



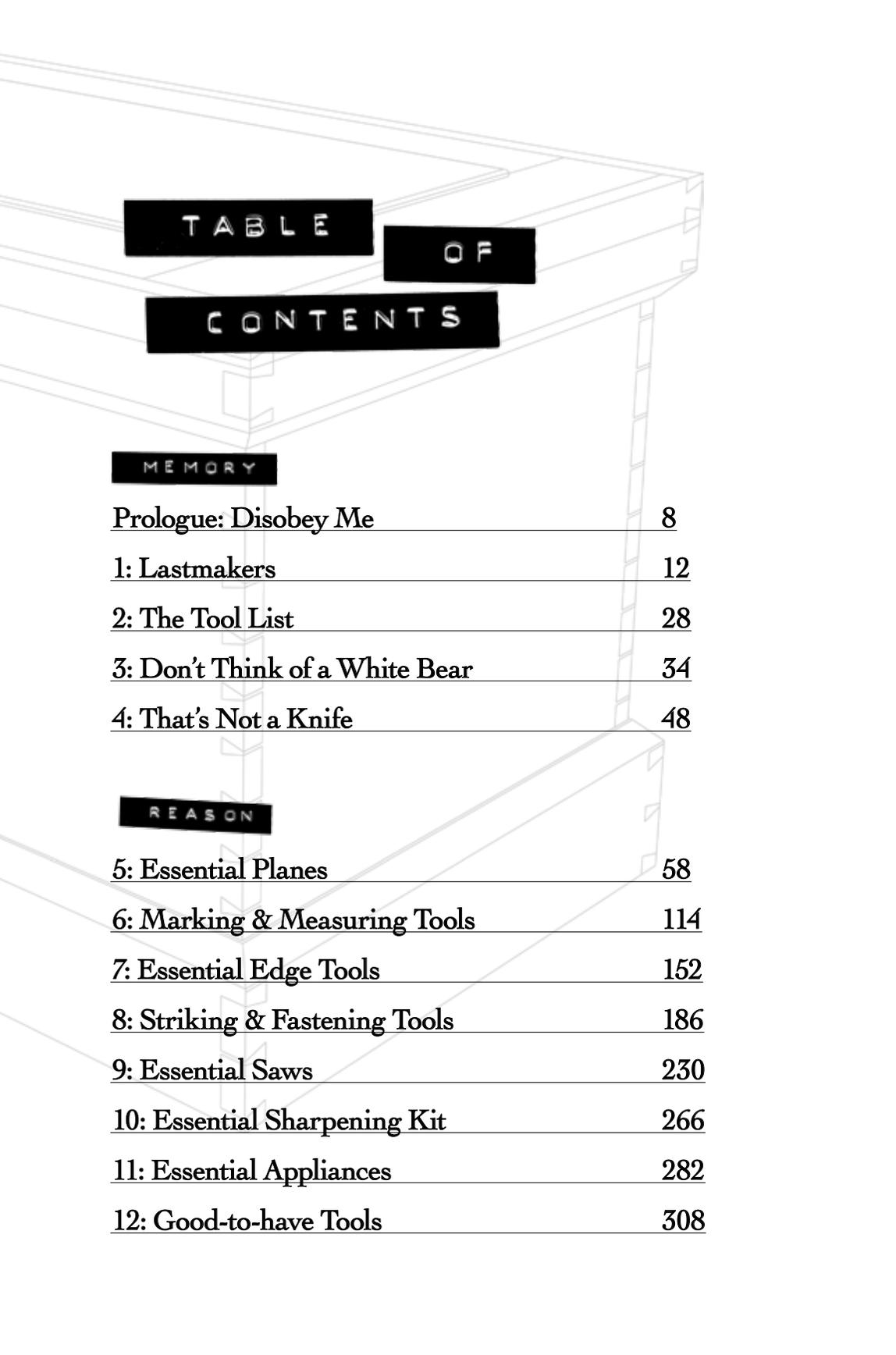
THE  
ANARCHIST'S  
TOOL CHEST

*by Christopher Schwarz*





*For Roy Underhill.  
Without him, my ideas about woodworking  
would never have taken root.*



