Thinking Beyond the Hand

An exploration of mind, tools and making

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Abstract

This thesis probes the interconnections between humans and material culture. Drawing from the areas of anthropology and philosophy, it searches for reasons to *make* in a complicated world over-saturated with stuff. With a process of practice-led research and a critical framework of thinking through making, this research investigates the interactions which occur between mind, body and materials when making an object from beginning to end, including the tools. Through working with green wood in a long-winded and low-tech way, I engage in a process that makes no sense to the economic systems we live within. This approach questions whether making can function as a way of living in the world that generates and sustains hope and provides a point of relation with other beings. The point of this project is not the finished objects or the acquisition of skills. Although these have a worth of their own, the significance is in the combining of the conceptual and the practical to bring new understandings to the urgency of making for the human condition

Keywords

green wood, materiality, low-tech tools, making and unmaking, philosophy, anthropology, thinking through making, sustainment, sentience, the human condition

Land Acknowledgement

I would like to acknowledge that Tkaronto (Toronto) is on the traditional lands of the Mississaugas of the Credit, the Anishinaabe, the Haudenosaunee, the Chippewa, the Huron-Wendat, and many other Indigenous Peoples. I would also like to acknowledge the colonial harm and violence, historical and ongoing, which affects Indigenous Peoples across Turtle Island.

As a settler-Canadian I live, work, study, and have raised a family on this land.

I recognize the invaluable work I have witnessed at OCAD University by the Indigenous community of students, faculty and visitors on campus. You have shared artmaking, stories, rituals, teachings, traditional knowledge – and occasional scoldings - in our many classes together. I will never forget the impact of these experiences and I continue to learn from them. I thank you for your goodwill, generosity and trust.

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To Alexandra and Cate, thank you both for always cheering me on and putting up with an empty fridge. I promise to return the favour.

Finally, I dedicate this work to Douglas, who turned my black and white life into colour.

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Prologue

When I look back, I realize my attitudes toward making started with my Dad. I find it strange to be saying that because Henry and I led very separate lives. We lived under one roof, but he did his thing and I did mine. We rarely met in the middle. I probably spoke only a couple of words with him until he became sick with cancer when I turned 30. Of all the things I can remember him making, a few stand out in my mind: the barbeque from a dustbin lid where he cooked up his beloved steaks on a Saturday night. The trailer he made from an old twin bed frame that he mounted on wheels and used to carry our camping gear. The dining space he reclaimed from the coal shed in the front of our house where we ate on weekends and holidays, and the VW camper van that had been used to death as a school bus. It was sold to him for parts, but he rebuilt it and drove the five of us, and my sister's boyfriend, to Poland and back in it when I was ten.

Henry was a manual labourer, a plumber, who worked for the local council fixing leaks and heating systems in council houses just like ours. He epitomized the edict of reuse and recycle more as a response to his time as boy scout-turned-soldier in World War II, than any environmental concerns back then. His hands were rough and calloused. He grumbled about his job, the mess and the grind, and lack of gratitude for his labours. Yet he never stopped making things. He toiled every evening and weekend and spent one vacation knocking all the fireplaces out of our house, chimney and all.

I witnessed him building our world, making decisions and making things that governed our everyday lives, impacted where and how we ate, slept, cooked and watched tv. It was second nature to him to make his own stuff and make do. Although he died a long time ago, I still feel sad for the loss of all the skills and knowledge that were stored in his body, embedded so deeply that they seemed to have an identity all of their own. At the same time, he always impressed upon me that I should never work with my hands, he thought none of this was "girl's work" and that I should become a doctor or a lawyer or at the very least an office worker. In so doing, he planted the seed for the dilemma I still seek to define.

He didn't approve of my decision to study design but as an avid maker of my own clothes it seemed an obvious choice to me. The irony is that Henry was right – my design brainwork paid much better than his physical labour. For all the material gains from those years spent designing, much was also lost. Unlike Henry, whose day job located him in his body, for me that connection was halted and as a result I felt adrift and disoriented. I struggled with the requirements of a desk job and there were many signs that my body was unhappy although I barely paid them any attention. I internalized the relational conundrum that the body is destined for more than to become a container for the thinking part of the brain. The ramifications of this time were huge. I feel it as if it were yesterday.

Introduction

The focus for my practice starts with a straightforward premise; what can I make from a piece of wood with tools I have made myself? I challenge the belief that I am reliant on consumerism and at the same time re-establish a commitment to my own labour. I investigate the relationship between thinking and making which can develop when making an object from beginning to end. With green wood and green woodworking techniques I follow the process of making; from gathering the materials, to making the tools, to learning how to maintain them and use them to make everyday objects. Before I began this enquiry, I would have called this low-tech way of working, and things like spoons and stools, 'simple,' even mundane. Now I realize within the context of this discussion there is no such thing. Everything is made from something and has been formed by influences or forces. Human hands and brains have been shaped by and with each other. The story of humans is, at its centre, a story of making.

Something I learnt early on is that making starts in the home. It was always a very personal thing. It wasn't about art for galleries. It wasn't craft either. It was about solving problems and being resourceful as a strategy for making our means go further. Today I realize the importance of this as a practice of taking action and developing personhood. In this way there is even an urgency to making things. What I also see is that at some point I lost faith in the value of working with my hands. I gradually found more and more reasons to give up on making until I had almost ground to a halt. This has felt like a crisis of being, as if something elemental has been lost and I have become unmoored in the process. Now I find myself wanting to trace back the roots of this reluctance and to question what is lost by not making.

This project is about a return, not to tradition but to what's possible and unpacking and rebuilding from what's left. This is not a treatise on going back to the past or making everything by hand. I think of green woodworking not as old or traditional technology but more as a counter-technology (Fry 137). By this I mean something which runs contrary to the idea of efficiency and progress, and that you can make yourself. In her book, *The Mushroom at The End of The World: On the Possibility of Life in Capitalist Ruins*, Anna

Lowenhaupt Tsing speaks about living in a time which is post-progress and therefore a fitting time to return to the material world for alternate ways of doing and being. She states that if we are, "agnostic about where we are going, we might look for what has been ignored because it never fit the time line of progress" (Tsing 21). I explore the meaning of making something in a long-winded way that makes no sense to the economic systems we live within. This significance of this project will not be the things I learn to make or the skills I may acquire, although these will have a value of their own. It will be the combining of the conceptual and the practical to arrive at new understandings.

Green Woodworking

There will be references to green woodworking throughout this paper as it underpins the practical work of the project. Here, I give a broad introduction to its history, its place within material culture, and the people responsible for keeping it alive and active in the UK. As the paper progresses, I speak more about how I came across green woodworking and why it matters to my work. I will go on to describe the processes of putting together a greenwood workshop, including building the tools and learning the skills to use them.

There is no definitive date to mark the beginning of green woodworking. As long as humans have been working with logs and branches, green woodworking has been a practice. Like most living beings, trees are full of water. In fact, they are effectively giant pumps transporting gallons of water from their roots to their leaves. In conventional woodworking this water, which remains long after the tree is felled, needs to be removed. Otherwise the slow, natural process of drying out makes the wood change shape – it shrinks, twists and splits. This is a nightmare for carpenters or makers who are trying to make durable, permanent, structures and objects. To artificially drive out the water, freshly cut boards are stacked in barn sized kilns where the moisture content of the wood is reduced to a level of dryness suitable for its end use. Every single piece of wood you see at a lumber yard or Home Depot has gone through this process – a staggering prospect. In direct contrast to this, the techniques of working with wood in a freshly felled "green" state land somewhere between forestry and carpentry. The moisture in the wood is your friend

rather than your enemy. You work *with* the wood, following the natural split lines along the fibres. There is little wastage, minimal tools are needed, and electrical power is not required. Everything can take place outdoors if you have a wood to work in.

This way of making allows for improvisation and learning through trial and error. If you mess up a particular part, it isn't a big deal to make another. Most aspects of this practice are reliant on the makers instinct and initiative and are independent of going to the store to buy materials. Each aspect is labour intensive – the body provides the power for all the processes. It is physical, repetitive work that engages the whole person. A maker must learn to work in accordance with the wood, or they will soon become frustrated and exhausted. A keen watchfulness and active sensory awareness at every stage is needed to properly engage and avoid strain. The processes of green woodwork can be summed up as measuring, sawing, cleaving and trimming, shaving, turning, drilling, gripping, hitting and sharpening (Abbott 206). All of these are possible with hand tools and human power. There are times when working this way can feel downright anarchic and it leaves you with no doubt that wood does, in fact, grow on trees.

Regarding the power source, working with green wood today is usually more of a hybrid experience than the one I have just described. Few makers will turn their backs on cordless drills for cutting tenons or grinding wheels for sharpening. It is a sliding scale of how much of a purist you want to be but there are a few hard lines which cannot be crossed. The first line applies to the hand tools. The tool kit for cutting and splitting the logs consists of a bow saw, axe, froe, and a wooden club made from a branch. It doesn't matter how roughly as long as it has some heft. For shaping the logs into rough blanks for chair legs and spindles, a draw knife and shaving horse are essential. The shaving horse functions as a vice to grip the wood while the drawknife is pulled back towards the body as it peels layers off the log. The drawknife can be used to work quickly and aggressively but it is also surprisingly controllable and sensitive when needed. When it is working well, it can feel like cutting into butter. For turning round sections of wood, a human powered lathe is required. Before speaking more about the lathe, it will first be necessary to spend some

time with the development of tools which, in turn, is interwoven with the history of domestication.

