up to $2\frac{3}{4}$ in thick which is wide enough for most edges, and Stanley suggested it could attach to wider work if fitted to a block nailed temporarily to the surface; weighed against a couple of wobbly free-standing try-squares that's not a bad idea. So, all that's missing now is the dowel.

Riven and rounded

You can buy dowel rod ready-made. There are power-tool methods for making it, or if you have around £500 to spare there's the century-old and rare Stanley No.77 hand-cranked rod and dowel turning machine, essentially a gear-driven development of the traditional rounding plane. But I opted for the oldest and crudest method, also used for making the wooden 'trunnels' of timber framing, which is to knock riven and roughly-rounded blanks through a hole in a steel dowel plate. The blanks emerge with corners smoothed and fibres compressed, perfect for subsequent swelling and tightening in a glued dowel joint.

A good dowel plate can set you back £120 so it was my lucky day when, out walking the local fields, my toe stubbed on a piece of metal. Digging down I found it was a field gate hook, the hefty pin on a square plate that is half the hinge mechanism of a farm gate. When cleaned up I found the plate's holes intended for coach screws were 10.5mm diameter, as near as made no difference to $\frac{7}{16}$ in, so that settled it: bit guide No.7 it would be. A field gate hook costs about £5 new, but I'm sure there's plenty of holey metal scrap out there which would serve equally well. Sadly, my argument that the saving on a dowel plate justified spending £120 on other woodworking stuff didn't wash with Mrs G.

For the straight-grained blanks required I rived squarish sections from a scrap piece of fir, then roughly rounded them by pushing along the sole of an inverted plane clamped in the vice. I then knocked the over-sized blanks through the plate which was



Bevelling ends of dowels on an inverted Surform block plane (above) and a blunted wood screw grips the dowel in the grooving jig (right)



positioned over a dog hole in the bench. I experimented with filing a countersink on the exit side of the hole but it didn't make a lot of difference: either way, rough blanks entered and smooth dowels exited. Lightly pointing the blank with a chisel made it easier to start.

So that air and surplus glue can escape the hole as a dowel is knocked into place the sides are grooved from top to bottom. Charles Hayward recommended doing this by drawing the dowel along the edge of an inverted tenon saw, but I found this unsatisfactory: it's all too easy to graze fingers. So I made a slotted grooving jig to guide the blade. A blunted wood screw clamps the dowel while sawing.

Now the dowels may be cut to length and their ends bevelled for easing into dowel holes, for which I used an inverted Surform block plane. A last step before knocking a dowel home is to lightly chamfer the hole so that any glue squeezed out has somewhere to go, and I did that with a gouge.



Safely sawing a groove along the length of the dowel

Preparing Dowels for Assembly

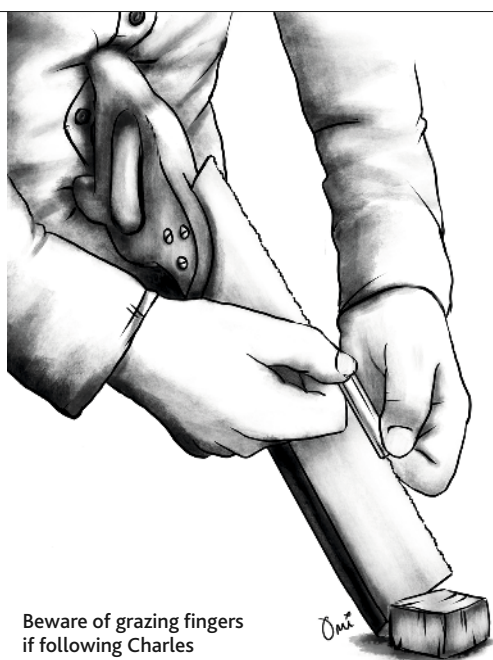
It is always a good idea for dowels to be grooved along their length so that air and surplus glue can escape the hole as a dowel is knocked into place. The late, great Charles Hayward suggested doing this by drawing the dowel along the edge of an inverted tenon saw. If you do try that method do beware the risk of grazing fingers. A safer way is to guide the saw blade along a slotted grooving jig. Then all you need to do is chamfer the dowel hole (2) to make assembly easier



Chamfering a dowel hole (above) to accommodate the glue squeezed out. Dowels in place (below) and the joint ready for assembly



ILLUSTRATION/OMI GATES



Beware of grazing fingers if following Charles Hayward's suggestion for grooving dowels



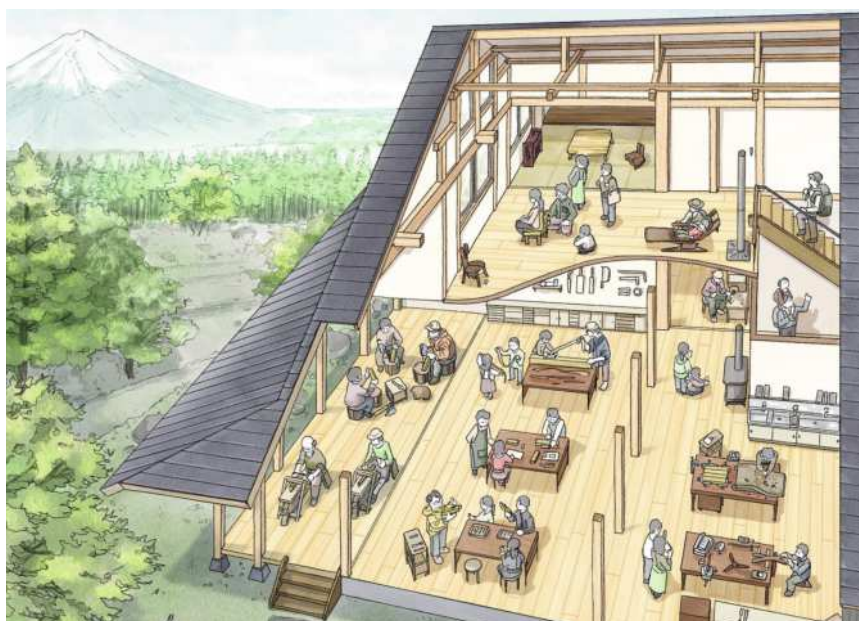
Once the workshop is complete, events will be held in the studio and in the forest

Joins to Make a Workshop

Some of the joints include Shachi-sen tsugi (right). The two tapered wedges pull the materials together, making it suitable for joints that pass through a post. Wari kusabi hozo (far left) is a through tenon with a wedge pulling the material and locking it. Kanawa tsugi (left) is one of the most commonly used joints, considered one of the strongest, and ideal for extending beams



A traditional joint being assembled on site (above) and a cut-away illustration of the workshop (right)



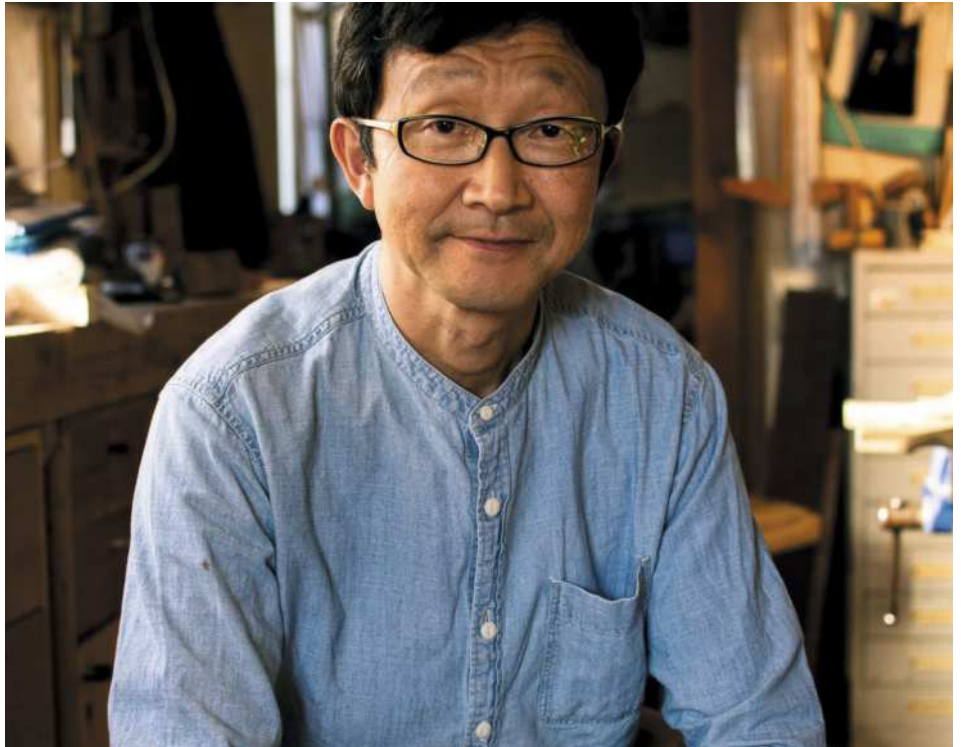
The Rising Sons

From a new complex near Mt Fuji *Dylan Iwakuni* reports on an endeavour approaching completion

In the forest near Mt Fuji, Japan a woodworking studio (workshop) is being built. A space where craftspeople, woodworkers and artists from around the world can gather to learn, share and exchange skills, knowledge and cultures. When the studio opens next year, we will host classes (in English as well), experiences and events on Japanese woodworking, green woodworking, and sustainable forest management, amongst others. In addition to scheduled classes, there will be Artist-in-Residency opportunities for artists wishing to experience focused immersion in their ideas and art.

The courses we have available now are a one-day experience on the essence of Japanese Woodworking, during which participants will experience an explanation and demonstration on sharpening and techniques on using Japanese hand-tools. There will also be a five-day Japanese Hand Plane Class, to learn how to set up, sharpen and use Japanese hand planes. Then there's another five-day course, the Joinery Class, with lessons in how to cut fine traditional joints using hand-tools. For more intense study you can join a four-week intensive Japanese Woodworking Course to study under fine furniture-maker Tak Yoshino (@takyoshino) and learn how to set up Japanese hand-tools properly, make traditional Sashimono joints and experience fine woodworking.

In September, we completed assembling the timber frame structure and are now working on finishing the interior. This studio is built with traditional carpentry methods, using wood felled and milled from our forest. The construction started more than two years ago, with an assembly of passionate carpenters from around Japan. The woodworking studio is expected to open from spring 2023 onwards. For the latest updates on the progress, please check out @mtfujiwcs on Instagram or visit mtfuji-wcs.org.



Courses will be run by fine furniture maker, Tak Yoshino (above), who owns the forest and woodworking studio, in the workshop which is still under construction



The assembled timber frame structure (left), which took three days to assemble. The current state of the workshop (above). Work continues on the roof & exterior



The exterior cladding will be done with yaki sugi (charred cedar boards). It is said that creating a carbonised layer on the surface makes it stronger against rot and insects (above)

The Carpenters' Line

With only a few weeks left, *Henrie van Rooij* recommends visiting Japan House for a special exhibition

ALL PHOTO JÉRÉMIE SOUTEYRAT, JAPANHOUSE LONDON



Tools used by carpenters in Hida (above) and a display on Takayama Festival (below) counted among Japan's most beautiful festivals and known for its lavishly decorated floats

There is just time this January to visit a remarkable exhibition in London. My wife and I spent some pleasant hours at Japan House, Kensington High Street recently. They have on a small but nicely curated exhibition on Japanese carpentry, called *The Carpenters' Life*, concentrating on woodwork from the Hida region. It is all beautifully laid out and presented. And there were some remarkable items of work on display. I was quite taken by a small *netsuke*, about an inch in diameter, which was minutely carved with so much detail, and also showed a great sense of humour. And there is a collection of tools which have clearly seen a lot of hard work.

It was a nice touch that the exhibition was named after the Japanese snap line, or carpenters' line as they call it. Some of us are familiar with the ornate *sumitsubo*. The ink lines from this region are more basic and functional. For that reason they are not called *sumitsubo* but *ichimonjigata*, which means something like 'shape of the character for one'. The staff are super friendly, and do their best to answer your questions, but they are not craftspeople as such. There was one craftsman on



hand, but he did not speak English, so I did not even attempt to ask some specific questions I had in mind. Naturally, I had to mention my *wagatabon*, about which they did not know, but they seemed pleased with the pictures I could show them. And when they looked it up, they found that the *wagatabon* originates from a region just to the north of Hida.

It was great fun playing with some of the prepared wood joints, and to figure out how they fit together, and how to slide them apart. Some of them even the staff struggled with. There were some short

video clips of craftspeople at work, though not nearly enough for my taste. Also some slideshows of more examples of Japanese wood carvings etc. Their gift shop is also a showcase of many beautiful items too, with some exquisite carved wooden spoons, cutting boards, and examples of the famous and stunning *kumiko* lattice work. On the way out we sampled their ice cream with matcha and red bean paste. Absolutely fabulous!

The brochure itself offers plenty of intriguing information about Hida craftsmanship. Expert carpenters from Hida, it reads, are known as *Hida no Takumi*, or 'Masters of Hida'. The first known usage of the term was 1300 years ago in a legal, government document. Hida's carpenters were required to work more than 330 days a year and were not permitted to return home until they had satisfied the quota.

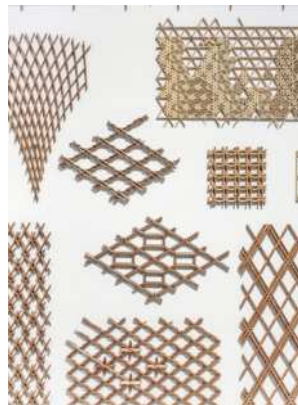
The region's plentiful conifers, such as *cryptomeria* (*sugi*) and *hinoki* cypress can easily be split along the grain, so timber processing was conducted predominately with axes and chisels. Carpenters' lines (*sumitsubo* and *sumi-nawa*) are used to mark out straight lines in ink across



There are reproductions of court furniture, and chairs made in Hida (left) including the No.1 and No.7 Thonet inspired designs



You'll find 90 varieties of wood from Hida (above left) and Kumiko latticework (above) plus pieces for sale in the shop, including netsuke (below left) and other carvings (below right)



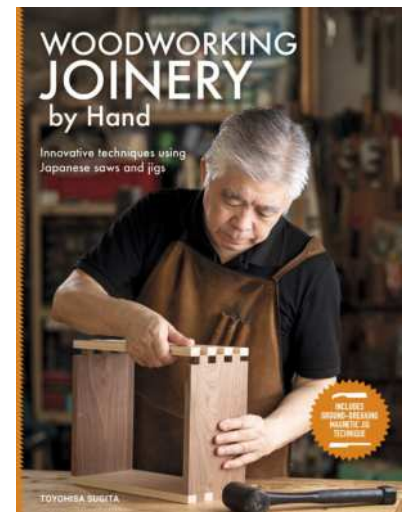
lengths of wood. The carpenters' lines from Hida are simpler than those produced in other regions, and are characterised by a lack of ornamentation.

The lattice work (*Kumiko*) you can find in the shop uses strips of wood to produce geometric patterns without glue or nails. The origin of *kumiko* latticework dates back to the 7th Century. Such patterns are made by creating a lattice frame (*jigumi*) into which smaller pieces of wood are fitted. The *netsuke* carvings are generally made from yew, often 400-500 years old, with the distinctiveness of sapwood and

heartwood used for decoration. Beech has been used for chairmaking, based on Thonet designs, since the 1920s. Beech is notoriously difficult to work, and trees tended to be left in Hida forests because the timber was too wet for firewood. Visit Japan House in London and you will learn much more.