TABLE

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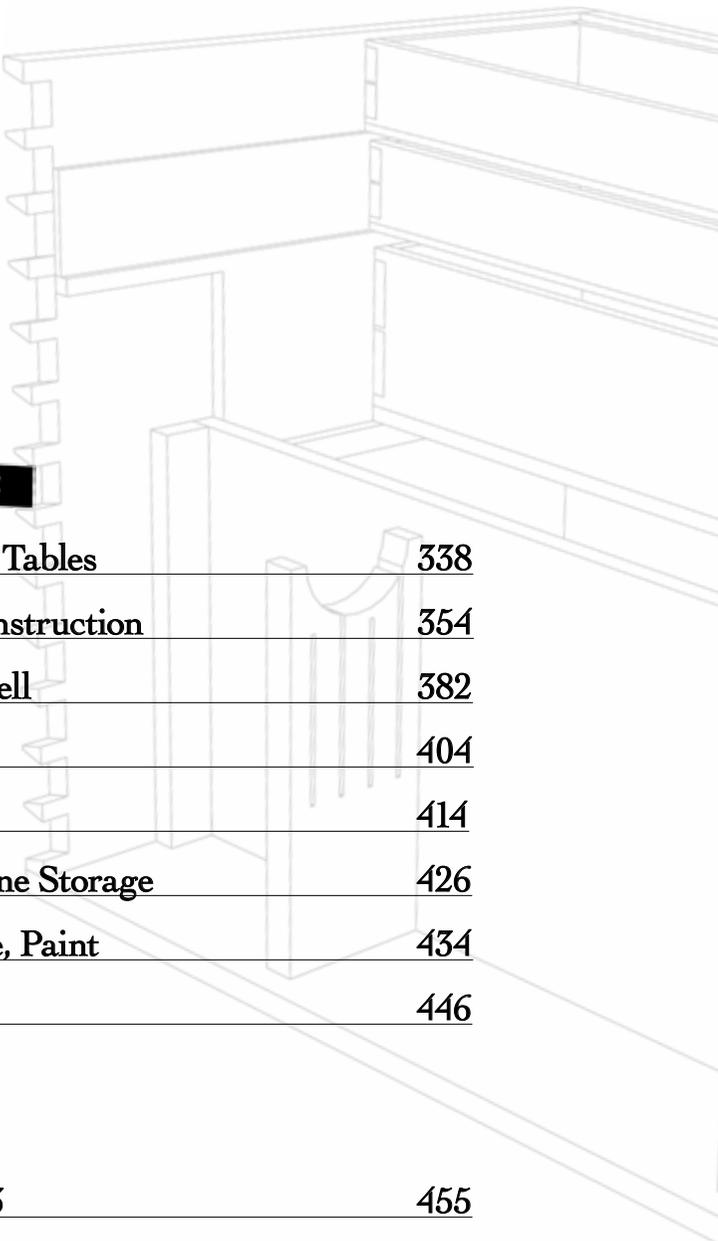
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DISOBEY

ME

When I am too exhausted, ill or busy to work in my shop, I will shuffle down the stairs to my 15' x 25' workshop and simply stand there for a few minutes with my hands on my tools.

To be sure, I thought I was a touch nuts because of this personality quirk. But after reading oral histories and diaries of craftsmen from the last 300 years, I found it's actually a common trait among artisans. I am drawn, married or perhaps addicted to the things that allow me to coax wood into new shapes. At the same time, my relationship with my tools is like a tumultuous combination of an Italian family drama, a bigamist's decision about whom to sleep with and a careful gardener.

My wife, Lucy, suspects that I form closer relationships with inanimate objects than with people. And she might be right. I can't remember the last time I raised my voice in anger or became emotional in dealing with friends and family. But I did grab a table leg once and beat the living hell out of a paper-folding machine that I had cleaned, lubricated and generally babied – and it still would only chew up my work.

On the other end of my stunted emotional spectrum, I have three tools that are so reliable that I have feelings for them that I should probably discuss with a therapist. These tools – a smoothing plane, a dovetail saw and a combination square – have become worn in the places where I grip them. They are always at arm's reach when I build something, and they are the tools I reach for to help me diagnose and fix problems when things go awry.