Domestic objects made from green wood were integral to the lives of the people of Britain for a thousand or so years in the period after the Romans left and before mass produced glazed pottery took over, so between c.400 BCE and c.1600 CE (R. Wood 5). Most early finds of wooden domestic objects are small sections from bowls. Reading the tool marks on these fragments clearly tells the story of their production and demonstrates the use of the same green woodworking tools and techniques as those used today. These bowls were not made from hollowed out logs but turned on human powered devices which spun the block of wood around, allowing the unwanted wood to be removed with forged metal tools such as hooks and gouges until the bowl shape was formed. These devices were reciprocal lathes, meaning the wood spins first in one direction and then the other, with the tools cutting only when the wood is turning towards you, otherwise they dig in and stop the lathe dead. In his book *The Wooden Bowl*, English green wood turner Robin Wood describes this simple lathe as being the very first machine tool, with its origins in the Bronze Age (9). Early reciprocal lathes used different methods for spinning the wood. The earliest pictorial evidence of a reciprocal lathe in use is a carving from Egypt from c.320BCE. This shows two people sitting on the ground with a lathe set-up between them. One holds the turning tool while the other pulls on a strap to turn the wood (R. Wood 11). Another early technique was to draw a stick across the wood like a violin bow. These are still used today in Morocco, Egypt and many Middle Eastern countries (R. Wood 11-14).

A reciprocal lathe that had its heyday in medieval Europe as a bowlturning lathe, was the pole lathe (R. Wood 16). The turner still provides the power but this time it is from standing on one leg and working a treadle with the other. A piece of string attached to the treadle wraps around the work and then extends to the end of a springy pole well above head height. The pole is either attached to something above the lathe or dug into the ground to hold it fixed at its far end, and from here it moves up and down in synch with the treadle. In England, from c.1600 onwards, rather than producing bowls, the pole lathe became more widely used for furniture parts such as legs, stretchers and spindles for

chairs and stools. Itinerant turners set up their workshops all over England close to the source of suitable trees to supply local markets (R. Wood 16, Cotton 13). These were slab and stick chairs, where the seat is a solid piece of wood – usually elm – and the sticks are turned parts that are tenoned into the seat. Chairs and stools were made this way throughout the UK from the 1600's until the 1960's. This method would have died out completely if it were not for a handful of researchers, teachers and makers including Herbert Edlin, Bill D. Cotton, Phillip Clissett, Jennie Alexander, Mike Abbott and Gudrun Leitz who have worked to keep this practice alive and ensure the skills are passed on to future generations. It was through contact with this group of people that I came to learn about the pole lathe, and I went on to build one of my own as part of my graduate studies at OCAD University. This practice is now far from dying out. On the contrary, a search on social media will come up with hundreds of results.

Figure 1. Outdoor workshop in Clissett Wood, Herefordshire 2022. Shaving horse and assembly table in the foreground, pole lathes close to the trees.

Figure 2. Pole lathe in the basement of OCAD University. The uprights have yet to be bolted onto the A-frames. Oak, ash and SPF, bungy cord, nylon cord, leather. August 2022

Figure 3. Shaving horse shown here in a class exhibition at OCAD University. Douglas fir, maple, ash, cherry. On the ground: photographs, notes, schematics and cutting lists from the making process. April 15, 2022.

Research Questions

1. What is the meaning of 'mind' in a practice of thinking through making and what does this mean for the potential of the hand as a means for linking the practical with the theoretical?

2. How can working with a traditional making process - which makes no sense to the economic systems we live within - connect to critical conversations about the urgency of making and humanness?

3. How does building tools and learning to use them contribute to new forms of understandings about how to live and work in an increasingly uncertain world?

Scope

This project has a defined scope as an exploratory process of practice-led research (Nimkulrat 2007). Explorations in materiality underpin this project and often act as a metaphor for the ideas. I am working to establish not just the tools and skills but also an embodied understanding of why this work matters. I ask, what needs to be made and why? What needs to be said and how? Why make anything at all if we are "at the end of the world" (Loveless 2019). I connect these questions to an investigation of the link between the mind and hand within a critical framework of thinking through making. I also question where my attitudes toward making came from and the influence these ideas have had. I am shaken by Sennett's statement in *The Craftsman* that "When the head and the hand are separated, the result is mental impairment" (52). What is the relation between humanness and making? Do we make the world or does the world make us? This is an undertaking of research, but it is also *about* research, and I include tools, sketches, journalling, notes and photographs as part of my thinking and making. I share these as works in progress rather than finished objects for display. I am including prototypes, failed attempts and

documentation of skill building to demonstrate that I am not approaching this work with the intention of becoming an expert in green woodworking but with the objective of understanding what it means to think beyond the hand.

Limitations

I have outlined four limitations to this project. First, I will not be emphasizing the historical aspects of green woodworking. Although there is a long history to the pole lathe this is not the focus of my project. This is not a conversation about how life was so much better "then." The conditions in which the lathe arose initially are not remotely like those of today and it goes without saying that I do not compare myself to those who were working with a pole lathe for a living. Scholar David Garland, in his 2014 article titled *What is a "history of the present"? On Foucault's genealogies and their critical preconditions* writes, "a danger of historical enquiry is in projecting today's values onto the past, known as "presentism" (367). Garland goes on to speak about Foucault's description of his own work as a "history of the present" which he describes further by saying, "I set out from a problem expressed in the terms current today and I try to work out its genealogy. Genealogy means that I begin my analysis from a question posed in the present" (qtd. in Garland 367). This research questions how the study and practice of green woodworking can shed light on an exploration of thinking through making within the context of today. I argue that this type of slow, repetitive, labour-intensive technology provides an excellent tool for probing broader questions.

Second, this project is not about sustainability. I am taking the view that climate change is already here and the urgency of taking steps to mitigate this is a given. Instead, I am thinking with Tony Fry, who in *Becoming Human by Design,* speaks about sustainment rather than sustainability. He does not speak about efforts to avert environmental crises, by sustainment he means developing ways to avoid the destruction of the human species. Fry sees this as the inevitable consequence if there are no changes to the systems that are currently in place (3). Having said all this, one of the key benefits of green woodworking is that it is inherently sustainable. Traditionally it would have made use of locally coppiced

wood which regenerates itself. In fact, green woodworking meets the standard introduced by William McDonough and Michael Braungart in their 2002 book *Cradle to Cradle: Remaking the Way We Make Things*. Within this sustainability framework products must return to the soil as biological nutrients at the end of their lifespan, use renewable energy in their production, and fit within the local ecosystem.

Third, I am not focussing on the cultural significance of green woodworking, particularly the chair making aspect of it known as bodging. The chair bodger had a fundamental place in local communities across England, especially Bedfordshire where the practice of bodging continued the longest. Because one maker was responsible for the chair from beginning to end the maker's preferences became part of defining the local aesthetic and reinforcing regional autonomy. These differences allow for accurate assessments as to where a chair was produced and who might have made it. For example, the ball leg turning detail of stick Windsor armchairs attributed to Lincolnshire is not found outside the North East Midlands region (Cotton 140). There has been exhaustive research into which makers worked in the different areas of the UK, notably by Bill D. Cotton whose PhD work, later published as a book titled *The English Regional Chair,* is focussed entirely on this subject. I had direct experience in 1994 when restoring a very broken-down stick and slab chair. I was a student of furniture restoration at the time and my tutors recommended that I visit Dr. Cotton to guide me in tracing the chair's provenance. Fortunately for me, Dr. Cotton agreed to meet. Based on the thickness of the seat, the leg shape and arm turnings, he was confident the chair was made in the workshop of John Shadford in Caistor, North Lincolnshire in the middle of the nineteenth century (Cotton 144). I was thrilled at finding this out as it gave me a sense of connection and respect for the work of the makers who had preceded me. That said, this aspect of the practice of green woodworking is not the focus of this document.