The Carpenters' Line: Woodworking Heritage in Hida Takayama is open till 29th January 2023 at Japan House, Kensington, London. Entry is free and there is more information at japanhouselondon.uk.

Cut a Joint Now



Many, if not most, woodworking books start with a section on tools, often sharpening and sometimes safety. *Woodworking Joinery by Hand* may not sound innovative, nor even unusual, but it is, and its introductory chapters are, lessons in themselves. Some readers may blanch at the suggestion of embracing a Japanese adaptation of their woodworking techniques and tools, but this one, written by Toyohisa Sugita, is, as it suggests "a gamer-changer". We are fortunate in QM16 to be reviewing such significant launches as this and *Craft Britain*.

The tools section hardly touches the kit you will need, though there are two spreads illustrating some basics, and an introduction to Japanese saws. Thereby hangs the rub. Toyohisa's contribution to woodworking skills is about making a few of your own cutting and holding guides using Japanese saws, with occasional usage of Western bench planes and fretsaws and the like. There's no need to buy *kanna* (Japanese pull planes), instead you'll be reading, chapter after chapter, how to make the devices you can make to cut woodworking's crucial joints.

Take, for instance the chapter on Guides and Jigs, and the section within that on the Shooting Board and Bench Hook. Step by clear step you are shown how to make both, how to use both, and what they might be used to make, though most of us will know that already, but are perpetually challenged and long to find a better way to have a go. Read *Woodworking Joinery by Hand* and you'll just want to get back to the workshop today and get making to make better.

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Restoring a Nordlöv Axe

Aiming to restore an old carpenter's axe, *Rasmus Pettersson Vik* explores its history and making

In 2019 I purchased this carpenter's axe at an online auction, the shape really spoke to me and looked like a good candidate for a more documented restoration process. The axe is stamped with PNL Garanti, which was the stamp Per Nordlöv used. He was born in 1845 in Enånger, Sweden and moved in 1883 to Tallåsen, and died in 1923. The Nordlöv family was and are quite famous blacksmiths. The Nordlövs originate from a family from Boda village in Enånger, Hälsingland. In total, the 14 blacksmiths cover six generations through history. The first of them was Eric Ericsson, born 1736, blacksmith in Grängsjö, Enånger.

Sweden's family register

The first time the name Nordlöv occurs is with Eric Ericsson's son, Lars Ericsson Nordlöv, born in 1765, who was a parish smith in Haga (Tytterön). The name Nordlöv then follows with all the blacksmiths who come later. Of Lars Ericsson Nordlöv's eight children, two were blacksmiths: Eric Nordlöv, 1798-1869, and Anders Nordlöv, 1810-1868. These were parish smiths in Tosätter and Haga, Enånger. The blacksmith craft is carried forward through three of Eric's sons; Lars Nordlöv, 1835-1912, Anders Nordlöv b.1840, and Per Nordlöv b. 1845. Lars was a blacksmith in western Tosätter,



Per Nordlöv by his brother Eric, who had a photography studio in Sundsvalls in the 1880s

while Anders and Per moved to Trönö (1867 and 1871). Lars had a son who took over the smithy profession; Hjalmar Ferdinand Nordlöv (Hjalmar), b. 1870. Per moved from Trönö to Tallåsen (1883) and there four of his sons learned from him; Allan Lambert Nordlöv (Allan), 1897-1971, Erik Artur Nordlöv (Artur), b. 1883, Maurits Nordlöv and Einar Nordlöv.

The axe ended up at Sundsvalls museum where I found it in their collection. For this project I started photographing and documenting the original condition of

the axe. After this I began with the rust removal. In restoring other axes I had previously had good results using Frost's Rust Remover, and I wonder if Frost's may have similar ingredients to EvapoRust.

It would also have been possible to use electrolysis for the rust removal but that requires supervision during the process.

The solution made it very clear how the axe had been constructed with forge-welds, as well as clearly showing the inlaid high-carbon steel used for the edge.

The making follows the old Swedish tradition of forging out a flat bar of steel and then folding it together. The blade part has then been forged separately with the edge steel and then been added to the body of the axe. The clear forge-weld line for this is visible on the backside of the axe. The poll has also been welded on as a separate piece.

The surface of the axe after the solution has done its work is not so beautiful but that was corrected with a bit of brushing with a hand steel brush.

The axe had originally been painted, which I wanted to recreate, and for this I used a cold-blueing agent. To get the curved shape correct I used nail-polish to mask off the steel which I then removed with spirit fuel. In hindsight it would've been better to use another colour than green since some traces still remained, but



The eye (left) seems to have been forged with a flat-backed/D-shaped mandrel. Even for its age, some remains of black colouring are still visible (above). The poll of the axe (above right) turned out to have a slight slant to one side which threw Rasmus off during the handle-fitting process

it was all I had at hand. To prevent rusting of the now very clean and un-oxidized head I oiled the head with a mixture of boiled linseed oil and wooden tar. To get the mixture a bit less viscous I used turpentine, but it is also possible to just heat it slightly.

Sheath and handle

After I finished with the head I started constructing a sheath for it. I started out with tracing the axe on paper and drawing the pattern for the sheath.

For securing the sheath I used surplus leather straps from the Swedish Army that I cut to length and sewed on. The edge of the sheath was sewn as well.

For a simpler sheath construction the sewing can be switched out for rivets, taking care to extend the width of the leather to accommodate, the leather straps can also be switched out for regular nylon straps that are riveted to the leather with a washer. To get a clean hole for the rivet you can heat the rivet and then use it to melt the nylon strap. When the sheath was done I dyed it with black leather dye and put a coat of leather wax on it.

After I finished the sheath I started carving the handle. I went to our summer cottage and picked up a piece of birch that I felled at the end of the previous summer and had split and dried since then. I used the old handle as a guide for cutting the piece to length and roughly squared it up with an axe. I made sure to cut past any checks and cracks in the ends.

I based the new handle on the original but added a little extra thickness for a palm swell to get a bit more secure grip. I also changed the cross section of the handle to have a profile a bit like an egg balancing on its point for a more comfortable grip.

Instead of making the handle sit flush with the socket I have created a smooth transition as well as making a wider piece about the same measurements as the socket, partly to allow the hand to slide



Marking out the handle blank for rough axing to shape (above)

easily onto the socket and grip it, partly to keep some material in reserve should I need to re-seat the axe head further down on the handle.

The handle was roughly axed and then roughly carved with a knife almost to final size. Since it wasn't completely dry I dried the handle inside and finished carving it with a sharp knife. I used some of the shavings to polish/burnish the handle.

Fitting the handle

With the handle finished I went on to fitting the handle to the head. It is always a bit of a gamble with these old socketed axes as to how they want to sit on their handles. I also discovered that due to rust removal the inside of the socket was so clean that I could no longer see the marks on the handle from every test fit. To solve this I had to 'dirty' the inside of the socket with a pencil during the fitting process.

As with any other axe I stick the handle in the eye (socket in this case), bang on

the handle end with a mallet and see how far I can drive the axe onto the handle. I then make a mark with a pencil at the furthest point, remove the axe head (lots of banging) and look at where on the handle the inside of the socket has made contact. These are high-points that need to be trimmed down either with a knife or file, always trying to keep the edge in line with the length of the handle.

After I got the head to where I wanted on the handle I used a Japanese saw to saw a thin kerf for a wedge. I oiled the part of the handle that was going in the socket, since I wouldn't be able to later. I then fitted the head to the handle and wedged it in place. I always put some boiled linseed oil on the wedge as well, after it is wedged.

I don't saw my handles off flush with the top of the eye any more, rather I keep maybe 10-15mm protruding, and don't saw the wedge flush with the handle but rather leave it 3mm proud. I smooth over the sharp corners of the handle and the wedge with a knife to keep them from splintering.

With this method, if necessary I can easily hit the wedge with a mallet or hammer to tighten up the head if needed. It's also easier to remove if I would need to do a complete re-hang of the axe.

After I was satisfied with the hang of the head I sawed off and carved the end of the handle and the palm swell to the shape I wanted. I had delayed doing this so as not to accidentally crack the handle or split off the palm swell during the handle fitting process. With this done I then oiled the entire handle with the mixture of boiled linseed oil and wooden tar. The mixture draws more into the exposed end-grain of the handle making some parts noticeably darker than others.

The mixture doesn't give that much more protection to an axe handle apart from straight boiled linseed oil, I just like the wonderful smell of the wooden tar.

Follow Rasmus on Instagram @armandur or visit rasmus.pettersson-vik.se.



One of Per Nordlöv's earlier stamps (left): "P N L \ Garanti. In English Per Nordlöv, Warranty. The original handle (above) had an overall pleasant shape, but it had split and had been repaired with a nail. The forging line (right) shows where the poll has been added to the body





Restoring the head

After a bath in cold-blueing solution (1) and having masked off the blade of the axe with nail polish. Soaking the nail polish in spirit (2) to remove it. Some faint traces still remain in a few spots. For later projects Rasmus has used a transparent nail polish instead (3).



The sheath and handle

Glueing the welt (4) to one side of the sheath in preparation for final fitting. Dry-fitting the two sides together (5) to measure the length for the leather bands with buckles. A copier helps a lot with pattern making (6). A few leatherworking tools are needed (7). A small hammer for punching the holes to sew; a grooving iron to cut a groove for making the thread sit lower, plus beeswax for strengthening the thread a bit. The Army surplus buckle (8) and belt are sewn on to the sides. Now all that is left is saddle-stitching the two sides together & colouring the sheath.



Tracing the handle onto a new blank as well as adding a bit more of a palm swell to make it more comfortable



Almost final fitting of the head to the handle, before sawing the kerf. The end will be sawn off and the palm swell carved to final form after the handle has been fitted

Reviews

PRINT & DIGITAL

Top of All the Blogs

Having discovered why Anne Briggs became Anne of All Trades, Nick Gibbs asks how she's done so well

Last issue we explored Anne of All Trades' past and the reasons why she has come to be the rising star of online woodwork. Perhaps we should have broken a *Quercus* rule by starting with the 'How' rather than the 'Why', for readers who haven't yet watched her woodworking world unfold; the cart before the horse, so to speak. Currently you can view or read, dating back to 2017, more than 50 blogs and YouTube videos of techniques, tools and projects, and a view of Anne Briggs' life through the many others as a 'homesteader'. Sadly earlier blogs don't seem to be available, so we didn't see her first ones, which would have revealed more of her early broadcasts, when perhaps she introduced the cats that drape over her shoulders or Rigby the dog who lifts his paws to the edge of a bench. That she can present these films with such humour and homely endearment explains why she has 285,000 followers to her YouTube channel, and why here we have chosen our favourite three of all her available videos and blogs.

There are others that didn't quite make the cut. In *The Dream Shop is Done* from December 2018 Anne relates the making of her first workshop, from a 'condemned barn', before she and her husband Adam moved from Seattle to Nashville. "I had zero idea what I was doing. It took three years of saving up every pay check to do this project so long as I did it myself."

Scarcity mission

Having grown up in a missionary family, austerity is nothing new, and it's no surprise her favourite book is *Scarcity* by Senhil Mullainathan and Eldar Shafir (which you can buy more easily from Apple Books than in a bookstore) and that in July 2019 she made a \$2 DIY *Nightstand* as a learning exercise for her friend, Isaac, who wanted to start making furniture, especially to produce a bedside cabinet for his wife Ashleigh. In the blog there are clear written instructions to help any novice viewers improve their skills in



making a simple piece of furniture at little cost. "This was a really fun and exciting first furniture project," Isaac says at the end of the film. "I've never done anything this precise before."

Then, one after another, are more projects built in the new 'shop, including the *Sculpted Walnut Table*, made with Erik Curtis (@encurtis) from Philadelphia, prototyping the curved legs by cutting pink foam insulation on a bandsaw to test their joint to a round top, because, as Anne admits: "I'm dyslexic, so I can't very well interpret what is on a piece of paper." Another good 'double-act' is with Josh Nava (@joshnava), the man behind the 365 Spoon Project ("I definitely don't recommend it," he says. "I wanted some way that I could practice my skill every day, but didn't take a ton of time. They are a quick win that can re-ignite the creative fire."). Josh acts as straight man to the star's terrible hat puns and to her "High Ya" (phonetically speaking) screams hitting a froe in YouTube's *Splitting Yarns Easy Firewood Carving Project* (making a hat rack), which does at least have some telling out-takes and a tip to use a

hammer, rather than a mallet, for tapping home wedges for the pegs and hear a new sound as the wedge hits its destination.

The September 2021 video, *How to Sharpen Hook Tools* is obviously one of my favourites, perhaps because Anne considers it her most-frequently-asked question and because the task terrifies me. Words can't express the instructions. It is something you have to watch, involving Sharpie Marker pens, hollows, dowels, strops and registers. Actually it turns out that it's not as hard as one might expect.

In *How to Carve a Wooden Spoon* we learn at last that the vice you often see on the bench is for guitar makers, amongst others, so we've bought an identical Professional Pattern Maker's Vice from Axminster Tools for nearly £150. It had better be good. Sadly I'm not prepared to drill a 19mm hole in my kitchen work surface to do some spooncarving at home, so I've had to secure an old York benchtop vise beside the toaster to have a go with a 'dry' blank of reclaimed bookshelf rather than greenwood held in my hand to suit one of many praiseworthy grips. Fortunately, on my way home



Anne of All Trades

educational, inspiring and entertaining BBC style, for viewers to learn lessons. And so we now come to our choice of the Anne of All Trades Top of the Blogs.

No.3 Practice

What better place to start than with practice, and the blog *Practice DOESN'T Make Perfect: 7 Tips to Make your Practice Count*, from November 2020. The blog includes an unusually-long essay, but I couldn't help going first to the *Make it Easy to Practice* video, the filmed exercise being to turn 62 chair parts in a day for her friend Greg Pennington. Having been a production turner myself in my youth, producing chair leg after chair leg, and baluster after baluster, the 10-minute clip brought hairs to my neck, watching a scene of Greg with his hand over the back of a thin turned piece to stop it wobbling, and Anne sharpening a gouge on a grinder to an immaculate bevel without a tool rest, which many woodworkers fear. Gaining an awareness of the angle at the wheel raises one's instinct to watch the back edge of a spinning workpiece rather than where the gouge meets the wood. When turning, I used to hold the gouge in a slightly different way, with the end of the handle only held with the very tip of my fingers, and with my thumb in the gouge channel at the business end, and with my fingers underneath the tool rather than as a fist over the top. Each to their own, and it is fascinating to see in *Building a Tiny Windsor Chair* that Anne's technique moves on with time, her left hand now helping to steady thin spindles that might otherwise oscillate.

You certainly can't fault her production line, and her regimented preparation, and the film concludes with the crucial message that most errors and accidents are made on the last component, which as she warns, and as we all know, can become something of a 'toothpick.'