This book is the result of my experiences with tools for the last 30 years, from the time I acquired my first coping saw at age 11 until the day I decided to sell off many of the tools I'd amassed as an adult. It is the tale of my sometimes-rocky relationship with my tools and how these hand-held pieces of iron, steel, brass and electrical wire have changed the way I approach my work and my life.

And I hope that this story will help guide you in acquiring a set of tools that will stick with you for the rest of your life. And when you are too old to

wield them, I hope you'll still wander down to your shop in the evenings and lay your hands on their warm and worn wooden totes.

I chose the title of this book with care – it wasn't the decision of some cynical marketing department. Each of the three important words in the title "The Anarchist's Tool Chest" has a part in the story beyond this page. And when you put the words together, my hope is that the result is greater than the individual components.

The "anarchist" in the title is me. I dislike that word quite a bit, but it is the right one. I hope to make the case that most woodworkers I've met are "aesthetic anarchists" – people who work with their hands, own their tools and seek to live in a world where making something (anything) is the goal of each day.

Woodworkers generally labor alone, producing objects that are the result of just our tools, our minds and our hands. And the objects that we build are a slap in the face of the chipboard crap that is forced down our throats at every turn.

Though woodworking might seem a traditional, old-time skill, it is quite radical in this consumerist age where buying stuff is good and not buying stuff is considered fringe behavior.

The "tool" in the title is heart of the book. Tools allow us to shape the world around us. But buying the wrong tools is a monumental waste that could drain your bank account, slow your progress as a woodworker or even sour you on the craft. In the last 14 years, I've studied and used more tools than most people see in several lifetimes. You don't have to make the mistakes that I made.

And the "chest" is the logical result of the first two words. After realizing that I was an aesthetic anarchist and that I didn't need every tool in the store, I built a chest for the tools that I really needed (using the tools I really needed) and stocked it with this essential set. If the tool doesn't fit in the chest, then I probably should get rid of it.

In addition to fulfilling the promise of the three magic words in the book's title ("Klaatu, barada...") I also hope to convince you of one radical notion that has seeped into my life and I hope will infect yours, too:

The mere act of owning real tools and having the power to use them is a radical and rare idea that can help change the world around us and – if we are persistent – preserve the craft.

We'll begin this story with the purchase of my first tool. I still own it, but right now it is in a cardboard box filled with tools that I just might sell.



## 1 - LASTMAKERS

"(Tools and skills), in the dawn of the world were a man's first, best friends. They remain his best friends still in a world grown old and infinitely complex. By means of them he can unlock the doors to a life of creative activity that is full of interest. Without them he is mere shadow of the man he might be."

— Charles H. Hayward,  
*The Woodworker*, May 1954

**A**s a kid, my weekends consisted of two things: fishing in the lake near our house and riding my bike to Ace Hardware and Sears to ogle the tools.

I was, in short, obsessed with killing all aquatic and deciduous life in my neighborhood. And I would spend hours farting around in my dad's workshop – he forbade me from using his machinery – and devising new ways to catch fish that didn't involve expensive gear.

Eventually I grew tired of fishing. The lake was the preferred hangout of copperhead snakes and my hometown's sexual deviants. The hardware stores, on the other hand, were filled with all manner of things that I couldn't touch – tools that I coveted but couldn't afford.

Somehow one summer I scraped together enough money to buy a coping saw. I fretted (excuse the pun) over the decision because Ace Hardware and Sears both carried coping saws, and I can remember traversing the parking lot between the two stores as I made my choice. I settled on the Craftsman coping saw.

What a piece of crap. I regret that decision to this day.

The saw is still in my basement, and it is still a shining symbol of garbage. It won't tension anything except my nerves. The blade rotates sickeningly like a dislocated shoulder. But it does have a nicely finished hardwood handle and a chromed frame.

This was my first experience with what I like to call "tool-shaped objects" – things that look for all the world like tools but don't really do the job required of them. At the time I should have tried to fix the saw with lock washers, a welder or chewing gum. But instead I did something far more modern and stupid: I bought another coping saw.