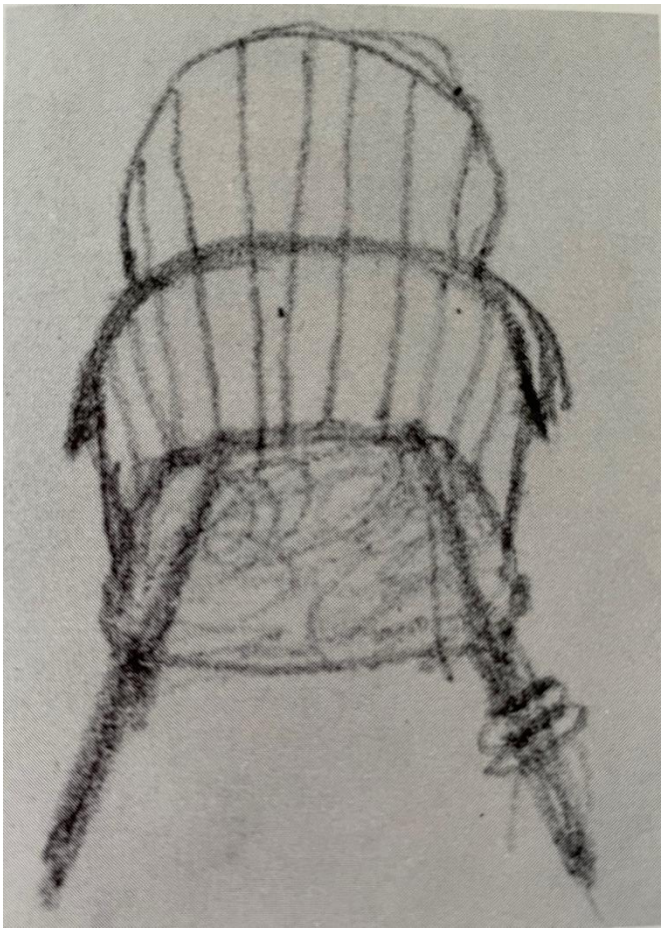
The last limitation is about craft, and this has been the most difficult to clarify and explain by far. I have three piles of research about this. The first addresses the conversation of how to define, even defend, craft. Among this pile are *Sloppy Craft: Postdisciplinarity and the Crafts,* edited by Cheasley Paterson and Surette, *Craft is Political* edited by D Wood, the

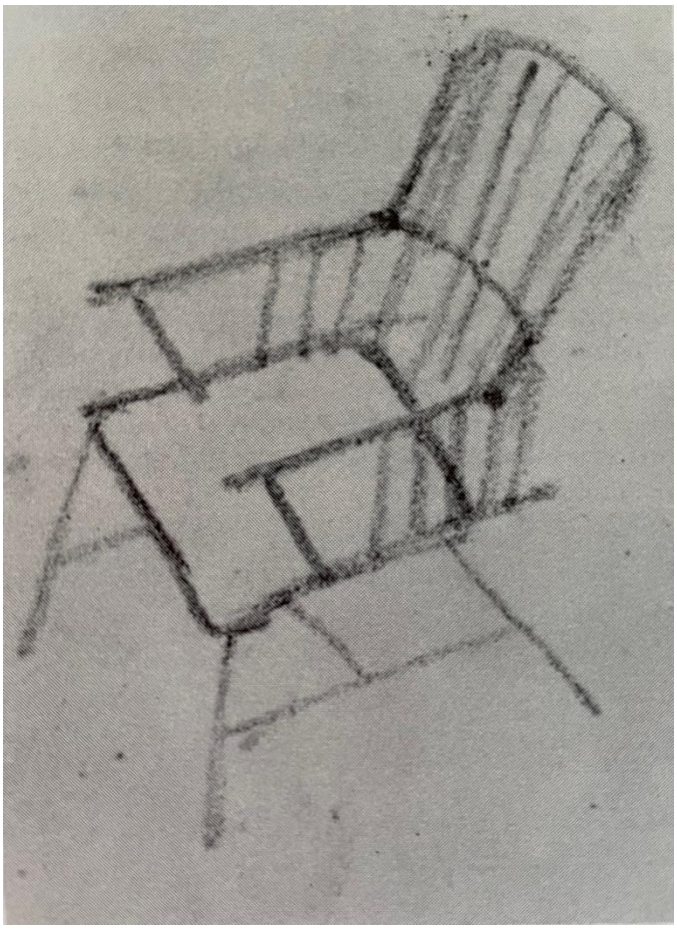
article *What is 'Neo-Craft' Work and Why it Matters* by Gandini and Gerosa, and the book *Amateur Craft: History and Theory* by Stephen Knott. I have also spent time with *The Craftsman* by Richard Sennett, an exhaustive study of craft, that starts from picking an argument with Hannah Arendt who states in *The Human Condition* that 'man' cannot think and make at the same time. Tim Ingold also speaks about difficulties with defining craft in his book *Making: Anthropology, Archaeology, Art and Architecture*. He traces the problems of defining craft back in time when he says that "History has drawn fault lines dividing practice and theory, techniques and expressions, craftsman and artist, maker and user: modern society suffers from this historical inheritance" (Ingold, *Making* 10). I am choosing to define green woodworking as a craft. I define craft not only as a skillset but also an attitude, an approach to life, a commitment, a philosophy even. I am leaving lots of leeway with this. What defines craft is always going to be an ongoing discussion. While it includes craft, this project is not *about* craft.

The second pile digs into craft research. I have spent time with articles such as *The time-space of craftsmanship* by Eriksson et al., and *Crafticulation as a method of knowledge creation* by Lahti and Fernström, which attempts to establish methods to determine how craft research should be carried out. There are formal institutes devoted to the study of craft research. Examples include Making Futures at the Arts University Plymouth in the UK, and The Craft Laboratory at the University of Gothenburg in Sweden. In the article *Craft is Ubiquitous* by Groth et al.*,* published in the craft journal *Craft Research*, the authors state that they aim to "extend the idea of what craft practice and research can be" (1). The academically heavy approaches spoken about in these papers are not appropriate for my project but have allowed me to recognize that I am moving between multiple roles. I am confident in referring to green woodworking as a craft throughout this paper, but I refer to myself as a maker and do not claim this to be a project of craft research.

The third pile of research focusses on discussions around craft criticism. I have spent the most time reading the work of Julie Hollenbach who is Assistant Professor of Craft History and Material Culture at NSCAD University. In her article, *Moving Beyond a*

Modern Craft: Thoughts on White Entitlement and Cultural Appropriation in Professional Craft in Canada, Hollenbach writes about being uncomfortable with contemporary and historical writing about craft. She argues that analyses which do not reference gender, race, economic status, location and political circumstances around the craft's production perpetuate the exclusionary notion of craft as a product of mastery or genius within a broader aspiration of euro-centric modernism (Hollenbach 2). She goes as far as saying that when reading about craft, and "the experiences and observations of something problematic are ignored," she feels subjected to gaslighting (Hollenbach 1). She also has a concern around appropriation and intellectual property theft where practitioners adopt techniques and traditions other than their own to "add to their toolbox" (Hollenbach 3). I can't argue with any of this. It all makes sense. What I will say is that I am white, English, and a settler in Tkaronto, and importing a British craft into Canada is rightly open to critique.





Figures 4-7. Stick hoop back Windsor chairs showing the similarities between those from the workshop of John Shadford, Caister, Lincolnshire and the chair I restored. This style of chair is particular to Lincolnshire. Clockwise: pencil drawings from the workshop note books of John Shadford, Caistor, (1843-81) (Cotton 137). High stick hoop back Windsor armchair restored in 1994. Ash with elm seat. High stick hoop back Windsor armchair. Attributed to Lincolnshire (1850-80) (Cotton 143).

Thesis Structure

In Chapter 1, I explore the critical framework of thinking through making. This introduces the idea that head and hand are not separate but part of a continuous process and speaks to a mind that is not located solely in the brain. This, in turn, calls for an expanded view of thinking and making as processes which situate us both in the world of our making and the making of the world. I explore these questions in relation to building tools which extend the capacity of what a body can do. I discuss aspects of philosophy and anthropology which intersect with ideas around making and the labour that goes into it. I consider the work of artists whose methods of thinking, making and working with tools expand theory into practice and help inform the way I navigate the making process.

In Chapter 2, I explain green woodworking as a methodology and why I have chosen it as the focus of my research. Traditional, low-tech, labour intensive and slow, this technique is an anomaly to the current pace of the world. I discuss how these apparent drawbacks can help in challenging the status quo and thinking critically about why make anything at all. I discuss how taking on a new skill set is part of the methodology, and how it can be generative to adopt a new set of tools. Revisiting traditional methods of making is a choice which values and respects the incremental tool developments within craft, and I consider the innovations of green woodworking from this perspective.

In Chapter 3, I look at the processes and results of the material making. I describe the experience of making the pole lathe and shaving horse, and what I learned from this process. I explain how I am worked on by these presences in a process of expanding my world view. Including notes from my journal, I give accounts of experiences with sharpening and caring for the hand tools. I speak about gathering materials and how this relates to ideas about ecological connections. I also discuss efforts at sourcing materials locally as part of the method of green woodworking. I explore ideas about materiality as another opening into knowing the world and understanding my work with wood.

In Chapter 4, I conclude by reflecting on what I have learned during the making and the research of this project. I explore the way thinking through making and green

woodworking intersect. I address the research questions and give the findings that have emerged from this work. I consider how this project connects with critical conversations that are taking place today around humanness and making. I consider how my thinking has changed in the course of this work regarding generalized anxieties about an increasingly uncertain future.

Chapter 1: Critical Framework

1.1 Airing First Thoughts

Building a pole lathe was a long shot. I had never built something that needed to move and 'do' things before. Once the lathe was ready to be assembled, I had little expectation of getting it to work. I was rattled when I started treadling and it spun into action, making sounds that gave me feedback about whether it liked the way it was being used or not. It was 'talking' to me, and I eyed it very suspiciously. What was I going to do with this coiled up spring that was confronting me with lots of questions? It sat awkwardly in the otherwise empty basement at the university. I visited it throughout the remainder of the semester, and we co-existed uneasily as I considered its role in my future work. A friend described it to me perfectly when she said that this strange looking machine had become a bone of contention.