Anne likens woodworking practice to learning the mandolin first as a child and then as an adult. She confirms a theory that I was recently discussing with our new contributor, the Swedish pianist Martin Sturfält. Martin and I met at a piano-playing summer school in France in August, for which he was a tutor and remarkable performer, and I was what I like to consider a talented kitchen porter. In the furnishing of a new home on a tight budget



from the Harrogate Woodworking Show in November, Ray Iles at The Old Tool Store gave me a scorp for 'travishing', as recommended for spoons as well as for bottoming chair seats. We found a swan-neck gouge (which Anne also recommends for hollowing a vice-held spoon) in a bag of old tools, and we have used a traditional beech bow saw saved from David Charlesworth's workshop to cut the shape, having been given the saw as a thank-you by Classic Hand Tools when I roared down to North Devon in October to help them sort out the large stack of timber left in David's mezzanine. He had some baulks of tropical hardwood so thick and heavy from his long-course bench-building days, that we had to slide them down to the ground with fear and care on wide oak boards.

You may not want to copy Anne finishing a spoon in her hands, fingers all covered in walnut oil and slimey, but we do suggest picking the *Three Ingredient Finish* which she learnt to blend from Chris Schwarz, made up from mineral oil, polyurethane and boiled linseed. Then in her *What is a Chisel?* video (in the November 2021 blog *Everything You Need to Know about*

Chisels) she mentions Chris's quote: "Treat the chisel as a gun," ending the film herself by adding that: "The chisel is the most dangerous tool. More ER visits happen because of chisel accidents than any other tool in woodworking, including the tablesaw," with a coda of the time, ouch, when her brother-in-law all but cut off his thumb trying to grab a chisel he'd knocked off the bench.

Meanwhile, another of our favourites is *Cutting Dovetails by Hand*, not so much because it proves her to be a fine furniture maker (alongside chairmaker, toolmaker and farmer and fully-rounded Renaissance Woman), but because she ends the film by listing one-by-one the tools she uses to cut the joint, including various fancy gauges and squares and a flash pencil. On which point there is also her blog, *The Nine Must-Have Home Center Tools that will 10x your Woodworking* from October 2021, starting with wet/dry abrasive and ending with microfiber cloths, plus six likely candidates and some Sharpie Markers, the latter not appearing on her dovetail-cutting list.

More projects and tips and tools and techniques continue over the years, in true

Reviews

on a farm, 125km west of Stockholm, Martin chose to make kitchen cupboards from solid wood by hand himself, rather than the chipboard carcasses his national retailer prefers. He had only a few tools, and turned towards Chris Schwarz of Lost Art Press for advice and inspiration.

During a break from his students and my sink, Martin and I debated the learning skills he has had to embrace as a woodworker, and how that differs from the music lessons he was given as a child, when his learning was instinctive, without much thought. Just as Anne suggests in her written essay on taking her mandolin playing skills to a new level, Martin and I agreed that you come to a point when you are learning to learn. She concludes that exercises can fail through “unfocused practice and the lack of a feedback loop”. That ‘loop’, coming, she says, “in the form of taking classes or lessons, mentorship from masters, even challenging yourself to teach or explain things you’re learning to others.” She adds that without a mentor or lessons, you have to rely upon your own feedback loop with a journal or a record of your “habits and movements” or by using a timer, just as she did turning Greg’s 62 chair components. “Look for inefficiencies. Self-evaluate. Where can you shave off some time.”

There are six further tips for practicing from Have a Plan for Practice to Remember Your WHY for Practicing Every Time You Practice; Set Small Measurable Targets for Your Practicing Times; Build Regular Feedback into Your Practice Routine; Understanding Concepts; and Reward Yourself for Practice with, for instance, a bowl of ice cream, a favourite outing or 30 minutes of guilt-free TV time.

No.2 The Mandolin

For a bit of human interest, there is *Building a Mandolin*, which may be best of all, and for which we’d like to give more space. It speaks volumes for Anne’s love of music and woodworking, particularly because she opens by saying: “I started woodworking because I wanted to make a mandolin.” Seven years later she ended up in Caleb James’ (@calebjamesmaker) North Carolina workshop for a five-day instrument-making class led by Austin Papp, alongside two friends and following Roger Sominoff’s drawings (mandolincafe.

The Pattern Maker’s Vice (left) we were inspired to buy after watching *How to Carve a Wooden Spoon*



com). The blog lists everything you need to make a mandolin, with parts, materials and tools provided by Stewmac (stewmac.com), including their bending iron, an 18in radius sanding beam and a fret press caul.

The video is something of a hurtle around the class, so don’t expect to learn a lot, except perhaps the use of the bending iron, which may, in particular, intrigue any chairmakers amongst you.

No.1 The Tiny Windsor Chair

One of the most significant of Anne of All Trades’ YouTube films is the *Building of a Tiny Windsor Chair*. Her first course with Greg Pennington was a game-changer, igniting a passion for chairmaking, and inspiring her move to Nashville, home of the Grand Ole Opry, which funnily enough I visited while in Alabama on my Gap Year. I have always wanted to make a continuous arm Windsor, or at least see it being done, in this case again in Greg’s Carolina workshop, with Anne’s friends Jenny Bower and April Wilkinson. You may remember Jenny, who has offered to engrave the Lie-Nielsen L-N102 Block Plane as a prize for our Young Woodworker of the Year competition, from her article in QM04 when she was featured on the cover, chairmaking with her daughter Maylin.

This video of a one-week ‘course’ is

compressed into 18 minutes by Justin Mabie, whose image of Anne (with her friends on either side in QM04) was used for the cover illustration by Lee John Phillips this time. We must thank Justin for allowing us to use his photo as an inspiration, and apologise for not asking first. Viewers may or may not enjoy Anne’s mandolin-playing along the way, and may or may not be inspired to sample Ricky Skaggs, who Greg and the three women visited nearby as a treat. Just in case you’re interested, her favourite musicians are Kesha (the *Warrior* album in particular) and Brandi Carlisle (whose latest work is *In These Silent Days*).

Anne, April and Jenny enjoyed a “slumber party in the loft” at Greg Pennington’s workshop, not many miles from Anne’s home. The film is a subtle lesson in chairmaking, showing each stage quickly, calling for viewers to embrace the tools and techniques for themselves. “Chairmaking is physical,” she says, “it keeps your body engaged. It is a ton of work and it requires a lot of patience.” One of the most tantalising parts of *Making a Tiny Windsor Chair* is the section dedicated to bending the continuous curve back. How, one asks, does one shape not only the ‘back’ but also the ‘arms’ from one piece of straight-grained, steamed, green wood at the same time. Actually, the former is quite simple, looking much like those for a bow back or arms, but with curves shaped downwards at the front. It is largely a trick of making sure the timber is sufficiently pliable after 45 minutes in a steam box, and that you have ways of positioning the cramps. Greg’s method doesn’t seem to involve the use of a metal strap to lessen the risk of splintering, but you need to watch the video to see how this is done. And now, having done that, hopefully I will fulfill a dream and be sufficiently inspired and taught to have a go myself.

Follow Anne of All Trades’ blogs at anneofalltrades.com and her Instagram posts at @anneofalltrades, where there are links to her YouTube channel.



Why Making Matters

After many coffee table art/craft tributes, at last *Quercus* finds one with facts as well as ideals

As long as one can recall there has been a debate searching for the defining distinction between Craft & Art, notably asking when Craft becomes Art rather than the other way round. If the A&C Movement set a benchmark at the turn of the last century, then one might argue that the pairing has been lost in time. Heritage Crafts (previously the Heritage Crafts Association) was founded in 2009 to protect traditional vocations or skills, perhaps because that wasn't being done notably by the Crafts Council. Now HC has a Red List of crafts at risk of extinction, on which craftspeople like skein basket weaver Monica Cass who was featured in QM10 and John Williamson who makes stave baskets and was on the cover of QM05 are included. So a book that aims to act as hub, melting pot,



crossroads, call it what you will, must be welcomed, especially if it does the job particularly well, and marries traditional methods and contemporary design, and vice versa with contemporary production and traditional form, and a pot pouri in between.

That is exactly what *Craft Britain*, by Helen Chislett and David Linley, aims to achieve,

and whether or not it fulfills that ambition, it is a fabulous attempt, and thoroughly informative and inspiring piece of work. The strapline *Why Making Matters* indicates a touch of self-help, and there are chapter headings Health & Wellbeing; Masterful & Magical; and Inspirational & Aspirational; yet the one we've chosen to study is entitled Kind & Sustainable but is still packed full of facts and figures and names (see below), and not just wishy-washy ideals. The chapters start with Past & Present and end with Innovative & Collaborative, surely a call for Craft & Art, or Art & Craft to find some common ground

"People have turned to making things in Lockdown," Helen says, adding that the aim has been to produce a book that is "democratic" which, "drums the drum for craft". The

book welcomes the endeavours of Heritage Crafts and the Queen Elizabeth Scholarship Trust (QEST) and The Prince's Foundation, and is written to be "fact full", ideal for dipping or as a good read. There are fine words by the thousand to compliment fine photos. "Craft Britain," say the authors, "proves that craftsmanship in Britain is neither dying nor dead, but is a continuing and exciting exploration of process, materials and ideas." We can only hope that a book as excellent and significant as *Craft Britain: Why Making Matters* acts as a springboard for exactly that.

Craft Britain: Why Making Matters is written by Helen Chislett & David Linley and is published by Welbeck Publishing Group. It is hardback; 250pp and costs roughly £40.

Angus Ross' *Forth Bridge* steam-bent bench typifies the amalgam of past & present crafts and design



Above: *Forth Bench* is one of a series of sculptural, steam-bent, 'river' benches by Angus Ross. He describes the process of making pieces such as this as 'sketching with wood'.

It may seem counter-intuitive, but one of the best ways of improving a neglected native woodland is to fell trees, because if a wood is overcrowded it prevents new trees from growing. Selective felling brings light to the woodland floor and results in greater biodiversity of plants, fungi, insects, birds, bats and other creatures. The trees selected for coppicing are by their nature often ones that are spindly, bent and gnarled. As well as sourcing good timber from small-scale timber yards that specialise in Scottish hardwoods,

Opposite top: A brightly-coloured reinterpretation of the iconic *Seers Chair* by Nafisi Studio, using timber sourced close to their Sussex studio.

Opposite below: *Shale Bench* by Jason Mosseri of *Hopespring Chairs* with dark 'milk' paint contrasting against the natural wood grain.

Ross has experimented over time with ways to use this imperfect coppiced wood within his designs, perfecting innovative methods of steam-bending, twisting, slicing and sculpting it into characterful forms. Coppicing is more akin to foraging and very different from imported, industrial-scale 'clear fill', the method used for so much mass-produced oak furniture. Ross believes and hopes his furniture will last decades, maybe even centuries, but is also comforted by the fact it can be repaired, recycled and will eventually biodegrade.

It is a similar story at the other end of the country in West Sussex. Here, Abdollah and Kate Nafisi founded Nafisi Studio in 2019. Originally from Iran – where he ran his own wood-working workshop and spent six years travelling with nomads and tribes in order to study their craftsmanship and skill of improvisation – Abdollah is a designer-craftsman with over fifteen years' experience. Kate is both a designer and a curator, with a particular interest in provenance of materials and sustainability. Together, they create furniture that is both beautifully made and has a playful spirit – such as the iconic *Seers Chair* by William Morris & Co. that they have re-imagined in bold colours. Wood is locally sourced from carefully managed Sussex woodland, with any sawdust waste composted.

In neighbouring East Sussex, QEST Scholar Jason Mosseri founded *Hopespring Chairs* in 2017, having become hooked on the skill of green woodworking after taking a chairmaking course with Paul Hayden at Westonbirt Arboretum. Mosseri had previously enjoyed great success as a professional, custom tattooist, but in chairs he found a new way to express his artistic vision. As with the Nafisis, each chair he makes begins with a day in local, sustainably-managed woods, selecting freshly felled ash, oak, beech or cherry. Seats are carved from a single, seasoned board of timber. Once the chair is complete, he adds a modern flavour and bold silhouette by finishing it with a dark 'milk paint' that contrasts boldly with the wood's natural grain. He also runs highly successful, six-day chairmaking courses where attendees leave with a Windsor chair of their own making (see page 145).

Weaving the Landscape

Lawrence Neal spends two weeks each year harvesting rush on the river Avon near his Warwickshire workshop, as he has done for over fifty years. Neal makes traditional ladderback chairs, which are characterised by their rush seats and the



Perfect Practice

In an extract from his book *Handmade*, Gary Rogowski shares his disciplined approach to making

Not everyone wants to practice. Not everyone has the discipline necessary for practice. If you are skilled or want to learn something, it is the only thing that allows you to get better and to develop your skills. Most people do not want to practice. They just want to be good right away. They want to skip the work part and just be great. It takes discipline to become skilled.

My father taught me discipline. A Catholic high school education reinforced it. I was taught that if I do a job, do it well. To those two stern teachers I owe a debt of gratitude. I learned to work hard and that is the most valuable thing I ever learned at school. It wasn't the biology or the literary symbolism or theories that were critical. It was the discipline that was the most important. Forcing myself to work when I didn't feel like it. Getting to the bench to get a job done when I wanted to play. Learning to focus when I wanted to dream. Practicing denial of some pleasures in order to get something back in return. It is a paradox and the repayment can feel slow in coming. It is there over time if you have the discipline. Discipline is what I used to become skilled.

The dominant cultural paradigm that we are sold now of living faster, buying more or bigger or faster, is not for me. That's one way to live. There is another. To slow down. To try to do your best work. To make your efforts count. My father taught me many things that made me punish myself for not being good enough, but he also taught me that valuable attitude about doing the job right. There is no shortcut to Quality. It takes effort. The hard work is part of the reward. If you dedicate your life to mastering your skill (and it will take that long, if you decide on this journey) then once it is inside of you nothing but your last breath can take it away from you. To fall in love with your work is the key. It is never work then. Always strive to elevate your craft and to make your work better.

It did not come easy, learning at the bench. Because that sort of discipline requires patience, and patience was never one of my strong suits. Plus our furniture work is labour intensive. It can take a week to finish a piece, or a month. This need for patience in how I design, how I consider my steps in building, patience in the shaping and preparation of my wood, patience in the application of hardware and my finishes. This is hard to learn. It takes time. "I want it now." Slow down, I'm hurrying, I have to remind myself. It is frustrating. It does not come easily. When it does, when my work flows from a place of calm and is not hurried, but paced appropriately, what a difference is felt. Maybe I understand a little where this mastery comes from. Some of your discipline can come from external sources. I used deadlines



as a motivating tool. Here's the job and here's when it needs to be done. Deadlines helped me focus. Your own education is personal. Your desire to improve your skills has no contract to sign off on. This drive has to come from within. I wanted to build better work that was designed with intention and made well. So my discipline, my desire to improve, was based on an idea of where I wanted to be and what I wanted my work to look like. It wasn't much of a carrot but it motivated me. I had this imperfect notion of what a furniture maker and designer should be building so I took on jobs that helped me in this. I was the one in charge of what I would create. The only issue was finding people willing to support me in this goal. In other words, clients.

Here's a story of one of my pieces. I had spent four years underground in my basement shop teaching myself how to build. When I started to build bigger things, I wanted my designs and my work to be better, so to practice my skills I would build things for the house. I designed and built a coffee table out of red oak because the wood was cheap and we needed a table. This project also gave me the chance to learn about hand chopping my mortises with a chisel, which was something that I felt I needed to try. Now this is slow work and I needed to pay attention to get those walls of the hole, the mortise, clean but also straight in and parallel to one another. I chopped and I sharpened and I sharpened and I chopped my mortises into this red oak, and I cut my tenons with hand tools and my band saw. I fitted the joints together and made a nice-looking table base. Then I glued up boards for the top, cut a groove into the top rails, and glued my top into those as I assembled the whole table and put some finish on it. And there it was. Pretty nice work I thought.