It was the beginning of a pattern. I bought tools believing the claims on their packages. And when they didn't work I'd look for a different tool that would promise more. In other words: I tried to spend my way into good craftsmanship. I ended up spending hours of shop time messing around with

tools when I should have spent that time practicing basic skills.

I came out of this fog of brass and iron addiction with the help of a lot of dead guys, both well-known and nearly anonymous – Joseph Moxon, André Roubo, Randle Holme, Charles Hayward, Benjamin Seaton, Robert Simms. Their books, their inventories of their tools and their actual tool chests tossed a large rock into my brainpan several years ago, and I can still feel the ripples as I write this.

As a result, I have a lot fewer tools now than I did five years ago. But while I sold several piles of tools in 2010, I got to hold onto my hard-won knowledge about those tools, how tools are made and what makes them tick as I spent 14 years amassing what I like to call “an enormous working set of tools,” which is a nice way of saying “a crazy stupid collection.”

None of these events would have happened if I hadn't gone to a Lexington, Ky., grocery store one Sunday morning in 1996 on a whim. Back then I was your basic home woodworker. I was taking night classes at the University of Kentucky and using my grandfather's tools and machines to build furniture on the back porch of our 1899 Victorian home.

I still had my crappy Craftsman coping saw and its slightly less-crappy replacement from Ace. Most of my tools were at the phytoplankton end of the food chain. Chisels and a block plane from Walmart. A Black & Decker drill. And the rest of my hand-held power tools were from the 1960s and 1970s and were all chromed and weighed as much as a Christmas ham in the can.

But I didn't know any better, so I liked my tools and the redolence of their rotting insulation.

That Sunday morning was a little different than most. My wife and I had decided the night before to move to Northern Kentucky outside Cincinnati, Ohio, which is where she grew up. We had a 5-month-old girl who didn't like sleeping, and we had no family in town to help us resist the urge to smoke pistols.

So that morning I went to the grocery store and bought a copy of the *Cincinnati Enquirer* for the want ads. And lo and behold there were a couple ads in there that interested me: the director of publications for the Cincinnati Art Museum and the managing editor job at *Popular Woodworking* magazine.

I applied for both jobs the next morning. I got a nice rejection letter from the museum, but I got a phone call from F&W Publications, which owns *Popular Woodworking*. They interviewed me twice, gave me two aptitude tests and offered me an entry-level job.

The salary was a 30-percent pay cut. I immediately accepted it.

My first year there was an enormous education in how woodworking is really done. Until that point I had never seen a shaper, a spray booth, a hollow-chisel mortiser or an abrasive drum sander. I had never used a rip fence on a table saw that actually locked square (Mr. Bill Biesemeyer became my new best friend). I had never used a cordless drill that had a clutch and that didn't smoke or spark when it spun.

Almost every day, some new tool showed up in the mail for us to use. Let me say that again so you might actually believe me: Almost every day, some new tool showed up in the mail for us to use. It could be anything, from a cabinet saw to a package of plastic 18-gauge brad nails that worked in air tools.

And this flood of tools to our office continues to this day. For the most part, we never ask for these tools to be sent to us, and we sure don't get to keep them. But they do come, even sometimes if you say, "No thank you, tool person." Here's how ridiculous it can get: Once we wanted to test a new biscuit joiner from Porter-Cable. The public relations guy asked if we also wanted to test the company's new jigsaw. Nah, we replied. We just need the biscuit joiner.

A few days later a box showed up from Porter-Cable. It was the biscuit joiner. And they had included two (two!) jigsaws to fill out the box. The jigsaws were ballast.

To be sure, this massive flow of injection-molded plastic and steel is all about the tool companies looking for low-cost advertising. A short and positive review in a magazine for 200,000 woodworkers can do wonders for a tool's sales – so throwing a few tools around to the magazines is no big deal to a big tool company.

But before you think we were/are totally depraved, let me give you a little reassurance. We didn't take these tools home with us. In many cases we sent these tools back to the manufacturers when we were finished with them. If the manufacturer didn't want them back we would sell them to the employees of our parent company (at a discount) and send the money to the tool maker. Sometimes the manufacturer didn't want the money (it would be an accounting nightmare) so we put the money into our shop's fund that bought glue and wood we used to build stuff.