In the early stages of this project, I had a conversation with a respected maker from the green woodworking world. I told him about my plan to bring the pole lathe into the university as a means not only for practice but also for research. He cautioned me that the university was no place for a pole lathe and makers in the craft world would be angry to hear about it being brought here. He argued that the two were incompatible – craft is simply craft and ought not be tampered with. This logic fascinated me although it would be a long time before I could articulate how it was helpful. At the time I was tending to agree with him, unsure of how this low-tech machine could sit outside of a woodland and alongside conceptual art. My friend is highly skilled and productive with no time for my problem of being a reluctant maker. For him there was a simple cure. Pick up a knife and whittle something. To which I say yes, but first I need to know – what does this reluctance and whittling *mean* and how are they linked?

Full disclosure here and drilling down further into this reluctance, and yes, anxiety, what he didn't know was that I still needed a way to process my experience as a commercial designer where ideas were seen as 'solutions' to problems we didn't know we had. What has become clear over time is that this kind of thinking has, in turn, brought us new overwhelming problems (Ingold, *Making* 62). Even then I had developed a growing

concern about how the few lines I drew on a page translated into thousands of garments made on the other side of the world in conditions I knew nothing about. Not to mention the ecological concerns which were simply seen as scaremongering back in the hyper-capitalistic 80's and 90's. What needs to be made, and why? Why put out more stuff? These and many more vague, dark thoughts lead to a kind of giving up which doesn't help anything. In his book *Shop Class as Soul Craft – an Enquiry into the value of Work*, Matthew B. Crawford speaks to the escalating nature of thinking about material culture and making. In describing his shift from professor of philosophy to proprietor of a motorcycle repair shop Crawford states that, "thinking about manual engagement seems to require nothing less than that we consider what a human being is" (63).

1.2 Anxiety is Widespread

As an approach to these existential questions around material culture and humanness I have turned to political philosophy, starting with Hannah Arendt. Regarding whether it is making that makes us human, in her book *The Human Condition*, Arendt argues that it is specifically the tendency to make things which last which makes us human. She wrote, "the future man…seems to be possessed by a rebellion against human existence as it has been given, a free gift from nowhere (secularly speaking), which he wishes to exchange, as it were, for something he has made himself" (Arendt 3). It is interesting that Arendt was talking about this in the 1960's against the backdrop of the nuclear bomb and space travel when here we are still stuck with the problem of making things, particularly technological advances, when we just don't know what the consequences will be, and the ecological balance is already in freefall. Arendt's prescient caution against making is that the products of work with our hands will outlast the processes it takes to make them. This is an important distinction. Interestingly, according to Arendt, this labouring to make things which are durable and permanent is what is human about it, not the fact that we are making things in the first place. I will return to this thought later in this section.

Arendt was writing in the 1950's and referring to a specific set of social and political conditions. Things would get better, right? Not necessarily. Moving forward to the 1980's, Elaine Scarry in *The Body in Pain: The Making and Unmaking of the World* argued that "people in the West, though deeply committed to material objects in their actions and institutions, often verbally disavow and discredit their own immersion in materialism" (243). It is not difficult to see that we have a dysfunctional relationship with materials when we consider the existence of things like throwaway textiles and single use plastics. Scarry goes on to say that Marx described the "collapse of making into unmaking" through his criticism of the injustices of early nineteenth century British industrialisation, the result of which "distorts the basic premises of materialism itself" (244). In fact, Scarry emphasizes that she delves into making in order to understand what unmaking is. For Arendt, Scarry, and Marx these questions are political. Scarry states that "It is part of the work of this book to suggest that achieving an understanding of political injustice may require that we first arrive at an understanding of making and unmaking" (279).

Interestingly and pertinent to today, this subject has moved from discussions within philosophy to the pragmatic field of design, something very close to my heart, and another huge topic. Design theorist Tony Fry's prognosis is dire. In his 2012, book *Becoming Human by Design,* Fry describes with urgency the threat to our existence that our current lives have become. He states that, "In the darkness of our own anthropocentric vision, we are unable to see that the more excessive our immersion in a 'world of goods,' the more fated we are to have less" (Fry 136). The irony of the world-within-the-world that is continually being made is that it is taking time away from the future of the people for whom it is being constructed. If we exist in a world of materiality then why do we seem wired to pursue forms? Is this the result of the conditioning of a capitalist way of life which revolves around output and commodification? Tony Fry argues that it is the result of an adaptation and is not a natural state. He writes that we are not born "as the undeveloped form of what we will become – we are not as dogs, horses, lions, kangaroos and so on" but that we are shaped by the worlds of our own making which dominate our animality, conceal and appropriate it (Fry 43). He also says we are unaware of this process in that "we see ourselves as a self-made

production, whereas we are more of an ontologically created product of the world of our own formation" (Fry 79). The catastrophe is that all of this has taken and is taking place without an idea of where it could all end up.

Fry goes on with his apocalyptic vision of the future. He states that "human nature was not given to the human but was a project of self-construction, but without design, a guiding hand or mind" (Fry 73). He goes on to urge the importance of understanding that humans are no longer shaped by zoologic evolution but are now deciding our own futures in a way which has broken the "absolute determinism of the biological chain of being" which got us to this point (Fry 73). This is why he says the urgency now is of sustainment of the species rather than sustainability (Fry 3). To be clear here, Fry is speaking about possible extinction of the human species unless action is taken to remediate the course we are on. He argues that what is needed is a way to think and act as beings related to the world around us and to find ways to live "otherwise" (Fry 137). What could this mean? Tim Ingold also seems to speak to this when he asks for a new type of thinking with loose ends, like a knot with threads pulling out in different directions, not joined-up, problem-solving thinking which leaves no space for "life and imagination" (*Making* 132). It is this "otherwise" that I am searching for in this project. What to think? What to do? There is angst everywhere.

1.3 Who can say what Making is?

In her book, *The Body in Pain: The Making and Unmaking of the World*, Elaine Scarry describes a huge vision of material culture and provides the best explanation I have found of why we make things. Scarry sees making and material culture as the thing which keeps us from the type of isolation which comes from living in physical pain, where the experience cannot be described or shared, which she describes as the worst thing that can befall a human. Making, on the other hand, extends the interior world outward and provides a "shareability of sentience" (Scarry 326). Scarry's idea of sentience refers to the aspect of objects which 'knows' what they are supposed to do – an iron which knows how to smooth wrinkles in cloth and a coat which knows how to keep us warm (247). She sees making as a process of projection and reciprocation which occurs between the maker and the object.

For Scarry, the made object in turn remakes the maker: as someone who is now seated (stool), all-seeing (telescope), immune (vaccine) (307). Initially, I rejected this idea of sentience as a quality I could bestow on an object as far-fetched. However, reflecting on this my understanding has shifted, the turning point being when Scarry points out that gods are the ultimate made things, the "Primary Artifact" (244). As super-objects they are now so complex and far-removed that we forget they were invented by humans in the first place (Scarry 241). It seems I was stuck in the thinking of my lapsed early Roman Catholic schooling where sentience was a godly quality. Scarry is expanding my mind.

Scarry sees the making and the use of an artifact as essentially bound together. She states, "the first has no meaning without the second" (Scarry 307). This relates to my preference for everyday objects which become entwined in our lives through regular use, such as a spoon or stool, and in particular the way these objects work for us and reliably do what we need them to do. In fact, I aspire to make objects like these rather than artifacts for a gallery. Scarry however, sees no difference, they both act on the recipient equally in her expanded view of how maker and things interact. She states, "Like the coat maker, the poet is not working to make the artifact (which is just the midpoint in the total action), but to remake human sentience; by means of the poem, he or she enters into and in some way alters the alive percipience of the other persons" (Scarry 307). If we are not sharing sentience, then we are not alive to the world.

Scarry ends her incredibly exhaustive study of making by stating, "The collective effort to understand making, already very old, will always be ongoing. Like the work of making it keeps itself going" (325). In this book, Scarry has challenged and blown-up issues ranging from scripture to physical pain to war to needlework and yet, after all this, she can conclude that when it comes to understanding humans and making, it is too soon to tell. Far from feeling short-changed I have a huge sense of relief from this ending point. What can come from wading through the complexities of the world if not an attitude of humility? From this I come to my own "conclusion" that the work is always to find better questions. I am positive my project would have faltered without the huge scope of ideas brought by

Scarry and in all likelihood, the pole lathe would have languished in the basement of OCAD University indefinitely.

1.4 Thinking with Objects

If Arendt, Fry, and Scarry have helped me think through the anxieties of making, it was Sherry Turkle's idea of the evocative object which helped me define my relationship with it. In her introduction to *Evocative Objects: Things We Think With,* Turkle refers to objects as active life presences with multiple roles and this seems to be particularly apt when thinking of tools. She writes, "We find it familiar to consider objects as useful or aesthetic, as necessities or vain indulgencies. We are on less familiar ground when we consider objects as companions to our emotional lives or as provocations to thought" (Turkle 5). Turkle also speaks to the possibility of liveliness between mind and things when she states that, "Objects help us make our minds, reaching out to us to form active partnerships" (308). With this idea in mind, I became less attached to the outcome of what I could make with the tools and more engaged with the processes of thinking through making. Susan Leigh Starr also speaks to this approach when she writes about Boundary Objects which exist both materially and virtually as spaces to allow dialogue about topics beyond their use when she says, "Boundary Objects are objects which are both plastic enough…yet robust enough to maintain a common identity across sites" (Star and Griesemer 393). When I realized the lathe was something to think *with* rather than *about*, the project picked up steam.