Months later, I looked at this piece and saw something terrible. One of the joints on the top had split open. It had delaminated. This was no good. I couldn't call myself a woodworker if my work was going to crack up. If I was selling this work, I would have to move every few years to keep my reputation on the run. This minor disaster made me consider what had happened.

I realised first that wood movement can pull even a glued joint apart. I had glued my top into the rails and they hadn't allowed for the wooden top's movement. Listen to your house throughout the seasons. Listen to these cracks and pops during the evening hours. This is wood movement in your furniture, your cabinetry, maybe the house itself. When my tabletop tried to expand or contract, the table base tried to prevent it from moving. Something had to give. It was my glue joint in the top that popped. I learned how to make better laminations using some-

PHOTO BY HAROLD WOOD

Rosewood inlay on library table for the State Archives Building, Salem, OR, USA



thing called a spring joint and I learned to pay attention to wood movement from then on. I had to keep my standards high even if, as a self-taught woodworker, I didn't know what the standards were. I figured that in my field, a reputation lay in the results. I wanted everyone to know that they were getting my best work from me.

After a time though the issue of economy will come into play. It's tough enough surviving as a craftsman in this world. Why keep up high standards? What's the point of doing work that no one will appreciate, no one will recognize, even if I point it out to them and show them the intricacy of my joinery, the dexterity of my hand tool work, the brilliance of my design. Who will care? Someone may say, "No one will see this extra work. Why do work that no one will know about? Why put all this extra effort into it?"

The answer is simply that I will see. I will know. It will be me who knows that I did my best work, imperfect though it usually is. This is not the road to riches or fame but I have to let go of that desire to be rich, let go of the desire of fame. Do the work for myself. It takes discipline to do this.

I have to recognize that some of the time spent on a piece will never be compensated, the client will never know what I've done, and even another woodworker might not notice the care taken over the smallest detail. Yet over time my value as a craftsperson will show. I will be compensated over time both for myself and when others start to notice. If you are the kind of maker that takes care, you will be found.

A story of someone taking care

Sonny Rollins, the jazz saxophonist, became dissatisfied with his sound in the early 1960s. He quit doing gigs and practiced instead on the Williamsburg Bridge in New York City for months to perfect his sound. He did this without accolade, without compensation.

He did it to get better. Who would know? Sonny Rollins went on that bridge to practice because he knew that he had to be a better player. He knew that this practice would make a difference in his playing and in his life. Hadn't the great Charlie Parker in his youth spent twelve to fifteen hours a day practicing in order to get better at the Kansas City jam challenge sessions he frequented? Sonny Rollins had to practice. And now late in his life he can think back with no regrets and say to himself, "I did this. I made this happen. I made the sacrifice and I did it for me and it made me who I am this day." There is no price that can be placed on this willingness and on this knowledge. No cash value that can be counted out in your hands for this type of satisfaction. You do this work because you have to do it, for yourself. Practice this and good things will come from it.

Twyla Tharp, the modern dancer and choreographer, in her book *The Creative Habit*, talks about the importance of ritual for an artist. Whatever form, be it an odd form like cleaning your room, a mystical form like lighting incense or unfolding a dollar bill, whatever mundane form it may take, that ritual signals the beginning of the process. And the practice is an important part of the ritual for a woodworker. Because the work is so labour-intensive, there are so many jobs to perform well, it simply takes time to learn the steps of each to master them.

Practice is the key. If you can learn the discipline to practice, one day you will surprise yourself by how much you have learned, how much you have taught yourself.

Some years later I was making library tables for the new state archives building in the state capitol. It was an important job with a design competition that I had to win in order to get the contract. With this contract came a lot of responsibility because the architects also gave me the design of the cabinetry to be built and installed. Designing for the state library, I was meticulous in how I wanted the tables to look. I went to other libraries around the state to do research. Not in books. I went to look at the library tables themselves. I went to different colleges and universities to see how their tables were holding up over time. What worked best for materials and design? I went to my old college first but the tables there had recently been replaced and so they looked great. The old ones that were still around were made of oak and were quite stout and solid, Gothic in taste.

The tables at the local city university were not designed well nor particularly well-made. Form is function is boredom and they were good to sleep at. The tables I visited at the library at the Mount Angel Abbey, designed by famous architect Alvar Aalto, were veneer over plywood, as were the library counters. These were designed by someone famous and so they must be done right, yes? Not so much. They did not fare well as there were wear spots at their edges. Places where elbows and arms had rubbed through or where books rubbing over the surface every hour of every day had worn them out. So much for veneer as a surface material. They were worn and shabby instead of gleaming with age and the polishing of use. I wanted my tables to grow worn and beautiful over time.

I decided on several details after my research. The tables would be all solid wood. They would have structural elements that would also be design features that would help to prevent racking and swaying over time. They would be built to last. They would have some details of the architecture of the building in them. I used the curvature of the library walls as a starting point and added that into the shape of the table tops. I also wanted something in these tables to rest your eye on. A detail that would help your mind wander. I designed a pattern based on a pine cone seed's shape and planned to inlay that into the tops and end columns. If I used solid wood for the table top, I also had to make sure these joints would hold. This meant cutting spring joints for the laminations as I could not have these joints fail. Spring joints are a technique for ensuring long-lasting edge laminations. It is a simple concept

but can be difficult to accomplish, especially on long boards like I had. My tables were seven feet long. What I wanted to have was a slight concavity along the edges of each two boards being glued up. A little bit of spring to them where the boards touched at their ends, but in the middle there would be a little space I could just barely see some light through if I held the boards up to look. In this way, when I applied my clamping pressure and glued the boards together, there was extra pressure at their ends and all the gaps closed up along the lamination. There were seven or eight boards in each of the 10 table tops I had to make. This made for a lot of spring joints to cut. I had a helper at the time and his work was adequate but it was showing too many gaps in the joints. He argued that the joints he was producing were within industry standards. I said to him that I didn't care about the industry. My name was going on these tables and they had to be right. It was frustrating not to be able to get these edges cut right the first time. We worked on each joint until it was just right. Then the top would be right. It was worth the extra effort.

My preferred signature is modest. My initials carved into the bottom of the table tops sufficed. It's better sleeping weather when I know I've done my best work.

Thinking by walking

I have no solid evidence. This is merely my hunch, my speculation. I came up with this theory while walking. Simply put, movement is important to thought. The pace of walking is suited to our way of thinking. It is the rate at which we are supposed to be thinking. I believe we evolved as animals who climbed trees, who strode across the prairies, who walked from one camp to another, one fort to another, one city to the next until we learned to ride on animals, on one another, or on conveyances that were conceived by great and lazy minds on their walks. Read Wendell Berry's

"Creativity is the residue of time wasted."
Albert Einstein

An Entrance to the Woods to understand the important of pace. "Our senses, after all, were developed to function at foot speeds; and the transition from foot travel to motor travel, in terms of evolutionary time, has been abrupt. The faster one goes, the more strain there is on the senses, the more they fail to take in, the more confusion they must tolerate or gloss over—and the longer it takes to bring the mind to a stop in the presence of anything."

Walking is connected to thinking. This pace is one of meditation. It is the time for us to move ideas around as we move through a multitude of sensory stimuli. It is playtime. It is not considered remunerative so it is frowned upon. Yet daydreaming is not wasted time. It is enormously powerful, if scorned and misunderstood by logicians. Our brain is still mysterious ground for us even given our accumulation of knowledge. Consider your own dreams, if you can remember them from last night. The pace of a walk helps call ideas forward, unlike driving or riding a bicycle.

I had a student who used his bicycle as his only form of transportation. In the worst weather he cycled, even if walking was safer or drier. On ice, in driving rain storms, he rode his bicycle so he could get 'There'. Wherever 'There' was, he wanted to get there faster. That's one way of travelling. I know that something is missed by those cyclists, drivers, and commuters whose minds are set on getting there: wasted creative time.

The meditation that can be walking allows my crowded thoughts to sift their way through my consciousness. They work themselves out in ways that are not logical or sensible. It is a place where synthesis must occur. This is creative right-brained activity and not logical left-brained work.

This occurs in a locale where our mood and the colors and smells along the way, the shapes we see can all contribute to this synthesis and perhaps to an idea of merit. We walk and we dream, and then we put these dreams into action.

Walking acts as a curious stimulant to my brain. It opens me to a world of sights and smells and sounds that by its tempo, its rhythm, its curiosity finds fresh combinations and remembered patterns. I hear melodies or I play a song over and again in my head. I regain memories or bury them under new ones. Being on a long walk is akin to attending the symphony. A friend of mine once told me, "It's okay, listen to the music and just let your mind go wherever it wants to." I use this same method when I walk. I try to have no conclusion to reach when I set out. This is simply an opportunity to let things sift. Like my beagle and his nose used to do, I let my mind take me wherever it may.

This right-brain activity, then, is very much like dog brain activity. It is not linear; it is synthetic. It is not logical; it is intuitive. It is not temporal. It is always in the moment. Time flies when I'm on to some intriguing idea. Richard Feynman was a Nobel Prize physicist because he allowed his brain to put together regular ideas or facts in new and unusual patterns. Not logical thinking, even in a field as reasoned as physics, but holistic creative thought.

When NASA's space shuttle Challenger exploded it was due to a massive failure in team communication, understanding,

Balancing Act with Café Chair. European beech, ebonised walnut and the author



and in simple O-ring gaskets. Feynman determined the cause for the failure with a simple synthetic experiment. He showed the presidential commission on the disaster that a low temperature could compromise the integrity of the gaskets by changing their shapes. Freezing temperatures had occurred the night before the launch. The O-rings compressed and failed to seal, which caused gases to escape, blowing up the rocket.

Feynman showed this in an embarrassingly simple display. He put one of the O-rings in a glass of ice water with a C-clamp on it. When he removed the clamp, the gasket failed to return to its original shape.

This lack of integrity after a freeze/thaw cycle would have allowed the gases to escape, causing the explosion. By thinking out of the box Feynman reproduced the failure that NASA failed to acknowledge and many other scientists could not determine.

Jill Bolte Taylor was a neuroanatomist, a scientist who studied brain activity. In her 2008 book *My Stroke of Insight*, she talks about synthetic brain activity from her own experience with a stroke. Her inability to use the logical left side of her brain after her stroke allowed her to see how domineering that side was. With her left hemisphere no longer active, her ability to organize things in a linear fashion left her. The detail side of her brain, the descriptor, the narrator, the 'I am' that scheduled her life was shut off. Her stroke allowed her access to the right side of her brain and its nonlinear way of thinking.

The shift from a linear process to one of impressions with blurred and blended edges left her with insight into her creative brain. Creativity required that she put the linear aspect of her brain aside long enough to be playful and open to all possibility with no judgement, no need for perfection.

With no path to follow, everything had some value then and was

**"You don't make
the work, the work
makes you."
Steven Bogaerts**

worth exploring. She could discover new syntheses, new ideas, and new forms that both sides of her brain could then develop.

I need to put myself into a different frame of mind to be able to create. Movement does this for me. Walking sifts ideas, images, and inferences working through me into action or mood or choice. What I see at this pace is easier to hold onto than when flying in a plane or riding in a car or on a bicycle. Time slows down for me, and I never know what conclusion I may reach or problem I may solve. The

very act of walking helps me to process. It doesn't always yield results. It sometimes gives answers in a completely different arena with ideas popping up unbidden. It's illogical yet fruitful, which is why it's so intriguing.

In *Zen and the Art of Motorcycle Maintenance*, Robert Pirsig wrote about how the French mathematician Poincaré made several important discoveries after walking. Poincaré felt that his "subliminal self" had helped him to feel his way to a truth by discarding rules, by eliminating unnecessary ideas and letting the solution rise up to consciousness.

This is the same concept that Pirsig's character, Phaedrus, refers to as "preintellectual awareness." Only the interesting and useful ideas break their way into consciousness. Twyla Tharp writes about how walking stirs the brain: "Movement stimulates our brain in ways we don't appreciate."

All artists need to stimulate their brain somehow. Action is the tool that uncovers ideas for me and opens my mind to possibilities. Walking, then, works as both meditation and stimulant. Think by walking. Thoughts, ideas, patterns will emerge that seem to come from nowhere but are created in the fine sifting of our experience and senses.

Handmade: Creative Force in the Age of Distraction by Gary Rogowski, paperback, 178pp, Linden Publishing, 2017.

Library table for the State Archives Building,
Salem, OR, USA. Cherry and rosewood



PHOTO BY HAROLD WOOD

Found, Felled & Broken

Archaeologist **Viv Walker** crafts zig-zag wavy fasteners for an ancient alder bowl

Roughly 2,000 years ago, a woodworker somewhere in the north of Scotland found and felled an uncommonly large alder tree and the resultant log was destined to become one of the largest and best-preserved wooden bowls from Iron Age Scotland. We can catch glimpses of the gravity this object would once have had in its exquisitely executed form and finish alongside the beautiful copper-alloy repairs that were made during the bowl's enigmatic life.

This article documents one small part of my journey to research and recreate this Iron Age wooden bowl, found by the University of the Highlands and Islands (UHI) Archaeology Institute in 2018 on Orkney. It begins with my initial encounter with this bowl online in the first 2020 Lockdown which led to my obsession with figuring out the unique and ingenious method of fixing breaks and splits. Humans have a rich legacy of working wood, a material which has been integral in almost all social expression, from ships to dwellings to domestic objects. While the preservation quality and context of these objects will vary, the skill and material understanding that is evident in their construction are extraordinary. Each wooden artefact tells a story about the daily lives and significance of wood to the people who used and lived with it in antiquity.

The recent resurgence of those learning and practising heritage crafts is evidence that humans keep coming back to the tactile, ancient practice of creating a functional object directly from our

natural environment. Throughout my professional career, whether in archaeology or craft, I'm consistently drawn back to the exploration of relationships between ancient and modern makers and this project is no different.

Individual stories of Lockdowns over the past two years have spanned such a wide variety of human experience, but my own story was very much centred on this Iron Age bowl. I was lucky enough to have some outdoor space in which I could experiment at my leisure, so I gathered as much information as I could and began putting my greenwoodworking skills and Experimental Archaeology Masters to good use! Many thanks to Martin Carruthers of UHI for kindly sending me the preliminary report on this artefact at that early stage.