In journalistic terms, this wasn't the purest of ethical situations, but it was the best we could do with our limited resources. There was no way we could afford to buy 10 cabinet saws to test them – small magazines like ours have annual gross revenues that are similar to your neighborhood McDonald's. We're a small business.

I never liked this set-up. So when I started reviewing hand tools for the magazine, I vowed to purchase the tools outright. Our magazine's limited tool budget couldn't handle this, so I bought most of these tools with my own money, which is how I have somehow ended up with about a dozen marking knives. In some cases I couldn't personally afford to buy the tools (especially when it came to infill planes), so I'd borrow them from the makers or an owner who had bought one and then send them back when I was finished testing them.

The net result is that I started amassing more hand tools than I (or anyone) needed. I ended up with several complete sets of bench planes, vintage and new. I had drawers of chisels, combination squares, spokeshaves, block planes, dovetail saws and on and on.

At the same time, I was becoming deeply interested in the history of



**Compared to a scratch stock.** My tool obsession knew few limits. This Windsor beader is a bit of a crazy multi-tool compared to a shop-made scratch stock. But I really wanted to try one out.

toolmaking. So I ended up buying vintage tools to see how they worked or to compare them to their modern equivalents. I joined the tool-collecting groups and started attending meetings.

But it wasn't just hand tools. I also spent way more than necessary on power tools. My problem with power tools wasn't about amassing five drills or three miter saws all in one shop, though. The problem was my desire to upgrade to something better.

My Black & Decker drill gave up after drilling no more than 200 holes. The thing literally flamed out in my hands and melted from the inside. I needed a new drill. So I started looking at the cordless drills in our shop at the magazine and began using them at work on projects. I immediately fell in love with a Bosch 12-volt cordless drill. I had never held a power tool that felt so solid and precise. Everything about the drill reminded me of my grandfather's old Mercedes.

I bought a Bosch drill and instantly became more picky about my power tools. I took a second look at my Craftsman table saw from the 1970s. It had one of those infamous Jet-lock fences that never locks parallel to the blade. Every rip cut involved three measurements of the distance from the sawblade to the rip fence, then tapping the fence with a dead-blow mallet.

So once I used a Powermatic 66 5-horsepower three-phase cabinet saw with a sliding crosscut fence, I was hosed.

I had a tiny personal workshop at home and decided that I needed to find a small saw with a great fence. The solution seemed to be a DeWalt job-site saw with a rack-and-pinion fence. It had a better fence than my Craftsman, but this tool had a universal motor – like the loud screamers on routers. It lacked in the guts department.

I replaced it with a Delta contractor saw. This was a step up, and I was happy with that saw for many years. But once you use a cabinet saw every day at work, they are hard to resist. I ended up buying a Delta Unisaw.

This upgrade path happened over and over again. I've had three surface planers, two jointers, three miter saws, more than five drills, four band saws, four sanders and seven routers (at least). If you do the math and you know how quickly power tools depreciate in value, you can see how this was an expensive upgrade path that drained my bank account but helped the tool companies.

Then there were the jigs. I've owned more slot miter gauges for my table saws than I can remember. Plus dovetail jigs, at least five things named "Rout-R-Something" and another six called the "Something Something 2000." They clogged up the shelves of my basement shop. I built a bigger shop, and those shelves got bloated, too.

So where is rock bottom in this world? For me it was one day when I considered purchasing some winding sticks from Highland Hardware that were made from a solid-surface material and were accurate to .001" or some such. Somehow, I resisted buying them.

### *The Good Books*

The funny thing is that it was my mad obsession with acquiring woodworking stuff that helped me find a balanced approach to the craft. You see, I became as obsessed with acquiring woodworking books as I was with the tools. I've always been a voracious reader, so consuming books on woodworking and tools was natural. (And add to that the fact that I was freelancing at the time as a contributing editor for the WoodWorkers' Book Club newsletter. That job was a five-year-long force-fed diet of woodworking writing.)

Read enough modern woodworking books, and you might just want to gouge out your eyes with a melon baller. They are all so similar and shallow and filled with idiosyncratic information. I can't tell you how many times I read the following phrase: "This might not be the right way to do this, but it works for me."