My instinct was to avoid the oversimplification or obvious route of making a tool, making things with it, and seeing that as the resolution of the project. Instead, I wanted to consider the use of tools more broadly as a universal human experience that underpins the development of material culture. I was drawn to the idea of arresting the project in a state of suspension, in alignment with Glen Adamson who says in *Thinking Through Craft*, "the challenge is always to see craft not as a subject for celebration or self-congratulation, nor as a disqualification for serious artistic enterprise, but rather as a problem to be thought through again and again" (168). Adamson's idea of "thinking through" was to become

central to the critical aspects of this project, and it was Tim Ingold's concept of thinking through making which brought all the elements together.

1.5 Thinking Through Making

It was the book *Making: Anthropology, Archaeology, Art and Architecture* by anthropologist Tim Ingold that first introduced me to the critical approach of thinking through making. This provides a thinking toolkit which points to exploring questions through mind, body, materials and objects to reach beyond an intellectual type of knowing towards an embodied knowledge that can hopefully inform me long after this project is over. Thinking through making sounds simple and it seems obvious what thinking through making would be about – I know what thinking is and what making is, right? But things get complicated by putting forward the idea that making and thinking are not separate practices, rather they are a continuous process, and this challenges the question of where 'mind' is located (Ingold, *Making* 97). In his book *In Praise of Hands*, Henri Focillon speaks about the necessity for both mind and hand in partnership when he says, "No matter the receptive or inventive power of the mind, without the input of the hand, the results are only a chaotic interior" (86). In *Parmenides* Heidegger states, "Man does not 'have' hands, but the hand holds the essence of man, because the world as the essential realm of the hand is the ground of the essence of man" (80). These assertions are exciting because they position the hand as an extension of the mind, a physical and material connection between a person and the world. In a direct, literal association to my preference for wood I draw a connection with whittling. Whittling is a hands-on method of shaping wood with a very sharp, short-bladed knife. I don't know if Heidegger was a whittler, but we do know that he did most of his writing in a small cabin surrounded by trees in the Black Forest Mountains of Southern Germany (Sharr 2017).

Tim Ingold states that the creativity of thinking through making lies in improvisation rather than innovation, as a live, active interaction between imagination (mind), materials and the imagination on the sensory awareness ("Thinking Through Making" 00.06.05-00.06.45). This he says, *is* thinking through making. I relate this to my practice of making

multiple versions of a form such as the turned cylinder, or carved spoon. This helps me understand the difference between this exploratory kind of material output and conceptual one-offs. Ingold puts it this way, “Creativity lies in the improvisatory nature of the processes rather than in the novelty of more or less ephemeral products” (“Thinking Through Making” 00.06.48-00.06.50). Ingold’s focus is also on the correspondence between forces and materials rather than forms and matter. He says that Paul Klee identified the key relation to thinking through making when he stated that “Form is the end, death. Form-giving is movement, action. Form-giving is life” (Klee 269). Ingold also references Deleuze and Guattari who, in *A Thousand Plateaux,* stated that “At any rate, it is a question of surrendering to the wood, then following where it leads by connecting operations to a materiality, instead of imposing a form upon matter” (Lange-Berndt 39).

In his book *How Things Shape the Mind*, cognitive archaeologist Lambros Malafouris writes about the effects of material culture on human cognition. He asks many questions throughout this book, many of which seem more like brainteasers: “How do things shape the mind? Where does the mind stop and the rest of the world begin?” (Malafouris 2). “Where do we look for the mind?” (Malafouris 4). “How is human thought built into and executed through things?” (Malafouris 9). Malafouris does not align himself with mainstream philosophy and cognitive science which, he says, “appear to be in agreement about where we should be looking for the mind’s stuff: in the head” (2). This he calls a “neurocentric view of the world” (Malafouris 2). His principal argument is that intelligence “spreads out” from the mind and beyond the skin and manifests itself in the material world (Malafouris 3). Malafouris claims that a brain scan is not as effective at reading the activity of the mind as a made thing can be. We believe it is because of the conditioned way we interpret what counts as thinking (Malafouris 3). Malafouris uses the example of a blind man and a stick and asks “where does the man end and the stick begin?” (5). This begins to echo Scarry’s idea of projecting sentience into the material world. Malafouris describes thinking as “a property of hybrid assemblage of brains, bodies and things” (15). Philosopher Elizabeth Grosz expresses a comparable view when she says, “mind is not a separate substance than matter, but the always accompaniment of any material product” (Yousoff,

"On Ontogenesis"). These ideas relate very much to my experience of using the pole lathe, and my experience of it as an extension of my body, and as a maker I don't find this concept difficult to accept.

1.6 Tools

Tools represent a turning point from which there was no going back. According to Tony Fry the entanglements between humans and tools goes right back to the earliest emergence of humans. His theory of how tools transformed the development of our predecessors is a compelling story. One day an erect animal picks up a stone and uses it to break open a coconut. Without that stone, things would have stayed the same forever. In this moment, although this has happened thousands of times before, a potential is seen and the idea of the stone becoming a tool is "prefigured" (Fry 70). The stone-ness has been appropriated and using the stone to perform tasks and processes will increase the complexity of thinking which is possible. Before this point, animals and stones were part of the same world, but now worlds have divided. Crucially, at this point only the potential is present and not the destructive potential – simply the use at hand. The stone has never become more than a stone, but it has become a material thing able to be directed towards "thinging" (Fry 70-73).

Fast forward 2 million years and here I am sitting at my laptop and this computer is now an extension of my brain. This is an unbroken chain of making. Tools have found their way into our bodies and, more and more, into our heads. In *Being and Time* Heidegger speaks of the way tools seamlessly integrate into our lives and permeate our everyday activities. So much so, they become invisible as we focus not on the tool itself but the job at hand (Sembera 68-70). Just like the stone. Scarry speaks about the "power of alteration" which resides in tools, particularly in weapons where "a small shift in the body at one end of a gun can wholly shatter a body at the other end" (174). In this way tools have a magnifying effect.

The axe is a familiar example of this, where a swinging motion of my arm can split a log into pieces. Scarry calls tools both act and object – it belongs to the body and is an extension of

the human hand and is also an object which must be made before it can participate in the making of other objects (176).

I am certain Arendt would have agreed with Scarry about tools. Arendt stated that "Tools and instruments are so intensely worldly objects that we can classify whole civilizations using them as criteria" (144). She also makes it clear she had no problem with any kind of artistic output or saw this as a site of conflict within the human condition as she depicted it. She implied the essentialness of a human who makes the world when she stated, "the work of our hands allows us to know things" (Arendt 94). She understood the appeal of working with our bodies, which brings us into the "biological rhythm of labour" (Arendt 214). This she called a "somatic experience" (Arendt 214). She speaks about the process of repetition as something fundamental with its origin outside of us, stating "nature manifests itself in human existence through the circular movements of our bodily functions" (Arendt 98). So, on different scales at once, both inside and outside the body. My experience is that making and using tools builds on this elemental repetition of movement. Repetition underpins green woodworking with movements such as lifting, striking, smoothing, turning, cutting, and chopping. In *The Craftsman,* Richard Sennett speaks to the value of working with the body in repeated movement rather than automation when he states, "machinery is misused when it deprives people themselves from learning through repetition" (39). The pole lathe offers endless opportunity for an experiential study of this type of learning.

Using tools gives the body a definite role, otherwise it can seem like a demanding inconvenience, with hunger pangs one minute and a visit to the bathroom the next. The body might be the most under-rated element in our lives and here I think back to my Dad who was in constant motion. In *The Clever Body*, Gabor Csepregi speaks about the body as a partner. This implies a particular relationship with it, where it is not a means to an end but an essential counterpart in being and doing in the world. Csepregi states that developing this relationship should be one of the goals of education (151). I become much more aware of my physiology from the pole lathe. The treadle is an extension of my leg, my foot rests on the cross bar. The hinge at the base of the treadle operates in exactly the same way as a

knee joint, as a hinge with a capacity to swing a certain distance in two directions in one plane. The cord acts as a muscle or tendon, it is strong, stretchy, and responsive. The tool rest becomes an extension of my forearm as I lean on it. It helps carry my body weight and provides stability as I balance on one leg. Working with the lathe, as Csepregi describes, is not me making the tool do things but an active, reciprocal partnership.

1.7 *Artists and Tools*

In this section I consider the work of three makers: James Krenov, Laura Mays, and Marguerite Wildenhain. They each emphasize the use of specific tools in their work, and this has helped me explore the questions that run through this project of why work in a long-winded way, and why build your own tools?

As a woodworking student I dreamt of going to The Krenov School in Fort Bragg, California. It has a reputation as the topmost place to study cabinet making not only as craft but also as philosophy. Maybe I could also absorb some of furniture maker James Krenov's own magic. I have always been intrigued by his work, consisting mainly of minimal, modestly sized pieces, mostly cabinets raised on sculptural legs that prioritize wood selection and small details over gimmicky design.