The bowl

Excavations at The Cairns (South Ronaldsay, Orkney) in 2018 by the UHI Archaeology Institute unearthed a unique Iron Age wooden bowl. This alder vessel is fascinating in many respects. It was preserved in a datable context. This is rare for wooden artefacts of this period as most have been chance finds, usually decades ago when archaeological recording and preservation techniques were much more rudimentary. This artefact has been crafted and finished with uncommon skill. However, it is the breaking and mending of this object which makes it truly singular. It has cracked at the end-grain and been repaired in no less than



Viv is currently making her own pole lathe

PHOTO: OSCAR GARTH

Illustration of the Cairns bowl showing one of the repair areas and the handle scar inset

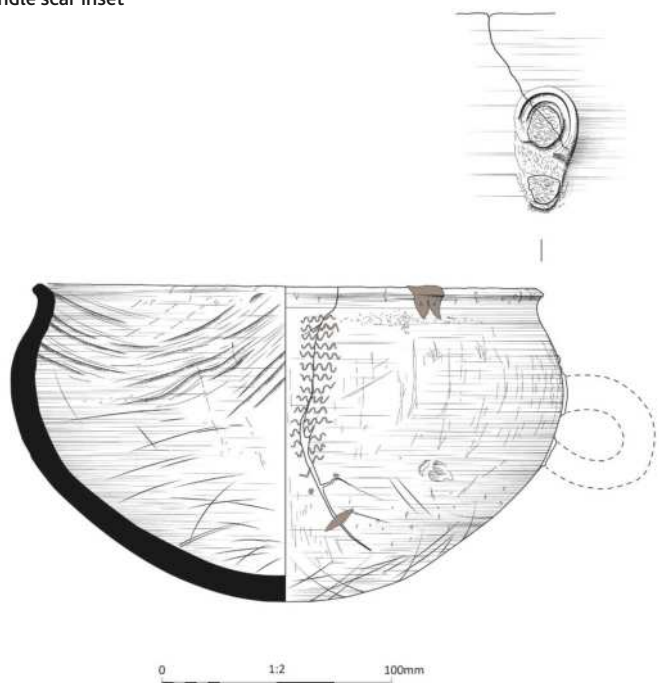


IMAGE COPYRIGHT UHI ARCHAEOLOGY INSTITUTE

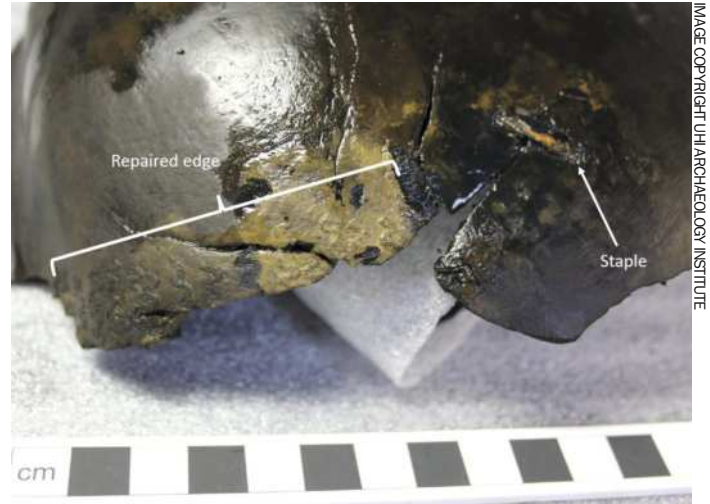
three different ways. One of these fascinating repairs is the focus of this article.

The Cairns Bowl is an extraordinary example of Iron Age craft skill, and it demonstrates that the craft had developed to levels equalling, or even exceeding, modern traditional woodworkers. The out-turned rim and round-bottomed form of this bowl is a popular design of Iron Age vessels in both wood and metal. The round base and small handle of this bowl and its relations are clues which can tell us about their function and use. It's been suggested that they were skeuomorphic, meaning they were made to copy their metal counterparts, which may have had rounded bases in order to sit comfortably within a hearth. Another hypothesis is that they were made for travelling, as the rounded base is easily cupped in the hands and the small handle would be much more useful as a loop to attach the bowl to a belt or bag than as a functional handle. While picking apart the context and possible use of this bowl certainly is fascinating, our concern is with its technology and repair.

Repairs in copper alloy

The cracks have been fixed using copper alloy repairs in three distinct ways: a thin plate has been bent over the rim and riveted in place; a strap has been fixed at the base of one of the cracks like a staple; and thin, wavy strips of metal have been hammered across some end-grain cracks. The zig-zag rivets are 5mm wide, extending 5mm into the bowl wall when hammered in place, and diagrams indicate that the strip is approximately 2mm thick at the surface. It's not unheard of for other comparable bowls to have been repaired with a strap staple of non-ferrous metal. By the way, the excavator, who is also a wood specialist, who dug up the bowl called the metal strips 'wavy rivets', so I've just gone along with it. They are of course 'fasteners', but I still call them rivets instead of corrugated fasteners. Sorry.

While one of these other bowls has evidence of the same sort



Fragment of the Cairns bowl on its side (above), with two of the three repairs shown

of fixing over the rim as seen in the Cairns Bowl, the zig-zag fixings seem to be a lot less common. Modern woodworkers might recognise the term 'corrugated fastener' which describes a method of fixing wood together using a corrugated strip of metal that is forced into wood across a join in order to keep the seam together. In modern woodworking this fastener is often applied using a power-tool that is similar to a nail gun but it can also be forced into the wood with a hammer.

The end-grain of a piece of wood consists of many short fibres. This is a weak point where the stresses within the wood can cause cracks to occur, particularly when the matrix of the wood is frequently soaked and dried. Sharp force, like that of

The full-size replica of the alder Cairns Bowl



hammering metal rivets into wood, applied to this more delicate area may further damage a vessel if it's not properly supported. Of course, power-tools weren't available in the Iron Age and the rivets in the Cairns Bowl weren't hammered longitudinally across the grain as in modern carpentry. The corrugated fastener may look similar to the Iron Age rivets, but a different technology was clearly used for their application. Moreover, while straight timber can have a stable flat surface beneath it which can take most of the shock from hammering, the thin curved walls of a bowl have more complex strains within the wood and are much less easy to support. The tension that exists in a round vessel made from alder, a hardwood, is very different to that of a flat piece of softwood timber. The rivets in the Cairns Bowl have been forced into the end-grain over a curved surface, an altogether more challenging problem. While the complexity and beauty of such repairs is evident, the knowledge and technologies required are more mysterious. It seems probable that this was a very carefully and meticulously executed repair, and that a good working knowledge of the properties of both wood and non-ferrous metals was needed. How was this done? Who might have had the necessary expertise? What can we take from this today?

Replicating the rivets

Before trying to reconstruct the entire bowl I first resolved to understand the construction of the wavy rivets, a welcome distraction in which to lose myself during the long hours of Lockdown. After many failed attempts and broken bowls I succeeded in making and applying a series of wavy rivets to

an alder practice bowl that I made when I was learning to use my pole lathe. Weeks of testing on flat-sawn sections of alder end-grain and my practice bowl using a variety of metals and techniques culminated in the following method. To make the rivets, I used my silversmithing tools to saw a series of curved strips, approximately 25-30mm long, from a 2mm thick sheet of brass. I then cold-worked the strip using a jewellers' anvil and ball-peen hammer, with the strikes focussed on the long edge that forms the internal curve. This caused the curve of the strip to straighten slightly as the material that has been struck the most expanded and work-hardened to form a wedge-shaped cross-section, almost resembling a blade, leaving the external curved edge roughly 1mm thick. Keeping a slight curve on the strip meant that when it was crimped using pliers into its final form, the wavy rivet, it matched the external curve of the bowl it was hammered into. Once crimped, it formed a rivet with perhaps four or five waves and was ready to be hammered into the bowl.

While there are likely to be many workshop configurations which could be used to facilitate this next stage, I used a small wooden post or peg which has an apex of around 30mm diameter that acted as a stable anvil when hammered into any soft ground. I used wood, not metal, so that it wouldn't leave marks on the inside of the vessel. If the bowl were to be made from a relatively soft wood then it may help to insert a cushioning piece of cloth or leather between the bowl and the anvil to lessen any marks.

The broken bowl was then carefully set on the wooden anvil so that the apex was directly underneath where the rivet entered the wood. This ensured that the shock from the hammer blows were



Macro photo (left) showing the ideal wedge-shaped cross section that results from the hammering. The finished rivet (above) ready to hammer into the bowl. Pliers being used (right) to bend the hammered strip into the wavy Cairns Bowl shape. The three stages of zig-zag rivet manufacture (below). The curved strip (right below), hammered and straightened (middle below) and bent (left below)



PHOTOS: OSCAR GARTH

transferred directly onto the anvil and didn't damage the vessel any further. The rivets were then evenly placed at right angles to the crack and very gently hammered into the bowl. In the process of hammering, the upper surface of the rivet mushroomed out very slightly, giving the impression that the rivets are 2mm thick, as can be seen on the Cairns Bowl.

Reflections

Confronted with glass museum cases, academic writing and often fragmentary evidence, it's very easy to forget the tactile and sensory existence of past peoples. This disconnection is compounded the further back in time we travel, as the evidence gets more sparse and the culture less familiar. While the rigour of scientific analyses and academic debate is integral to our understanding of the past, I believe it's also important to develop an experiential, empathetic familiarity with our ancestors. Humans' deep-rooted connection with materials like wood enable modern people to glimpse the relationships that past people had with their environment. By using only hand-tools, we loosen the control over the natural world that has been steadily tightening throughout recent history. Learning to be constrained by, rather than overpower, the limitations which exist in wood helps us catch a brief glimpse of the way that craftspeople related to the world thousands of years ago. This Iron Age bowl represents the roots of a family tree that is still growing through craftspeople today.

This bowl was clearly a treasured possession that was worth repairing, with an important social purpose. For me, the most striking element of this bowl is the interplay of materials,

beauty and function, a form of communication that is beautifully illustrated by the wavy rivets. While it's unlikely to be the same craftsman who both crafted the original bowl and made these repairs, the person who applied the rivets had to have had a good working knowledge both of wood grain and the properties of non-ferrous metals. For example, these rivets form a very functional way of repairing a bowl without having to create new holes, as is the case with many modern craftspeople's repairs using copper or cord. Both function and form seem to have been at the forefront of this maker's mind; it's possible to make this type of rivet from other metals, so the use of a copper alloy may have been a deliberate aesthetic choice.

Part of my ongoing work with this project involves delving further into the possible functional or aesthetic purposes of other characteristics of the rivets, eg. the wavy shape.

My Lockdown experimentation with these repairs culminated both in the extrapolation of the above method and my ongoing obsession with this bowl and its repairs. This method of repairing bowls is a new, ancient technology that I am eager to share and incorporate into my own creative woodworking practice, and I am in the process of continuing the research by constructing a full-size replica, repairs and all. I hope to share more of the ups and downs of this ongoing process, as well as more musings on the meanings and significance of this object, on my social media under the name VCWoodcraft.

You can follow Viv Walker on Instagram @vcwoodcraft, or visit her website at vwwoodcraft.co.uk.



The wavy rivet (or corrugated fastener, above left) being hammered across a crack in the end-grain of the bowl. The wavy rivets (below left) on the full-size replica of the Cairns Bowl. Viv tapping home one of the rivets home (above) with the crack supported by a turned post

Condensations

Facing a damp shed and rusty tools, *Henrie van Rooij* measures the value of his dehumidifier

While the British autumn progressed into the British winter, I started to think about how best to protect my nice woodworking tools from rust. Britain must at times rank with the wettest and dampest places on Earth. Many woodworkers and hobbyists will keep all their stuff in a simple shed, an unheated garage or outbuilding. Many lovely examples can be seen in *Quercus* and other woodwork magazine illustrations. And in many cases damp will be a problem. For my own shed I considered that dryness was probably more important than warmth. I found a small second-hand dehumidifier and have kept that running for the past year, during all seasons, the Ecoair, ECO DD122FW SIMPLE MK2. It is rated at 360W on the lower setting, which seems to be all I need. The shed is about 3x4m, and 2m high, which translates into 24m².

The built-in sensor switches the device on and off as required, and in practice it is only running a few hours per day. But was this the best approach? Did I have it on the best setting? After all, with present energy prices you do not want to use more power than really needed. And while my tools stayed beautifully free from rust, I wanted to learn more about what I was doing.

Having an obsessive streak about me, I found myself buying a small hand-held air temperature/humidity meter. I got mine through eBay for about £35, sent directly to me from China.

When after some weeks it arrived, we could begin to find out. First of all, the little tool works very well. The lit screen is easy to read, also in sometimes dark corners. The 'hold' button means you can bring the meter out of that dark out-of-the-way corner, with the results unchanged until that button is pressed again. The temperature it displays is close to what other thermometers show, and I trust it is accurate enough for my purposes. Apart from temperature and relative air humidity, it also shows the temperature for when the moisture which is in the air at that moment would start condensing. This is the so-called dewpoint.

Now I began to understand things a little better. When you dig deep enough online, you will discover how complex the science of all this really is. With an outdoor



The dehumidifier close up (above). The power setting is about half way on the dial. The high or low power slider is to low. This was the initial guess, and Henrie never felt he should change these settings

temperature of 7.5°C and 87% relative humidity, we are only 2.3°C above the moisture starting to condense. No wonder the air feels so damp. The tool is quite sensitive, and it is difficult always to get exactly the same values.

Dropping moisture

A cubic metre of air at 30°C can hold up to about 30gm of water vapour, depending on atmospheric pressure. But at 20°C that amount of moisture has already dropped to just over 17gm. So we see that when the air temperature drops moist air will want to get rid of 13gm of water. And at 5°C that maximum amount of moisture has dropped to just below 7gm. I do apologise for not being able to communicate all this in



degrees F and fluid ounces and cubic feet. I am simply too Dutch for that.

The Internet can provide you with any number of complicated graphs, but I do not think we need that here. Basically, as the air gets warmer, it can contain more water vapour. In other words, the air becomes relatively drier, while containing the same amount of water. Conversely, when the air turns colder, it can contain less, so the air becomes relatively wetter. That is why we talk about relative humidity. When the air becomes too cold, or the humidity reaches close to 100%, same thing really, the water vapour starts condensing. Here we have reached that dangerous dewpoint.

If you take a cold metal tool, and breathe on it, your moist breath will condense on the surface, because locally, the dewpoint has been reached. This can be a very local, like on the polished back of your best chisel. Or in rain clouds, where water condenses around small dust particles in the air. And yes, dew on the grass in the morning.

So as long as conditions stay away from the dewpoint, your tools will be safe from moisture condensing, and therefore from rust developing.

First thing in the morning in the workshop, there is no heating, but the dehumidifier is running. Ambient temperature of 9.6°C and 55.3% relative humidity, equates to dewpoint of 1°C. That looks like a safe margin. By the time the air temperature had reached 15°C, relative humidity was already down to 46%. No worries at all about condensation here. With the dehumidifier running at its present setting, a bit over half the dial, relative humidity in my shed has averaged at round 55%. That is with heating off, and around 45% with the heating on. Maybe I could turn the setting a bit lower and use less electricity. But I also think of the out of the way corners at floor level, which are really colder and damper, about 65%. And that is not surprising.

The hosepipe guide & drain

Before I connected it to a bit of hosepipe, to guide and drain the collected water away through a small hole in the floor, the de-humidifier could easily collect about 2L of water per week, depending



Henrie's brave little shed in the depths of winter. He is holding a large rusty crosscut saw he wants to restore in fully glory soon

on the weather. Connecting the hosepipe is simple to do as the Ecoair is already engineered for this. And that is handy because the reservoir does not need emptying any more. A full reservoir means the machine switches itself off.

I only run the small electric heater when I am in my workshop, in order to take the chill off. The dehumidifier produces some warmth anyway. My humidity gadget shows me that with this approach we are always well away from the dewpoint. But bear in mind that in the colder and therefore also damper corners, the temperature interval between ambient temperature and the dewpoint temperature, can be very small.

Like many others, I know about keeping the tools protected with camellia oil, and

that neat Japanese applicator available from Axminster Tools (axminstertools.com). And I use it often, especially after sharpening with a waterstone. But I do not always want to work with an oily/greasy/waxy tool, and I will not always remember to wipe on more after use. A thin coat is all you need.