Something inside my head made me wonder about that "right way" the author rejected.

It just so happened that at about that same time I had

a short phone conversation with Graham Blackburn, one of my woodworking heroes. I had a few of Blackburn's books from the 1970s, and I knew he had a command of woodworking history. So I interviewed him about the origin of the word "jack" in "jack plane" for a short piece I was writing for the magazine.

We then started talking about saws.



During the conversation, Blackburn said I could find the answer to one of my questions in the book “Grimshaw on Saws.”

Huh? I replied.

I’ll never forget what he said next: “You don’t have a copy of Grimshaw, and you’re an editor at a woodworking magazine? Hmmm.”

I was ashamed. So ashamed that I went down to Cincinnati’s public library that weekend to check out Robert Grimshaw’s 1882 treatise on saws. It was sitting on the shelf next to a bunch of other old woodworking books I’d never heard of. I wondered which of those books were also “required reading” in Blackburn’s world. I checked out as many of those cloth-bound books as the library would let me. I went home. I started reading, and I haven’t stopped.

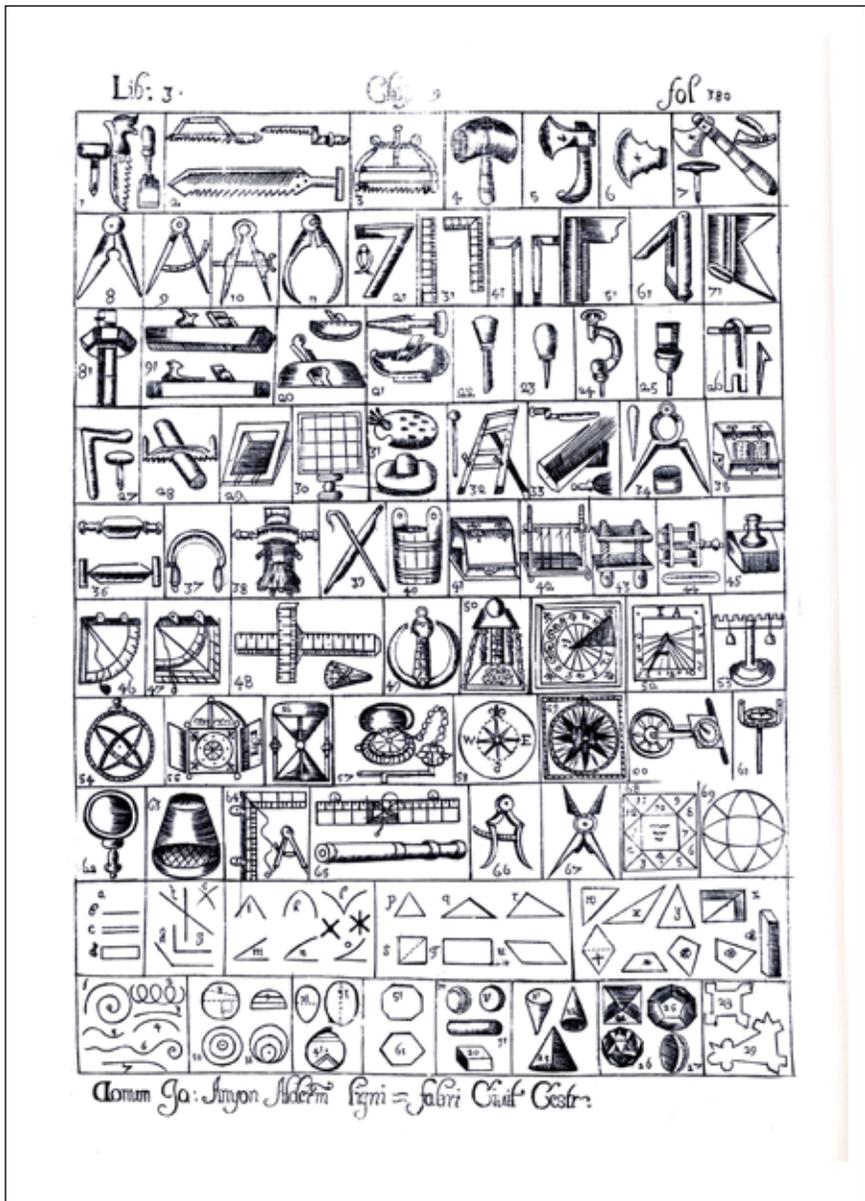
The things I learned from the old books were different than what I expected to learn. I actually expected the shop practices to be different – you know, they had different ways of cutting a mortise, a tenon and a dovetail. But really, not much has changed in the way that steel (usually) defeats wood.