I appreciate the relaxed but precise finish of his work which is very difficult to achieve by hand and impossible to achieve with power tools. Today, on The Krenov School website, the course introduction Krenov wrote for his students in 1997 is still published and it makes his method sound more approachable than it ever seemed to me then. He writes, "We try to demystify the process of working wood; we simplify it. We concentrate on the logic and the simple physical and mental relationships in any given process" (Krenov, "About James Krenov"). The directness of Krenov's words hit me especially when considering his reputation as a wood mystic. The reality is much more pragmatic. He is speaking about becoming more sensitive to tools and wood through a logical approach of repetition and methodical skill building. He reinforces the idea of keeping focussed on the practice, not the result, and the ongoing work of developing attunement to the materials.

Woodworker and studio furnituremaker Laura Mays studied at the school in 2001 and was one of the last to be taught by James Krenov. After he retired, Mays became the head instructor. Like Krenov, she also has a transcendent quality to her work with wood. She can make it look liquid, like dripping wax, or hyper geometric. She has become known for making wooden boxes intentionally off square with tiny hand cut dovetails. What I find most interesting is her relationship with tools, in particular the hand planes she makes herself. She made her first wooden plane as a student at The Krenov School where the first project devised by Krenov was, and still is, to make three planes in the first few weeks of this intensive training. I only read this recently and I had to read it twice for it to sink in. Mays speaks about using the tools she made herself as a pivotal moment in her practice, stating, "I think it was then that I started to have an inkling that woodworking is not an external and finite body of knowledge that I had to work and work at getting access to, but it is an ongoing engagement between me and the material, via a tool, and the feedback loop of learning is endless" ("Practical Wooden Planes" 4). She demonstrates the thoughts of Krenov above, when he makes a distinction between the physical and mental aspects of any process. This idea relates directly to the concept of thinking through making and the extended mind.

Mays continues, saying, "making the plane myself led to my understanding that something ostensibly and conceptually simple could also be subtle and complex" ("Practical Wooden Planes" 4). This resonates with the process I went through after making the pole lathe of having to adjust to this new presence that forced me to look at the world differently. It is interesting that these planes don't look perfect in the way that a machine-made plane does or even the furniture made by both Krenov and Mays. They have an ad hoc asymmetry and the edges are shaped to different angles. The facets left by the tools that made them are visible and these too are irregular. They are marked and well worn. They have an undeniable appeal for me. It's impossible to look at the photograph and not want to pick one up. Krenov's planes are custom made for the makers' hands and there is a flexibility to the way they can be held. Krenov describes how the hands sit low over a handmade plane as there is no handle as such, unlike a machine-made plane which has a

handle at the back and a knob at the front. Mays describes a satisfaction as the teaching embedded in this project dawns on her students. Something Krenov must have experienced too.

Potter Marguerite Wildenhain developed and taught at her own pottery school in California for forty years before retiring in 1980. She was the first student of the seven-year pottery programme at the Bauhaus in 1919. As a maker and thinker, Wildenhain writes about the craft of pottery as something that brings the practitioner "in touch with everything essential in life so he may in the end rise to the understanding powers of the philosopher" (*Pottery: Form and Expression* 17). Wildenhain worked on a kick wheel. This is comprised of a large wheel near the ground that she spins with her feet. It is attached by a fixed post to a smaller wheel above that spins the clay. The technology could not be simpler. The kick wheel shares the same dynamic as the pole lathe. It engages the whole body, moves in a rhythmic motion, and is linked to the breathing. Wildenhain saw this ancient technology as more sensitive than the electric wheel, something I feel is also true of the pole lathe, with greater potential for responding to the expression of the maker (*Pottery: Form and Expression* 71). Even into her later years, Wildenhain must have had considerable physical strength, stamina and balance to work in this way. This gives me reassurance that even over the long term, this work is not only doable but a purposeful and rational choice.

Wildenhain's philosophy towards pottery and craft has helped me appreciate the possibilities for the pole lathe. Up to this point, when people ask me what I'm going to do with it, there has been no easy answer as I haven't been able to see that far ahead. Wildenhain herself has obviously had an ambivalent relationship with the kick wheel and she makes no bones about the difficulty in mastering it in the short term but describes the long-term payoff as worth the investment of energy. She says,

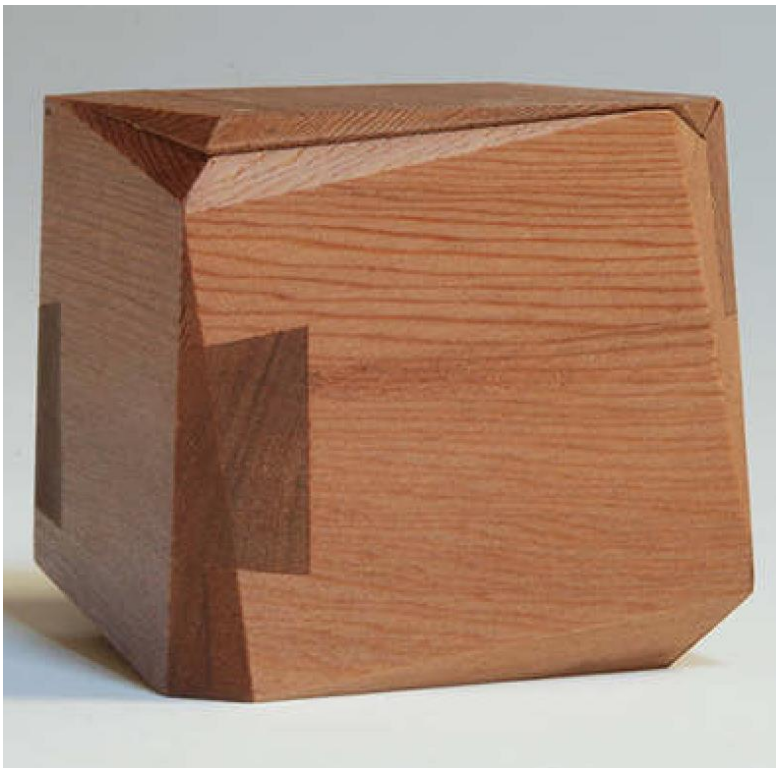
> That the throwing on the wheel in itself is a skill requiring more than average patience, energy and physical coordination, the potters all know. If you conquer the wheel, the technique is of immeasurable help in speeding up the process of production; but if you do not learn to control the centrifugal force and to use its

> momentum to your advantage, the wheel will be the most frustrating and inimical device you can imagine. To all struggling with it, the wheel will at first seem to be clearly the invention of the devil. But once you know how to throw, you have wings (Wildenhain, *Pottery: Form and Expression* 31-3).

I experience a taste of this sense of flying when working on the pole lathe.

Wildenhain teaches an approach of reproducing forms in a particular sequence where each subsequent form builds on the skills of the previous one. This is possible only through hours of repetition until the maker can recognize the one or two pots which are worth keeping (Wildenhain, *Pottery: Form and Expression* 100). This is reflected in my idea of first focusing on turning cylinders which are even along their length. It's not as easy as it sounds. There is no hiding any irregularity as there is with the addition of turned details. From here, I will tackle tapered legs; exploring how narrow it is possible to go where the leg meets the ground, where the taper should start, and what the effect is of convex versus concave lines. Speaking of the craft of working with clay, Wildenhain speaks about taking the time to learn until there is no difference between "what the person *wanted* to say and what she *could* say" (*The Invisible Core* 194). This sheds light on why I feel strongly against describing what I am doing as craft. My work with green wood has not yet become a familiar language. If it does at some point down the road, it may become closer to Wildenhain's depiction of craft.

On reflection, when I consider the choice to look at Krenov, Mays, and Wildenhain as a group of makers, I am less interested in their work as artistic inspiration and more drawn to their attitudes towards practice and their pedagogical approach. This has taken me by surprise and is something I know I will have to spend time with. More concretely, they have also given me faith that building tools and methodically learning to use them has merit as a way for deepening an artistic practice.



Figures 8-10. Clockwise: Krenov, James. Elm Cabinet on a Stand, 1989. Wildenhain, Marguerite. working at the kick wheel, date unknown. Mays, Laura. *Fools Gold* Asymmetric box in reclaimed old growth redwood, gold leaf, shellac. 70 x 70 x 70mm. 2020

Chapter 2: Methodology

2.1 *Rationale for Choosing Green Woodworking*

Green woodworking is not just a technique or set of skills. It is a philosophical and theoretical methodology for thinking with the head and the hand. It's about aligning the actions of making within theory, critical thinking, the contexts of craft, and even design. The point is that these coexist within a broadened definition of the mind. Seeing them as divided into parts sets up false conditions for evaluating them. This is what brought me to the origin of this project, having lost faith in working with my hands. As I've also said, I need a framework for thinking *about* making to better understand where the value lies. In a capitalistic sense, green woodworking does have an element of pointlessness. No one needs a pole lathe. Chairs are cheap at Ikea. However, from a broader perspective, it is a critical activity for human beings. It always has been. Not only to provide for ourselves and others but to build a world within the world with the resources at hand. This is a universal human activity which in turn, makes us more human. The significance has a reach and value that goes far beyond the finished result.