Moisture meters

Some things to consider. If you want to look for an air moisture meter, check if it has a dewpoint setting. But maybe it is enough when you can see that the humidity levels, even when the air is cold, are still well away from 100%. Once you get close to 70% you are in the danger zone, I would guess. Avoid using paraffin or gas heaters

which do not vent to the outside. All combustion processes produce a certain amount of water vapour, which we do not want. Not to mention fire hazards and unhealthy air.

Although I love Japanese waterstones for sharpening, I do not use them in my workshop. Too much water, and damp stones drying out again after use are involved, and would be more work for the Ecoair. Now I use diamond plates and scary sharp abrasive instead, where a small squirt of water is all that is needed.

All in all, I think this approach is working, and without consuming unreasonable amounts of electricity. But I would really love to know how others deal with winter in their small workshops.



Looking at the air temp and humidity outside, we see an outdoor temperature of 7.5°C and 87% relative humidity (above left). When we press the button to show the dew point, we are only 2.3°C above the moisture starting to condense (above centre). No wonder the air feels so damp. The tool is quite sensitive, and it is difficult to get exactly the same values from picture to picture. First thing in the morning in the workshop (above right and right). No heating, but the dehumidifier is running. Ambient temperature of 9.6°C and 55.3% relative humidity, equates to dewpoint of 1°C. That looks like a safe margin

By the time the air temperature had reached 15°C, RH was already down to 46%. No worries at all about condensation here!



Flattening the sole using sticky-backed adhesive on a flat surface. Make sure the plane is fully assembled with the blade retracted during this step

Time-Honoured Sharpener

Veteran *Curtiss Carr* remembers his time learning how to work wood and hone tools as an intern

For a person just starting a craft, finding a mentor is paramount. I was lucky to find Elliot Driscoll as my first mentor to take me from hobby to passion. Elliot is a talented woodworker, an extremely skilled carver, and the founder of the Driscoll Woodshop based in Baltimore, Maryland. He is also the board chair of Recovery Capitol LLC, a non-profit organisation that funds the Driscoll Woodshop to provide a place for those in recovery from substance use disorders and veterans suffering from Post Traumatic Stress Disorder (PTSD).

I was diagnosed with PTSD a few years ago while serving with the US Army. At the time, I was self-medicating my depression and anxiety that accompanies PTSD with alcohol. The loss of friends and teammates to combat and suicide made me realise that I needed a drastic change in my life. A year into my sobriety, I stumbled across a post in the Roy Underhill Facebook group from Elliot. The post was a video about his path to sobriety, and the mission of the Driscoll Woodshop.

As his apprentice, Elliot taught me the ins and outs of running a wood shop: machine safety, machine maintenance, teaching others, and the value of a good shop dog. I've learned how to split logs and mill boards with hand-tools. Elliot introduced me to the concept of grain run-out and the superior quality of boards off the froe. I was also introduced to the shaving horse thanks to Elliot and Harper Alexander-Burke. Harper is the daughter of the late Baltimore-based chairmaker Jennie Alexander. Jennie's shave horses and benches are still in use at the Driscoll Woodshop, inspiring the future generation of aspiring chairmakers,



The proper PPE for evicting unauthorised pigeons from the shop. Apprentices/shop hands need to be ready for any situation

like myself, and those who appreciate the time-honoured craft of greenwoodworking. Finally, Elliot was the person to push me to take an internship.

Myriad of posts

By chance, I was scrolling through the myriad of woodworking posts in my Instagram feed when I came across a post from Marc Adams School of Woodworking [and Time-Honored Craft]. The caption read: "Want to work hard, feel tremendous accomplishments, and learn more than one might think possible in a few short weeks?" I didn't know what to expect walking in to this adventure; especially being surrounded by all these moving machines that can process wood much faster than my trusty No.6. Who takes a holiday just to go (and actually pay) to work? What is there to be gained by being an intern for the largest woodworking school in North America? The answer: the feeling of tremendous

accomplishments and learning more than one could ever think in just a few short weeks.

I was intimidated walking into MASW. The school is filled with the best-tuned machines around. This was my first formal training in woodworking, and I knew I was behind a very long learning curve. The building process is completely different from what I am accustomed to. Usually, in the Driscoll Woodshop, I could work at my own pace and to my own playlist! I found myself behind the rest of the class at MASW, but that wasn't a problem. Everyone works at their own pace, and the MASW shop assistants are always more than willing to lend a hand, explain pieces of machinery and how to safely use them.

I felt myself rushing at times, but I worked at reminding myself that woodworking is all about the process of making, and to be mindful of the process. I also reminded myself that I am learning, and to treat the mistakes as opportunities

to learn. I was also part of the few "hand-tool guys" at the school that will make any excuse to use hand-tools on a project. For example, during a class on intarsia, instead of using the die grinder (like the rest of the class) for shaping, I chose to use carving chisels, scrapers, and rasps. Dovetails were always by hand.

First lessons

My first class as an intern was with Stephen Proctor titled 'Hand Skills Every Woodworker Should Know'. Many will agree that it was a sharpening class because we did a lot of it. There are many ways to sharpen your blades, and everyone will eventually find their own system. Mr Proctor's class focused on the process of sharpening and tuning on the chain of contact that must take place inside of your plane. In order for the tool to work to its fullest potential, all of the milling marks left by the factory on the tools need to be refined. By doing so, it maximises the amount of contact the parts have in this chain and aids in minimising chatter through cuts. Mr Proctor focused the purpose of sharpening and tuning your hand-tools so they are working for you, and not you working for the tool. "Don't depend on talent, depend on your tool," he would repeat. I will explain what he meant, but it all came together once his sharpening process was complete.

The cut of a plane begins, obviously, with the blade. The blade must be made flat on both sides in order to ensure positive contact with the entire surface of the frog and the tip of the chip breaker. You can use a flat diamond stone, up to 1000 grit. I now prefer to use multiple grits of aluminum oxide lapping compound and a machinist's

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lapping plate. Work your blade in a circular motion along the entire length of the sharpening stone ensuring your fingers are distributing equal pressure on the blade. I must point out the fact that your fingers are on, not under, the blade during the flattening process. Having your fingers under the blade while sharpening will cause the blade to rise and your blade will not be flat. Once the blade is flat, then sharpen through the grits of whatever sharpening system you prefer. Add curvature to your blades. There was no magic radius, formula, or jig to determine the curvature that was to be added.

While sharpening the blade, you simply add more pressure to one corner of the blade with your finger for a certain amount of strokes on the stone, and perform the same action to the other corner of the blade. Generally, the corners of the blade shouldn't be visible when sighting down the sole of the plane with an exposed blade. The amount of curvature also depends on the working role of your planes. The importance of having curvature in your plane blades is to lessen the chance of leaving mill marks whilst planing. "Curvature! [expletive] curvature!" he yelled as he walked away after inspecting each student's blades. Then, flatten the face of the frog. The newly-flattened blade has positive contact along the length of the frog. This is achieved on sharpening stones. A flat blade to a flat-faced frog completes the first part of the chain of contact.

Next, use lapping compound (a very little goes a long way) to ensure the bottom of the frog is form-fitted to our planes. The (very little) compound is applied to the visible areas of contact between the frog and the plane. The two parts are rubbed together in a back and forth motion with your plane on a flat surface until the scratches left by the compound are uniform on both parts. Be sure to clean the compound off thoroughly when finished using a generous amount of mineral spirits. Then, flatten the portion of the chip-breaker



Making chair parts for a settee under the watchful eye of my shop/service dog Arvo. Photo courtesy of Diane Drake of MASW

that contacts the blade on your sharpening stones.

The same process goes for the lever cap. This will ensure they fit flat to our (now) flat blades. A flat frog base to plane body completes the second part of the chain of contact.

Sole flattening

Now, it is time to flatten the sole of the plane. This can be achieved many ways, but sticky-back sandpaper on a flat surface like a piece of granite, or float glass works well. Take a black permanent marker and draw diagonal lines across the

sole of the plane. Be sure to assemble the plane completely with the blade retracted so that the plane is under tension while performing this step. While applying equal pressure on the body of the plane, take long strokes against the sticky-back abrasive on your flat surface until the marker disappears. "The plane should be an extension of yourself," Mr Proctor would explain. "Curvature... nice round edges... make the tool comfortable in your hands."

Take a file to all the hard edges of the plane body around

the sole. Take a rasp to your plane handles (if you use them) to make them fit your hand, and fingers. The idea is that you have better control using your fingers as a fence for your plane if it is comfortable to your hand. This technique involves resting your thumbs on top of the plane and wrapping the rest of your fingers around the body of the plane. This way you can use your fingers as a fence when planing edges or to reach certain spots. Also, if the tool feels comfortable, you are more likely to use it! A flat plane sole to a comfortable fitting plane in your hand completes the chain of contact.

The chain of contact principles taught by Mr Proctor, can be applied to just about any cutting tool. By thinking of how the tool contacts the wood, how all the parts contact one another within the tool, and how the tool connects to you will lead to a more enjoyable experience. A properly-tuned plane minimises the fighting, tweaking, and other tool manipulations so the tool is working for you. The fighting, tweaking, and other tool manipulations rely on talent. I don't have much talent, so I prefer to rely on the tool. There are many more lessons I learned from Mr Proctor, but I will have to save those for another time. I reckon I am supposed to be writing about life as an intern.

Lessons as an intern

When I first started woodworking, I had a few bench planes, saws, and chisels from the hardware store. It was nothing fancy, and I had no idea how to use them properly. Online tutorials and reruns of *The Woodwright's Shop* could only take me so far. Personal interaction with woodworkers on a daily basis is better than any Reddit feed or YouTube tutorial. As an intern, I was able to discuss today's furniture trends, marketing tips, sharpening tips, and much more over a meal, on break, or sitting on the porch after a long day of class with some of the greatest craftspeople around. The diverse demographic of the



Flattening & Sharpening

In order for the tool to work to its fullest potential, all of the milling marks (1) left by the factory on the tools need to be refined (5). Having your fingers under the blade while sharpening (2) will cause the blade to rise and your blade will not be flat. Amongst other things when it comes to sharpening, Curtiss makes sure to use as much of the plate (2) as he can, as he would do on sharpening stones. He makes sure to clean the plate with kerosene or mineral spirits in between changing lapping compound grits.



A fresh blade in need of flattening and sharpening (above)



Curtiss goes through the grits of lapping compound (above) the same as going through grits on stones. He also laps the top of the blade (below)



"There is," Curtiss promises, "curvature (above) to the blade." The lapping compound makes it easy to see your flattening process (below)



students allows for a unique perspective on just about any woodworking topic. It is also a great opportunity to try out tools you are contemplating investing in, or try out the new latest and greatest tools that you know are well outside of your current budget.

Being an intern has its cliché movie moments: long days, taking out the garbage; making coffee before everyone arrives; feelings of anxiety for messing up a particular daily task; and other self-induced stresses. There are many chances to observe the not-so-glamorous parts of the trade. There is always some cleaning up of the workshops, ordering materials, juggling instructor schedules, more cleaning up (usually of glue), etc...

My tip for cleaning up glue would be to do so while it is wet. I came across a tip while watching a video of Matt Wajda building the North Bennet Street School toolbox. He uses a small, old cabinet scraper to clean up glue squeeze out after clamping. You can shape the old cabinet scrapers (or an old saw blade) to any size or shape to fit into tight places or cover larger areas. You could also use an old flexible 6in pocket ruler to get into really tight spots. I spotted that tip from Reed Hansuld when he was teaching me laminate bending techniques. I find this method more efficient than waiting for the glue to tack up, or completely dry before scraping off the squeeze out.

There is less chance of creating defects while scraping glue if you take it off when it is wet. I also find that I use fewer paper towels if I clean away the glue while it is still wet. Instead of using the paper towels to wipe the glue off the piece of work, I keep folded pieces of paper towels in my off hand and clean the glue off of the scraper as I am cleaning the piece.

A future making stuff

Now I just want to do joinery and make stuff. This experience reminds me that if you want to make the craft your living, there is a lot



PHOTO COURTESY OF DIANE DRAKE OF MASW

Putting in the final details on the inside of the Stephen Proctor 'Self-Portrait' belly cabinet door

more to it than joinery. It is a business after all, and adjusting to an already well-oiled machine has many challenges.

The standards of quality of everyone that surrounds me are high, and they make hard work look easy. The staff of Marc Adams School of Woodworking taught me the importance of hospitality and going above and beyond for the customer. Businesses last longer by building a loyal customer base. The lesson here is to surround yourself with the best people you know. I have learned so many new skills since being an

intern. The numerous pages of my notes from classes are full of tips and advice from experts ranging from tool maintenance, intarsia, the history and practice of veneer (including marquetry), woodturning, finishing using old and New World techniques, furniture repair and restoration, just to name a few. Intern tip: keep a quality notebook to keep all your woodworking notes centralised.

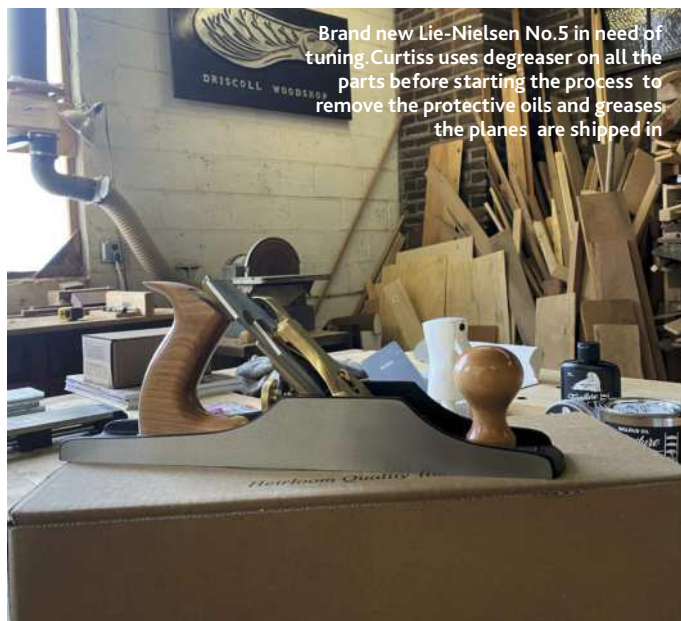
The networking opportunities that the internship provided presented a chance to intern with Frank Strazza, of Central

Texas, USA. Frank apprenticed with Paul Sellers for a number of years. He is arguably the best hand-tool craftsman in the USA. The most important and lasting lesson that was learned from this experience, however, is the validation of my decision to making the craft my way of life. Internship is hard work, and the responsibilities aren't even close to that of the full-time staff.

Yes, I got to attend class all day while instructed by some of the best craftspeople of the world, but it is still work. There isn't a lot of time off. Every morning I'd be tired and sore. I'm not getting any younger. Pushing all that aside, I could never wait to go in to 'work' everyday to do something that I love doing... making stuff.

I am now a board member at Driscoll Woodshop (driscollwoodshop.org) and three years (and counting) sober. The mindful aspect of hand-tool woodworking, my therapist, and especially, the love from my wife, saved my life.

Visit strazzafurniture.com, or follow @strazzafurniture on Instagram. Anyone seeking information about internship opportunities at MASW can contact Marc via email: marc@marcadams.com.