While there are a wide variety of ways to perform every standard operation, the pre-Industrial craftsman didn’t seem to have secret tricks as much as he had lots of opportunities to practice and become swift.

Instead, what surprised me was the small set of tools that were prescribed for a person who wanted to become a joiner or a cabinetmaker.

Joseph Moxon, the earliest English chronicler of woodworking, describes 44 kinds of tools necessary for joinery in “Mechanick Exercises” (1678). For some of these tools, you’d need several in different sizes (such as chisels), but for many of the tools that he described, a joiner would need only one (a workbench, axe, fore plane etc.).

Randle Holme’s “Academie of Armory” (Book III, 1688) has approximately 46 different joinery tools explained in his encyclopedia. An exact number is hard to pin down because some of the tools are discussed twice



**Academy of Sanity.** Randle Holme's 1688 book outlined a small tool kit that could be used for building lots of furniture forms.

(for example, mallets, smoothing planes and hatchets) and some tools seem shared with the carpentry trade.

If we jump forward more than 150 years, not too much has changed. The list of tools required by the rural joiner in “The Joiner and Cabinet Maker” (1839) isn’t all that much different from the tool list described by Moxon and Holme. “The Joiner and Cabinet Maker” gives a significant description to about 40 tools used by a young apprentice during his climb to journeyman.

As the Industrial Revolution begins to crank out mass-manufactured tools, the basic list of tools recommended for basic joinery starts to expand. There are more kinds of boring bits available, new kinds of metallic planes (such as blocks, shoulders and routers), plus some new saws, including the coping saw.

By the 20th century, the basic list of tools for joiners stands at about 63, according to books by Charles Hayward, the traditionally trained dean of workshop writers. Still, when I looked at Hayward’s list it seemed rather paltry compared to what was in my shop. (See this book’s appendix for a comparison of these tool lists.)

At first, I attributed these short lists of essential tools to three things:

- Everything in the pre-Industrial age would have been more expensive because it was made by hand.
- The general level of economic prosperity was lower.
- Technological innovation had yet to produce the fantastic new tools shown in the modern catalogs.

But all that was just denial kicking in.

Judging from the descriptions of the nature of work before mass production ruled the earth, there were two things going on that were related, but that are easy for moderns to miss. One, artisans didn’t require as many tools because the basic skill level was higher. Descriptions of hand work support

this fully. (Don't believe me? Read Moxon's description of making an eight-sided frame in section 19. Try to build one yourself that way – I did – then let's chat. If that doesn't convince you, then read André Roubo's descriptions of Boulle work – then go back to making woven stretchy potholders.)

Also, the structure of the economy in the 17th, 18th and early 19th centuries was different – it was still basically a pre-Capitalist culture. Large portions of the population were self-employed. Modern consumerism – for better or for worse – had yet to take hold.

To be sure, there were early craftsmen with huge tool sets. There are always going to be a few tool whores in the guild. (I'm looking at you, Duncan Phyfe.) But tool inventories and other published accounts indicate that the pre-Industrial woodworker could use fewer tools to make furniture that was equal to or better than what we make today.

But here's the other thing that's important: Their tools were different. To the uneducated eye, the tools of the 17th and



18th centuries look crude. But have you ever examined an 18th-century moulding plane that wasn't dogmeat? I have. They are refined to a level that exceeds many modern tools.

Everything extraneous has been taken away. Everything necessary is right where you need it and is easy to manipulate.

I have a few early tools, including one particular strapped hammer for the upholstery trade, and I simply cannot imagine how any aspect of the

tool could be improved. It is utter simplicity, yet it has a graphic beauty that surpasses everything I've seen from the Victorians.