2.2 Taking on the Unknown

When I first discovered green woodworking in the 1990's I had a different rationale for investing time in it. I was studying furniture making and restoration at a craft-based college in Oxfordshire which had a strong focus on hand work and bespoke pieces. Feeling constrained by the old school methods of furniture making and its insistence on perfect geometry, I actively sought out green woodworking when I saw it advertised. I took a course in September of 1994 with teacher Mike Abbott. We camped in a wood in Somerset for 10 days and made chairs from a tree entirely by hand, in an outdoor workshop under a tarp. I found the shift in tools and approach between these two methodologies liberating, and I went back to study with Mike the following year. In *Amateur Craft: History and Theory,* author Stephen Knott speaks about consciously developing the strategy of attempting the unknown as a way of freeing up the maker. He states, "The experience of the naïve amateur

at the first stage of learning can be partially appropriated by artists and designers through the process of temporary abandonment of the set of tools that defines their specialism, in preference for those of another with which the artist is not familiar. This can be described as adopting a different tool order" (Knott 118). In this case I was literally learning how to use many different tools. Almost 30 years later, In the summer of 2022 and with a travel bursary from OCAD University, I travelled to the west of England to take another greenwood chairmaking course. This course was run by Gudrun Leitz, a peer of Mike's, in a wood in Herefordshire, and I returned to an outdoor classroom. Only this time I was motivated by a different set of questions.

2.3 Looking Back

As methodology, I am looking back with a critical lens into historical making, and at the same time looking back critically into the influences of my upbringing. Green woodworking affords the opportunity to engage with the history of making in a hands-on way, not just theoretically. I am not looking back with nostalgia but with a question of what may still be possible despite being forgotten about. In an article for *Crafts* magazine, titled *The Benefits of Hindsight* (2010), Glen Adamson writes that most inventions in history have been made by artisans. Yet today, he argues, craft has become what he refers to as "a sort of nature reserve" (Adamson, "The Benefits of Hindsight" 36). He concludes that "if you want to get serious about the future, you should probably spend more time looking at the past" stating that what makes artisanal innovation worthwhile is its flexible approach to tools which do not require a large investment and can be adapted for specific uses (Adamson, "The Benefits of Hindsight" 36). This is an apt description of the shaving horse, which is not much more than a bench, yet it is indispensable in the green woodworking set up. It functions as a vice, saw-horse, drilling jig, or just a flat surface to work or rest on. It works on a simple principle that the force that is generated by pushing at one end of a frame with the feet under the horse will trap a piece of wood on the top. Adamson goes on to defend the low-tech stating, "Let's not feel that craft is mired in the past when it doesn't engage with the latest technology. Let's not be apologetic. Anytime craftspeople sit down

at the bench, they're also bringing a lot to the table" (Adamson, "The Benefits of Hindsight" 39). This speaks directly to questions of how to interpret the world and ascribing value to the overlooked.

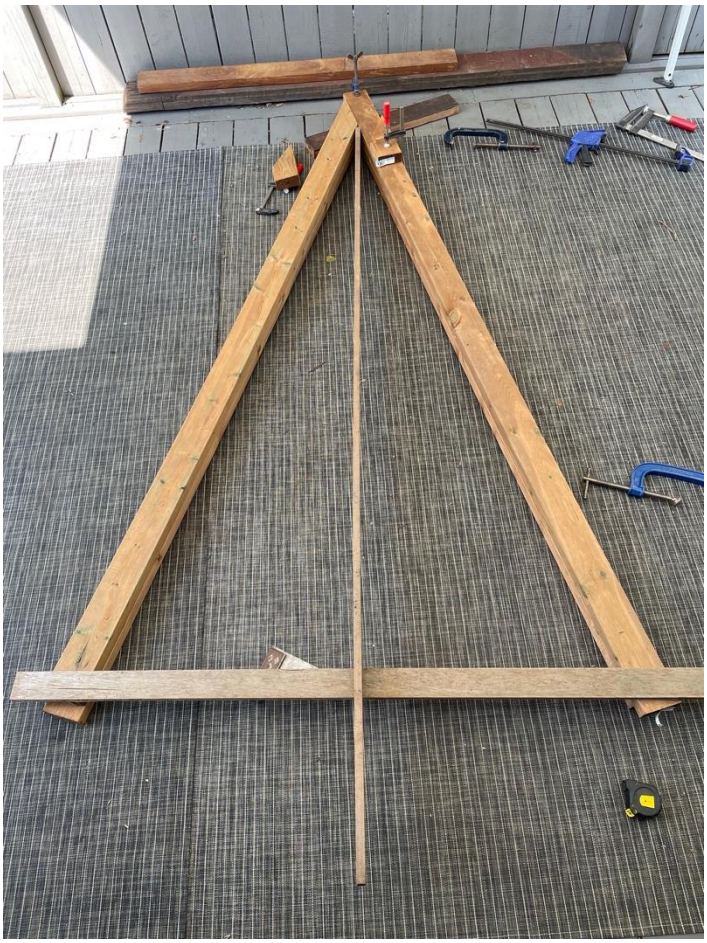
2.4 Making Tools

Making tools is a key aspect of engaging with green woodworking as a methodology. Do I know that I can build a machine with a few pieces of wood, some bungy cord and a length of string? In this practice it is necessary to build your own tools because there is nowhere to buy them. If someone else has gone to the trouble of making their own tools, they are unlikely to part with them. The tools take on a particular worth because they can "do things" well beyond the initial effort of making them. I am more likely to value a tool I have made myself; like my own child, I'll keep a close eye on it and listen for signals that it isn't functioning smoothly or that something has come loose. I have made something that has consequences (I do not want to chop off my fingers) and context (do I have the materials, the knowledge, the skill, the space?). Making tools amplifies the thinking through making process. It extends what my body can accomplish and consequently my capacity to act in the world is altered. This begs critical consideration and raises the question of what my labour can do and how much I value it. Tools are something to think *with* as well as work *on*. They spark thinking outside of their immediate "use" and this is perhaps what I value the most.

2.5 Working Within the Parameters of Craft

Working within the specific parameters of a craft can bring a certain freedom because it gives boundaries to the range of possibilities. There is room for experimentation, but this exists mostly in the details. This has the added benefit of providing a sort of mental shortcut which eases the cognitive load of making lots of design and material decisions. Green woodworking uses practical methods for moment-by-moment problem solving and involves learning through trial and error. These solutions do not always need to be perfect, although there are times when accuracy is vital such as turning the tenons which need to fit

into the seat. If you mess up a particular part of whatever you are making it isn't a big deal to make another. I link this with the resourcefulness I saw in my Dad's improvised making from what was at hand. There must have been an underlying sense of self-reliance and proficiency embedded in his attitude towards working with his hands, despite his projection of its inferiority. His know-how in finding practical solutions now exists only at the edges of interactions with the world, at least within a euro-centric culture. I recognize the significance of this approach in improving our families experience of the day-to-day.




Figures 11-14. Making a riving frame. Used for controlled splitting of logs before they are shaped further on the shaving horse. Pressure treated 2 x 4-inch SPF and reclaimed wood. June 2024.

Figures 15-16. Scrapbook pages with photographs from a green woodworking course I took with Mike Abbott in Somerset, 1994. Showing (from top left) felling the tree, working on the shaving horse, steam bending, (from top right) roughing out the seat with an adze, shaping the seat with a spokeshave, assembling the chair with Mike, the finished chair. Photographer unknown.

Chapter 3: Process and Results

In this section I recount my experiences of the mental and physical relationships that come into play as I focus on the sensory and observational side of this research. During the making, I have jumped between YouTube videos, books, magazines, DVD's, social media, seeking advice from other makers, and spending time just figuring things out for myself. Knowing where to look isn't always clear and takes time to work out without a mentor. Often, I would prefer to be told what's what but now see this enquiring as a necessary part of establishing deep ties to this making. It means the process is more haphazard but there are also opportunities in hearing different points of view. In woodworking there are a bewildering number of "right" ways to do things. This is a real barrier to getting started but there is no other option than beginning from what's at hand. All types of woodworking involve very physical making but also detailed methodical thinking. Most often I experience being in the middle of large ideas and the smallest details. A zoning in and out of perspective. This is also a form of expanded thinking.

Making the pole lathe was the starting point of this project and right away there were many possible options. I decided to work from Mike Abbott's book *Green Woodworking: Working with wood the natural way*. Mike gives narrative style directions with some sketches for how to build the same style of lathe I had used during his course. In many ways his instructions reminded me more of a recipe than a schematic because he leaves room for adapting the design to the resources at hand. Not having access to selecting and cutting trees I worked with standard materials from the lumber yard. I approached its construction as having 4 main components. First are the A frame uprights. These provide a wide, sturdy base for the bed and are constructed using 30-degree and 60-degree angles. These I cut with a mitre saw in the back yard after a recap of high school geometry. Next was the bed which are horizontal cross pieces that span the A frames and are made of hardwood to reduce flex as the lathe is turning. I bought rough sawn ash and had access to a Toronto Tool Library machine shop to plane them to thickness.