Brand new Lie-Nielsen No.5 in need of tuning. Curtiss uses degreaser on all the parts before starting the process to remove the protective oils and greases the planes are shipped in

The intern costs & benefits

Having a wide variety of students on the MASW course allows for a unique perspective on any woodworking topic. The projects and techniques you learn are also a great opportunity to test tools you might consider investing in, or try out the new latest and greatest tools that you know are well outside of your budget.

Being an intern has those cliché moments you can imagine in a movie: long days, taking out the garbage; making coffee early in the morning; anxious feelings that you might mess up a particular daily task; and other self-induced stresses. There are many chances to observe the unglamorous parts of the trade. There is always some cleaning up of the workshops to do, plus ordering materials, schedules for the tutors, then more cleaning up (usually of glue), etc...



PHOTO COURTESY OF DIANE DRAKE OF MASW

The man, the myth, the legend himself, Stephen Proctor, giving valuable notes during class at MASW



PHOTO COURTESY OF DIANE DRAKE OF MASW

Using power (above) to rough out the shape of Stephen Proctor's 'Self-Portrait' belly cabinet door. "For me," says Curtiss, "electronics mean faster mistakes." More chair parts (left & below) for a Mike Clarkson (Sun Woodworking, Maryland, USA) Whale Tale Settee



Hack's Scratch

Having tried Garrett Hack's scratchstock, *John Lloyd* is converted using a home-made tool for beading

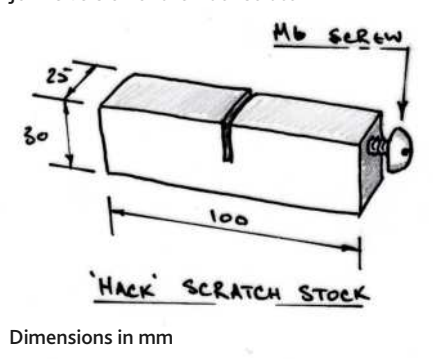
I first encountered the 'Hack Scratch Stock' when I met Garrett Hack at a woodworking event where we were both demonstrating. I took a moment to have a snoop around the show and came across a quietly-spoken American woodworker who was shaping the edge of a piece of wood effortlessly, with one hand, and, at first glance, without any obvious tool, so presumably using some sort of crafty North American hokum. A second glance revealed that Garrett was not in fact the next David Blaine, but was using a cunning, and very small, scratchstock which seemed to be just a small block of wood, but which either had some very special powers or was fitted with a cutter of some sort.

You may have gathered from previous articles that I am a fan of the 'low-tech' solution. Scratchstocks, by their very nature, are all pretty low tech, but this particular version certainly took the biscuit for simplicity and apparent ease of use. One of the downsides of the 'L' shaped scratchstock that I have grown up with is that it is a 'finesse' tool, ie. it requires a degree of skill to get a good, even result. This is no bad thing since it improves hand skills, but this new version with its longer 'fence' and one-handed operation seemed such a good idea that I resolved to make a copy when I got back to my workshop.

Unfortunately, because the tool was so simple, I didn't really give it very much attention and, unbelievably, when I started the process of making a copy, I couldn't remember little details like how the cutter was fitted and what was its correct orientation. A few minutes thought and a bit of fiddling around with a small piece of wood and a metal cutter revealed the blindingly obvious layout. I'm not actually sure if this tool is Garrett's invention, but I know I find it very annoying that I hadn't managed to come up with this simple solution for myself during the 20-something years that I have spent working wood!

As discovered in an earlier article of mine, this little tool is not the complete panacea for all scratchstocking challenges, but it's so good at running beads and inlays close to an edge, that I urge you to make one of these wonderful little tools, particularly if you're a complete novice to

John's version of the Hack scratch



the art of scratchstocking, as it is so easy to make and equally easy to use.

Beech is a good choice for any wooden tool, but any other close-grained wood like sycamore or box will work just as well. So the first task is to encourage the piece of wood into the right shape with a plane and perhaps add some nice narrow chamfers on all the edges to make it look like you care, and stop the edges from fraying. The slot for the cutter can be cut with any cross-cut saw, although the resulting kerf might be a little too thin for your chosen cutter material, but this can easily be widened a little by doubling up a couple of Junior hacksaw blades, and working them down the narrow saw cut. A pillar drill is useful for drilling a straight hole for the lock

screw. If this hole is at an angle, when the lock screw is tightened onto the cutter it will tend to have the annoying effect of trying to move the cutter. The same thing will happen if the hole is straight but the end of the screw isn't square, so accuracy here is important. I happened to have a spare M6 threaded metal insert which I ran into the end of the hole, partly because I thought it would be durable and partly because I couldn't lay my hands on an appropriately-sized tap to thread the hole, which would work just as well.

I have used a nice long, matching, M6 machine screw, with a pan-head, although ideally this would be a thumb-screw which would avoid the need for a screwdriver to lock/adjust the cutter. A little spot of wax will make the 'fence' part of the tool nice and slippery and finally, a cutter is all that's required to complete the tool. In use the tool can be pulled or pushed, just be gentle to start the cut, while making sure the side of the stock is kept snugly up against the edge of the workpiece. Holding the tool at a slight angle will make the cutter work more efficiently as it will be using its sharp, right angled, edge to produce shavings.

There is no depth stop on this type of scratch, so this has to be judged by eye, perhaps adding some pencil to the surface of the wood to indicate when the full profile of the cutter has been achieved.

Old wood-cutting jigsaw blades or sections of bandsaw blade can make good cutter material, or alternatively spring steel from an old handsaw or cabinet-scraper will also work well. The important thing is the steel is not too hard as we want to be able to shape the cutter with hand files, not an angle grinder. The desired shape can be scratched onto the surface of the cutter which has been blackened with some marker-pen, and cut/filed to shape. To sharpen, the cutter should have both faces flattened, honed and burnished on bench stones, to about 6000 grit, and the profile refined with slipstones, maintaining a square edge.



Testing the home-made scratchstock for beading

John Lloyd runs courses in West Sussex, England. Follow him on Instagram @john_lloyd_fine_furniture, or visit johnlloydfinefurniture.co.uk.

Making Your Scratchstock

John is a fan of 'low-tech' solutions, and scratchstocks, by their very nature, are all pretty low tech. This new version with its longer 'fence' allows for one-handed operation, and can be made with a simple tightening method by using a threaded insert and M6 bolt to hold a cutter of jigsaw or bandsaw blade.



Cutting the slot for the cutter (above). A pair of Junior hacksaw blades (left) help to widen the slot. John has used an M6 threaded insert (below) because he didn't have the right tap. Notice how the arris has been removed from the edges of the 'stock'.



Drilling the stock for the threaded insert (above) on a pillar drill. Make sure the hole is square to the blade slot or the cutter will move as you tighten the screw. The insert will cut its own thread (left)



Jigsaw blades or old bandsaw blades make good material for filing cutters for your own scratchstock (above) for beading (right)



Three Scrapers Will Do

Scott Wynn argues that you only need a trio of scrapers for shaping and smoothing work

Here are three lesser known scrapers often not included in the standard repertoire that could be helpful for difficult shaping and smoothing tasks.

The Buckhorn Scraper

This tool can be ideal for fairing and smoothing compound curves. While a card scraper can be ground and flexed to match curves across the scraper's width, it is difficult to take the wave and discrepancies out of a long sweeping curve in the direction of the cut. The buckhorn scraper has a sole (make it as long as you want) which provides a reference for fairing out ripples in the sweep of a curve. And, as it is a scraper, there's no tearout.

I first saw an antique version of this tool at a tool swap and I was drawn to its shape, which seemed an elegant, but simple ergonomic solution for handles to push a tool. The one I saw was obviously a user-made tool, not manufactured. I had never seen it before (or since, actually). I showed my uncle, a patternmaker, a sketch and he thought for a moment and said: "That's a buckhorn scraper".

In retrospect, perhaps this was a colloquial name for the tool, as we were at the time in the American Midwest, home of some of the nation's most prolific hardwood forests, an environment intensely used by large populations of both woodworkers and hunters of deer. It probably was a precursor (or in lieu of) the Stanley No.80 handled scraper.

A few years later I was confronted with smoothing a compound curved and tapered coopered chair back. I had fashioned a spoon-bottom plane for shaping out the flats on the staves, but the wood had some interlocked grain and besides, with the curves the grain changed direction resulting in tearout, as well as irregular lap marks from the plane strokes. I had six chairs to do, so flexible card scrapers were not going to be the answer. I recalled the buckhorn scraper with its comfortable

The three scrapers Scott says you need: the ball joint scraper (top); the buckhorn (middle); and the chairmaker's scraper (bottom)



handles and fashioned one with a sole to match the compound curve, with a matching blade out of a piece of handsaw blade. I used a 100° pitch, similar to the Stanley No.80, and a burr on the 45° edge. Perfect! I could continue to fair out the curves to the final shape, and finish with some card scraping and sanding.

The tool is pretty simple to make and uses standard hardware. It can be handy for fairing compound curves. (I have plans and instructions for making these.)

Chairmaker's Scraper

A spokeshave is a favourite tool for many: the outlying handles are comfortable for control and power, and with its short sole it manoeuvres through curves readily. But really, it is a shaping tool (also known as a scraper shave or chair devil) more than a smoothing tool, and unless set up for smoothing with a minimal mouth opening and possibly a functioning chipbreaker, it will often leave disastrous tearout in its wake. You can shim the blade, but this will dedicate the shave for smoothing, and would require the removal of the shims

to do more shaping work. Shimming will reduce the amount of tearout, but not necessarily eliminate it.

Consider using the chairmaker's scraper. It has the preferred spokeshave configuration with outlying handles and a short sole, but uses a scraping action with the blade mounted 90°-110°. The blade usually has a 45° bevel and if mounted at 90°, no burr. If you make your own, you can shape the sole to the radius of your spindle, eliminating flats (if you want), and also put a curve in the length of the sole to more accurately shape curves along the length of a piece. Lee Valley sells their own version, but they're easy enough to make and the cutting configuration and handle shape can be customised.

Ball Joint Scraper

Other manufacturers including Starrett made ball-joint scrapers like Stanley's No.283. I picked up this tool at a tool swap years ago, and it worked so well for the jobs I used it for, I bought another later when I had the chance. I also see that Lee Valley has reintroduced this tool as their



Ball-joint scrapers like Stanley's No.283 (left) were also made by other manufacturers. The chairmaker's scraper (above) is also known as a scraper shave or a chair devil



ball-joint scraper. Two advantages stand out with this tool: you can apply a lot of pressure for shaping with the ability to get into corners and edges with power. And you can reshape the blade, allowing you to shape various curves with power. While this tool has often been relegated to paint scraping, I find it much more useful than that. For instance you can grind the four different sides of the blade to different radii for shaping the varying curves of a chair seat. The handle has a universal ball joint at the blade holder, allowing it to rotate in all directions to access difficult locations and to vary the angle of the cut. I have also used it to finish off mouldings by grinding the blade to match. New blades can be made from old handsaw blades, though you will have to fairly accurately shape the mounting hole to match the holder. Lee Valley sells extra blades for their scraper.

The first one I bought, an antique, came with the secondary handle that fits on top of the blade. Since that time I haven't seen antique versions of this tool available with this handle. But it is certainly easy enough

The buckhorn scraper has ergonomic, comfortable handles, with the blade set at 100° with a 45° burr. Scott has yet to test the maya cuo scraper (below) he found in a Paris tool shop



to make. The original was barrel-shaped, which is more ergonomic; but a saw kerf in a dowel will make do. The Lee Valley tools come with a secondary handle.

Maya Cuo

Lastly, I throw in this freebie: the maya cuo. I think this tool has a lot of potential, though I haven't fully explored it yet. Perhaps some of you are familiar with this tool. It's widely used in China and

Southeast Asia to contour surfaces. It has a wooden body up to 15in long, handgrips fore and aft, with 10 to 32 cutters mounted in grooves cut into the body. They are often shaped to fare long curves, both convex and concave, and the cutters can be shaped as well for additional contouring. It cuts aggressively but leaves a clean surface, especially on tropical hardwoods. They are often user made: the cutters are made from an old saw blade and are set into kerfs made with the same saw with its set removed. All the blades are fitted snug but can be put in place with only a little effort: the last cutter is fit tight and must be forced in. This tightens up all the blades and keeps them in place. The cutters are then filed till they're all in a line, then back-beveled at around 60°.

I had been curious about this tool for years, after I saw it in an article in *Fine Woodworking* years ago, and I always kept my eye out for it. I finally found one in one of the three woodworking tool shops in Paris. I had been seeing a similar tool in the windows of shops around the Pere Lachaise cemetery, but found out they were used to smooth stone (the cemetery is surrounded by shops providing headstones). I've experimented with the one I got, and it is very aggressive. In fact, I'm looking for ways to make it less aggressive, as it is hard to control.

As with a lot of hand-tools, I think some additional prep is necessary; you can't always count on the tool working right off the shelf. I have found that many esoteric tools sold to professionals have the last step undone, because they assume the user will customise and finesse the tool to the job they are using it for, and how they like to use it.

Scott Wynn is author of *The Woodworker's Guide to Handplanes, Traditional Wooden Handplanes, Getting Started with Handplanes, Discovering Japanese Handplanes, Classic Handplanes and Joinery.*

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Skelton Saws are obviously best known for their backsaws, but at Harrogate they also had their Peacock Oils and Waxes they use to finish their handles, but have many other potential purposes
Visit skeltonsaws.co.uk for details



Golra Edge Tools from Pakistan are not well known in the UK, but were showing their spectacular knives, axes, carving tools and drawknives. Visit ukbesttools.etsy.com for details



Walrus Oils have waxes and oils to finish leather, metal and wood. Visit walrusoil.com for details



Pocketful of Edges

Simon Grace says his tiny chisel is a gentleman's tool

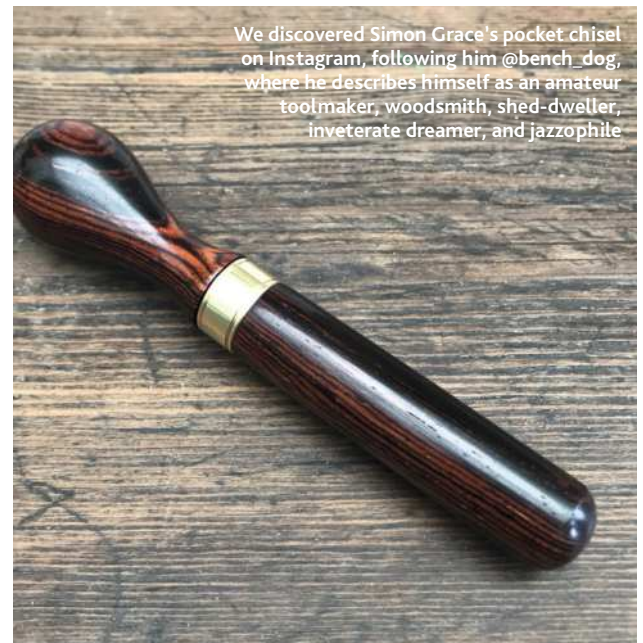


Simon Grace's pocket chisel is made from an old firmer, with new cocobolo handle and sheath

I got this idea from an old carving gouge I saw on eBay that had a simple home-made sheath. I thought I'd steal the idea and make something a bit more classy. Sort of like those old 'gentleman's' tools produced in the 19th and early 20th Century. I doubt if I'll ever really need to carry a chisel around in my pocket but it's a nice tactile object that was fun to make.