After reading enough accounts of early tool sets, it began to sink in that I didn't need as many tools to build the furniture on my long to-do list. But then I found out that you can't buy a chili dog without the bun.

Once the idea of a smaller tool set took hold in my brain, the logic and beauty of its surrounding pre-Industrial economy became as beautiful as my early strapped hammer.

### *Anarchy from a Woodworker's Perspective*

I hesitated to use the word "anarchy" in the title of this book because it means so many bad things to so many good people. In my high school, the "anarchists" wore "Bad Brains" leather jackets, black make-up (that was the boys) and had questionable hygiene.

They weren't anarchists. They called themselves anarchists, but they knew as much about anarchism as they did about flossing.

Anarchy is the precise and correct word for my situation. And if you'll bear with me, I think you'll understand why a boring guy from the suburbs who likes blue jeans and button-down shirts is a quiet anarchist.

For me, it's quickest to explain what anarchy isn't: It's not about violence, the overthrow of governments, the dismantling of corporations or even the smoking of a mild hallucinogen made from boiling banana peels (actually, I tried this. I don't recommend it). Instead, anarchism is the realization that all large institutions – governments, corporations, churches – have divided up the tasks we do in our jobs to the point where these institutions do wasteful, dehumanizing and stupid things.

Eunice Minette Schuster states in the book "Native American Anarchism" that American aesthetic anarchism is "the isolation of the individual – his right to his own tools, his mind, his body, and to the products of his labor."

It's a desire to work for yourself and to run in social and economic circles made up of other individual artisans.

Hey, that's me. Heck, I have to believe that Schuster's description applies to most woodworkers I know. We generally labor alone, producing objects that are the result of just our tools, our minds and our hands. These objects are a slap in the face of the cheap, mass-manufactured termite-diarrhea furniture in the discount stores. And we're proud of the fact that our furniture is better than the stuff force-fed to the masses.

Though woodworking might seem a traditional, old-time skill, it is rare and radical stuff in this age.

So when all these ideas came into focus in my head, I realized

that I wanted to build furniture using fewer tools that were of good quality. I wanted to build things that couldn't be bought in a store. I wanted to build things requiring more skill than wallet. And I didn't want to support the system that encourages endless consumption.

All these utopian urges also made me realize that my shop was a miserable place to do all these things, especially compared to the shops drawn in the early books such as Roubo's, André Félebien's "Des Principes de L'Architecture" and Denis Diderot's "Encyclopédie" (and those shops were all probably sweatshops).



My shop is in my basement. Its concrete floor torqued my spine after a few hours of trodding upon it. Its three cinderblock walls would depress Aleksandr Solzhenitsyn. And the fourth wall was open studs, wires, insulation and vents.

So one night I hatched a plan that would pull together all the threads that had been running loose in my head. I would make do with fewer tools. I would make everything our family needs. And I would make my shop as nice as the rest of the house.

Here is my seven-step plan.

- Make a list of the basic tools and machines that I need to build furniture. Base this list on my research into the historical record and my 17 years of practical experience.
- Sell off every damn tool and jig I don't need that has been cluttering my shop.
- Use that money to turn my dungeon of a workshop into a comfortable and inspiring place.
- Build a tool chest that is based on historical forms (a-ha! The third part of this book's title). A tool chest was of critical importance to the pre-Industrial artisan.
- Fill the chest with the tools on my list and forsake any tool that won't fit into the chest.
- Write a book about the experience.
- Build stuff until I croak.

Though these are selfish goals, I hope that my pitiful personal example can help you make the right decisions when getting started in the craft. I hope that you will consider my list a starting place for your personal tool kit. With the following tools you can build a lot of stuff, and my recommenda-

tion is to start with this list, then stop buying tools and do something crazy.

Build stuff. Build a lot of stuff.

That experience will point out what (if any) other tools you need to buy. You might just surprise yourself and find that you are perfectly content with this workable tool set – like I was before I got sucked into my job at *Popular Woodworking* magazine.

But even if that doesn't happen, perhaps this list will help you spend your money wisely so that you have plenty of cash left over to buy nice wood and well-made hardware.

Let's begin by making a list of the tools you really need.