The chisel is a well-used short 5/16in firmer with a split handle that I had knocked around. I converted it to a bevel-edge on my slow grinder. The handle and sheath are cocobolo finished with French polish and the ferrules are pieces of 1/2in and 3/4in diameter brass tube. I used a carbide-tip lathe tool to score the rings on the ferrules, turning them on my wood lathe as I don't have a metal lathe to do that sort of thing. It's just under 6in long overall.

We discovered Simon Grace's pocket chisel on Instagram, following him @bench_dog, where he describes himself as an amateur toolmaker, woodsmith, shed-dweller, inveterate dreamer, and jazzophile



Parramore's Ambitions

Robin Gates reflects on a bold attempt at redesigning the hand plane in 1960s Britain

One of the more audacious launches in toolmaking industry of the 20th Century came from F. Parramore & Sons, a foundry on the outskirts of Sheffield known for its agricultural castings and light engineering. The firm's speciality had been cast iron flushing cisterns. In WW2 the firm had gained a foothold in the woodworker's shop by stepping into the breach when Sheffield neighbours C. & J. Hampton lost its Record vices factory to bomb damage.

Subsequently Parramore had made vices and cramps under its own 'Paramo' brand, but still, in pitching the PlaneMaster, its first effort at planemaking, against Stanley's legendary No.4 smoother the firm cannot be said to have lacked ambition.

Although it's hard to shed tears over a company as big as Stanley, the self-proclaimed 'Tool box of the World', as patents protecting its (or rather, Leonard Bailey's) adjustable iron bench plane expired in the mid-20th Century, it must have been galling to see the tool being so slavishly copied.

Sheffield toolmakers J.A. Chapman were among the first in Britain with their quite respectable planes branded 'Acorn', but in 1936 Stanley astutely dealt with the situation by taking over the company as a base for its own expansion. The larger British company was C. & J. Hampton, also a Sheffield toolmaker, which by WW2 had assembled a range of over 60 iron planes under the well-respected 'Record' brand, some showing improvements (or at least differences) from Stanley planes while others were entirely new. By the 1960s, however, Stanley had surely resigned itself to imitation being the sincerest



A 1966 ad in *Woodworker* magazine, the plane complete with five blades. The PlaneMaster had the advantage of being able to be used for rebating



form of flattery and had, in any case, moved on to bigger things. Record's trumpeting of 'This plane has the edge over all others!' on account of its longer-lasting tungsten vanadium blade or its chatter-proof 'Stay-Set' cap iron seems unlikely to have stirred the Stanley think-tank.

Woodwork in the rapidly modernising 1960s was all about labour-saving machinery and portable power-tools. New electric planes, routers, belt sanders and jigsaws were all the rage. Full-page advertisements notwithstanding, hand-plane news rated barely a footnote.

With an electric router it seemed you could do everything, not just rabbeting but also beading, grooving, fluting, chamfering, dovetailing and mortising, meanwhile silencing your critics with an ear-splitting 25,000rpm motor.

most pernicious ills, and we want not only to use hand planes but also make them, so it's worth looking more closely at what's gone before. Half a century after Parramore tried tweaking Stanley's nose I find myself with contemporary examples of both planes in question: my Dad's dependable Stanley No.4, literally an extension to his arm while fitting out the family home, and the PlaneMaster which I acquired out of curiosity just five years ago. So how do they compare? First, let's consider what was new.

Although the label 'No.10' may've been coined to suggest a back catalogue of planes numbered 1 to 9, this was Parramore's first venture into planemaking and the '10' refers to its overall length of 10in (25.5cm), a smidgen longer than Stanley's No.4. For the avid plane spotter, the PlaneMaster's '10' hints too at Stanley's No.10 which has similar full-width iron and rabbeting credentials, but the idea of launching a new version of an essentially 19th Century wagon-builder's plane in the 1960s again looks strangely out of step with the times.

Rear tote and front knob conformed with bench plane tradition but what stood between them, the brainchild of inventor Marcus R. Dakin, was almost alarmingly novel.

In lieu of Stanley's hefty lever cap, separate screw and lever mechanisms for adjusting a towering iron which had to be sharpened and honed, Marcus Dakin proposed a skinny disposable cutter which slotted into a pivoting device controlling everything.

Turning the knurled red wheel in its threaded thrust block sets the blade's projection, while shifting the blade clamp to right or left brings the edge parallel to the sole. The

It was a case of get the job done, mate, blow away the dust and book your package holiday to the sun.

With the benefit of hindsight, the timing of Parramore's launch of its ingenious and crisply-engineered Planemaster No.10 smoothing and rabbeting plane looks unfortunate to say the least. The PlaneMaster was neither clone nor a descendant of a Stanley plane, and in a different age it could conceivably have rattled the giant's toolbox, but in the context of the go-ahead 1960s Parramore may as well have been building a penny-farthing for the Tour de France as offered woodworkers a labour-intensive hand-tool reeking of sweat and tradition.

Hand-tool remedy

But this is 2023, working with hand-tools is reckoned a remedy for some of society's

Sighting with eye and sole in line while twiddling the wheel to adjust the cutter



Adjusting the PlaneMaster

From their Sheffield base Parramore & Sons launched the Paramo PlaneMaster in the 1960s, just as woodworking was being transformed by the introduction of power-tools. Today, hand-tools appear to be a remedy for society's ills. You set the blade projection with the knurled red wheel. The setting is then fixed with the spindle-cam behind the wheel. The eccentric groove in the spindle-cam (far right) engages with the ball-head-pin of the thrust block. Parramore argued that a disposable blade meant that no time was wasted honing an iron. The moment an edge dulls you can open the blade clamp and insert a substitute



The 'clamping member' (above) is pivoted left and right by the knurled wheel which also adjusts projection. The PlaneMaster dismantled (right) to show the blade clamp, thrust block and spindle-cam



Rounding the corners of a blade (above) before smoothing so as not to leave tracks. Fine shavings (right) from the face of a salvaged oak board



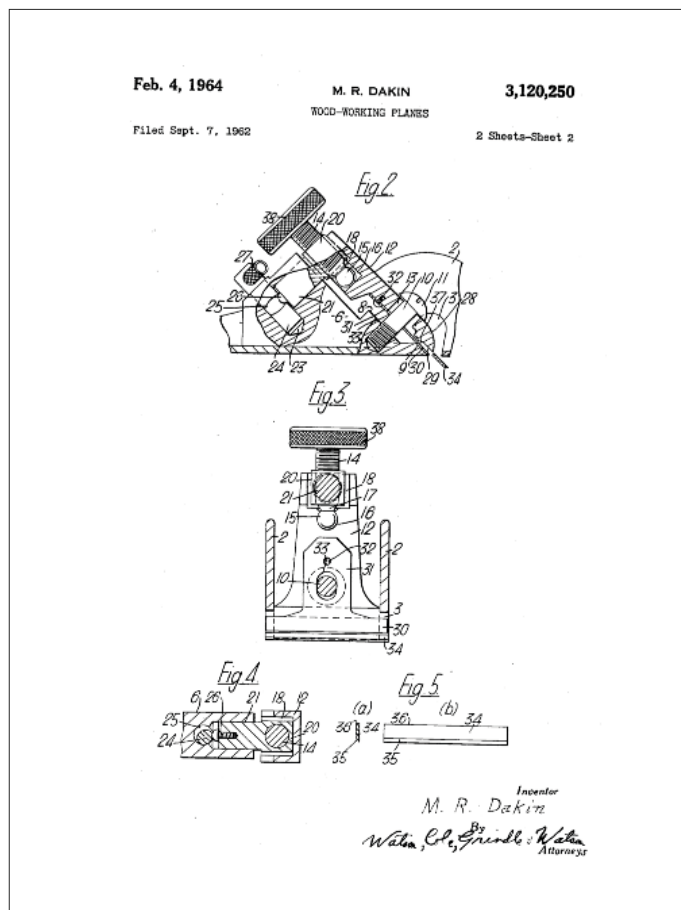
chromed spindle-cam behind the red wheel locks the setting. Parramore declared its new flagship 'the most outstanding development in plane design since metal planes were introduced nearly a century ago', obviously inviting comparison with Leonard Bailey's adjustable cast iron plane, the basis of Stanley's bench plane, which had threatened extinction for wooden planes.

Still at the old grind?

With surely a touch of mockery Parramore's full-page adverts began 'Still at the old grind?' above a picture of work-weary hands honing a plane iron. 'What a waste of time to grind and hone your plane irons,' went the rhetoric. 'Once you've used a PlaneMaster you'll wonder why it wasn't invented years ago – it's so simple.' And so it is – open the blade clamp, remove the dull blade, insert the new one, lock it with a flick of the lever and all's done in three seconds – exactly as was being advertised.

We might even suspect Stanley had missed a trick of its own invention, already having scored a huge success with the disposable blade for its utility knife: buy into that idea with the handle and you were committed to buying the blades *ad infinitum*. And clearly there was no issue around the wastefulness of disposable blades in the 1960s; few cared. But the fact of my PlaneMaster No.10 turning up in the 21st Century in virtually as-new condition (as seems typical), with only one of its original five blades showing signs of use, is a fair indication of history's verdict: thumbs down.

Perhaps it didn't help Parramore that, as a newcomer to planemaking, they had the chutzpah to price the PlaneMaster at 49/6d, a half-crown higher than the established and highly regarded Stanley No.4. I can't fault the build quality of the PlaneMaster and certainly it was more capable than its rival, effectively killing two birds with one stone by smoothing timber and cutting a decent square-



Dakin's patent application (above) was for a plane with replaceable blade

shouldered rebate, but was it actually a half-crown better tool? Stanley kept the wording of its own adverts short and sweet: 'Best-selling plane in the whole wide world! Pick one up...Then you'll know why.'

And now that I'm weighing the two planes in the hand, the PlaneMaster already has a mountain to climb: the 3lb 8½oz (1.6kg) Stanley hefts a full 1lb more than its challenger, and that bears weightily on how well these planes will fly across a rough timber surface, either having the momentum to handle the head winds of contrary fibres or brought up short when the going gets tough. The planes are about the same length overall, and both with a 2in (50mm) blade but the PlaneMaster is ½in (12mm) narrower because the mouth is open-ended for rabbeting.

The setting up of any plane is crucial to its success but with the PlaneMaster's

blade projection and lateral adjustment controlled by that single wheel, if the clamp isn't locked securely it's all too easy to pivot the thing left or right while attempting to screw it up or down. It all depends on good eye and hand co-ordination while sighting along the sole and twiddling, but I guess practice will eventually make perfect. If you've rabbeting in mind, then it's a quick and easy operation to attach the rebate gauge which locates beside the mouth and is tightened by a screw from above, the fence also being locked to its guide bar by a screw.

Before rabbeting across the grain a shoulder line should be scribed with knife or cutting gauge as the PlaneMaster lacks a spur and will otherwise rip a ragged edge.

In emphasising the PlaneMaster's smoothing role I wonder if Parramore overlooked the fact of a blade designed for rabbeting, with sharp corners

and zero camber, being less than ideal for smoothing wide boards because it will leave abrupt steps in the surface. The finish when smoothing a face is much improved if a blade is prepared with corners first rounded on the side of an oilstone. Perhaps Parramore could have offered a smoothing blade subtly cambered for the purpose. But this isn't a problem when using just the middle of the blade when planing an edge.

Rabbeting all-rounder

Putting aside the PlaneMaster's technical innovations, the crux of the matter is how well the thing works – the quality of the planed surface. Parramore's claim was for a rabbeting all-rounder 'capable of rapid stock removal as well as smoothing down to the finest shaving'. And although it lacks the authority of the weightier Stanley No.4, let alone the bulkier jack plane (and its more coarsely cambered edge) inferred by that 'rapid stock removal', as a smoother the PlaneMaster's precision adjustment and surgically-sharp cutter do make a winning combination, leaving edges and faces of this salvaged oak with a silky finish.

Planing a 1in (25mm) rebate across the grain of ordinary flat-sawn 'whitewood spruce' from the DIY store was unlikely to show any plane in its best light, churning out typically fragmented shavings, but results were tidier when going with the grain of an old piece of mahogany.

I don't know how the PlaneMaster may have figured in Parramore's decision to close the doors on its Chapelton business, but the concept seems not to have gained traction, at least not until, guess who, Stanley launched its strikingly similar RB10 around 1980. The RB stands for 'replaceable blade', and although there are differences in its mechanism of adjustment, this somewhat plasticky tool could almost be our old 1960s friend reproduced by a 3D printer.

In the mid-1960s Paramo pitched its first effort at planemaking against Stanley's well-established No.4 smoother which cost 2/6d less



Rebating and Smoothing with the PlaneMaster

One of the failures of the Paramo PlaneMaster is that there is no camber to any of the replaceable blade options, and the corners are sharply perpendicular. This is fine for rebating but will leave tracks when trying to smooth a board. The plane doesn't have a spur, so you must scribe a shoulder with a cutting gauge (below). The significant point in M.R. Dakin's Parramore patent application was that the replaceable blade was gripped by a 'clamping member capable of rocking about the axis of a clamping pivot normal to the oblique face of the shoulder and of movement lengthwise of the shoulder with respect to the pivot'.



Scoring a shoulder line with a cutting gauge (above) before planing a cross-grain rabbet [rebate]. Typically fragmented shavings (below) from cutting a rabbet across the grain of spruce



Planing an edge (above) avoids using the sharp corners of a cutter intended for rabbeting [rebating]. The rebate gauge locates beside the mouth (below) and is secured by a knurled screw from above while a second screw locks the fence on its guide bar



Plane Shavings

Charles Mak, a woodworker and author, shows how wood waste can be fun and instructive

Plane shavings have everyday uses, for instance, as fire starters, animal bedding or a packing material, like bubble wrap (Pic.1). But they also have a few other valuable uses for woodworkers. For starters, the characteristics of shavings can give you insights about your plane. For example, the thickness of the shavings reveals the depth of cut. A full-width shaving of consistent thickness, on the other hand, suggests that the blade has no camber and is set parallel to the mouth (Pic.2). A spiral shaving probably comes from a skew cut, such as is seen from using a skew rebate plane or an iron edge trimming plane (Pic.3).

To deal with reverse or difficult grains, you probably will need to change the plane setting, the blade, or even the tool itself. But on the fly, you can simply jam a few shavings in the mouth – a trick shared by Paul Sellers – and plane away without worrying about tear-out (Pics.4&5).

Wood shavings can also serve as a burnishing tool. With a handful of shavings, woodturners can burnish their pieces on the lathe, and others can close up their work's pores prior to finishing.

Finally, before you put your plane away, leave a shaving or two from the last cut in the plane, just as fellow Canadian woodworker Chris Wong cleverly does. Next time, that little piece of shaving can save you time by telling you right away whether the plane is already set and ready to go for the next task at hand (Pic.6)!



1 Shavings can protect and add a nice touch to a gift



2 Broken shavings mean the board isn't flat (above). You can alter the shape of shavings by skewing a cut (right) or cupping the mouth to control how the shaving exits the plane



3



Press the shavings tight to the mouth (left) to control tear-out, and the trick works great for small sections of difficult grain (above). The last shaving is a record of the last blade setting



6

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WORKING WOOD BY HAND (M)

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How Good
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Days?





A backdrop at The Carpenters' Line exhibition at Japan House in London, which ends on 29th January 2023
Photo Jérémie Souteyrat, Japan House London