Third, the "poppets" are a significant part of the proper functioning of the lathe as they hold the spinning wood. They need to be level, symmetrical and balanced, and remain

firm while the material is rotating. These were the most technical challenge of the project and took some time. The 2-inch thickness and the hardness of the ash meant that getting the necessary precision took perseverance. Making the holes on the pillar drill for the threaded crank through 5-inches of ash took three drilling operations per side. Fitting the steel into the poppets almost derailed the project from being completed by the deadline as they went in so far but then seized up entirely, refusing to move in either direction. In the following weeks I ended up drilling bigger holes which has made adjusting the lathe much easier and more accurate. The last component of the lathe was the treadle which is another version of the A frame. The frame is attached to a board which forms the base for the right foot whilst the left foot rests on the rungs and provides the power. Leather hinges, cut from an old belt, attach the A frame to the base. The leather will need feeding periodically.

Once it had become clear that it was the focus of my research, I began to journal about my experience of using the lathe. I wrote the following entry about staying with the movement of using it:

> *When I was turning on the pole-lathe today I tried to study my body – posture, breathing, the way I was holding the gouges – checking for tension and sensation or lack of. I was surprised to find that I was slumped into my supporting leg and not holding myself upright but working at an angle to the lathe and allowing my left foot to roll in. Engaging my hip and core changed the sensation of this dramatically and I found myself much more upright and in a more positive posture. Although effort was required to keep this verticality, I am guessing that in the long run it will be less fatiguing, especially once the muscles are accustomed to it. It's challenging to sustain the focus necessary to turn something into an even cylinder while watching the outside edge for inaccuracies. My mind wanders and the automatic function takes over. I experimented with short bursts of focus and hope I can build these up to a sustained effort.*

Different types of thinking are taking place throughout the processes of making. Parallel to being attentive to what is happening at any particular time is an ongoing evaluation of the broader direction of the project. If something looks wrong or doesn't fit it some way, it can mean starting over. As much as these are apparent setbacks, I value this aspect of the practice. Sometimes it's worth making do, but I am usually open to restarting something

because the next time I am better prepared with more information. I describe this process in relation to the challenges of turning chair legs on the lathe:

> *Today I finished the fourth leg for the stick chair I started in England. I decided to turn new legs for it to replace the ones I initially made, which were not turned but shaped with the drawknife. I had mistakenly cut the tenon off one of the legs when I sawed to the wrong line and that meant the fourth leg, which was a reworking of a spare started by someone else on the course, was slightly too small for the hole in the seat. I had also decided previously to give the chair some stretchers as I just wasn't happy with its overall look. It had turned out quite refined looking, with a slim seat and narrow spindles and back comb and looked as if it might not last without stretchers to beef up the resistance to the forces it would have to undergo when in use. It is always difficult to predict how a chair will look unless you are making a replica. Choices of widths and thicknesses to all the different components can really shift the overall effect of the piece. I had intended this chair to be on the light side, but not as delicate looking as it has eventually turned out. The scale of the chair is partly skewed by being judged in the open workshop rather than an indoor living space. It looks super minimal in the workshop, but I am expecting it to blend into a home setting quite well.*
>
> *The new legs are tapered for the last two-thirds towards the seat and the middle stretcher has a ball turning. Nothing fancy, just a small detail to give a focal point. The turning makes it less basic, more idiosyncratic and poses a question about the chair's origin – handmade or Ikea, new or old, contemporary design or traditional? You would have to know something about chair construction and tool marks to be able to guess how it was made as I haven't fully eliminated the turning rings on the legs and tool marks on the seat. These are the traces of the chair and makers' story if you have the language to read them. Even if you are not in the know about woodworking, this chair still has the imperfect lines which make it obvious that it has not been mass factory manufactured. Although I put in a fair amount of effort to make the best object that I can in terms of skill and quality, perfection is never the objective as this substantially reduces the emotional appeal of the object and conceals the honesty about its origin, which is a freshly cut log.*

Another entry documents the making of a club. Just as it sounds, this a rudimentary looking tool used to whack the wedges when splitting a log. Despite its apparent roughness, there

are still considerations to be made about material choices, proportions and how comfortable it feels in the hand:

> *I started out by clearing a path to the shed as there were a couple of inches of snow and then cleared the pile of odds and ends of branches that are stacked by the cemetery wall. They've become a bit muddled – I can't remember what came from where now, apart from the obvious ones like the birch from Ty. I dug out the only branch with the correct diameter of 5-6 inches with the intention of making a club, it happened to be birch. I already have a small club, which I made ages ago from a Mulberry branch, and which has served me well. But it doesn't have the heft to be used with the froe (also new). For that I need something much more substantial. From what I read, birch probably isn't ideal for a club? Is it softer than ash or maple? (I need to look into this). Mike says that the best beech for chair making grew in the Chilterns and no further north than that. For that reason, it was popular with the chair makers in that region but not so much elsewhere. Is that because of soil, weather or environmental stressors? But the point is that a species of tree can have characteristics which are the result of its direct environment and that trees a distance apart will be different from one another. Which will make it more or less suited to whatever the maker has planned for it. This seems obvious now that Mike has pointed it out but it's a good example of the type of knowledge that comes from knowing rather than from books. The chair makers knew by the feel and the tensile strength which would be a very different type of knowing from that of a scientist or botanist.*
>
> *I battled to a degree with the birch. It was frozen in parts but also damp and there was black mold growing on the damaged areas of the bark. Aesthetics weren't a concern here, although integrity definitely was as a rotten club is worse than useless to anyone, it could be dangerous if it splintered. The branch had grown unevenly – it was almost lobed with 2 sides that were slightly bulging and one quite flat face. The flat face would make a good plane for striking the froe and the lobes were of no consequence to anything. The piece I had was slightly over-long, so to start with I sawed off one end to make it as square as possible, so straight across the growth rings. From this fresh face I could count 16 rings which I'm sure I've heard is roughly the age of the coppiced ash which is preferred for chair making in Clissett Wood. The overall length Mike says needs to be about 14" with a handle length of 6" or so. I left the handle end overly long to allow for splitting as it dried and 8" from the other end I sawed into the branch all the way around to leave a 2" core in the middle. Then I used the axe to expose the new handle by removing the outside layers, which*

> *stopped by themselves at the cut line. The axe kept running off towards the outside, it didn't split straight, meaning there would be more work with the knife to shape the handle and get it smooth. It was a bit of an uneven mess by the time I'd finished and working at it with the knife was very hard work and I ended up piercing the end of the index finger of my left hand with the tip of the knife. Still, the handle is smooth enough and the slight bow to the shape - which has found its way into the shape by removing material unevenly - feels quite good in the hand.*
>
> *I covered the cut ends with pva glue to slow the drying process and minimize the splitting – which would weaken the club significantly – and have left it to dry slowly in the basement. I noticed that the black mold on the outside of the bark had started to penetrate the log as spalting. This is highly prized among wood buffs, and it was fascinating to see how the effect on the inside related to the surface deterioration. (What do we value?) The bark started to peel away and came off pretty much as a sheet. This made me think of how birch bark has traditionally been used as roofing and what it is about the structure of the wood which allows this to happen. Finally, underneath the bark were the undulating traces of insect movement which would have been feeding from the active layer of cambium directly below the bark. These are the cells which are transporting fluid from the roots to the leaves and would be a great source of food for a hungry bug.*

In addition to tool making, I have explored material experiments especially when dealing with wood that is too dry to work with enjoyably or successfully. These involve a degree of improvisation followed by close observation. Occasionally it works out, as in this entry where I attempt to rehydrate some cherry intended for turning into stool legs:

> *I've been experimenting with the idea of a "log pond." Traditionally this referred to storing logs in water until they are ready to be transported. Before vehicular transportation logs would have been felled and floated downriver and held in an area of still water near shore until ready for sale. But I have been using it in a different way. I have experimented with it as a means of rehydrating logs which have dried out too much to be worked successfully on the pole lathe. The question of whether rehydration is possible or not would probably evoke strong reactions from foresters and botanists but I have had success with it. I realized this is exactly what basket makers do with willow as preparation for weaving. Typically, willow sticks are submerged in a bath of water before using and covered and kept wet until the moment they are about to be used. Of course, a willow stick is very much narrower*

> *than the blank of a stool leg which can be a few inches in diameter but at the same time, the log is not required to bend or be put under tangential pressure as a willow stick will be. A log will dry out from the ends, much like liquid being sucked out of the end of a straw, and it also rehydrates in this way. When I take the blank out of the log pond it is clear from the darkening effect that the sawn ends have absorbed the most moisture, and when I fix them into the lathe water oozes out of the fibres. These parts definitely cut the most easily and when I'm turning them there is a very smooth feeling of the happy gouge. This helps me, because it means I don't have to keep a fresh supply of freshly cut wood – a challenge in the city.*

An ongoing challenge during this project, besides learning how to sharpen effectively, is deciding on a sharpening system. There are many options for natural, synthetic, diamond or ceramic stones. There are grinding wheels which take the manual labour away but require a power supply, or sheets of abrasive papers in various grits which are the cheapest up front but need constant replacing. I've spoken with lifelong cabinet makers who suck their teeth at the latest diamond technology and told me that apprentices would do nothing but sharpen for two years before moving onto other learning. I can see the merits of this approach, but I don't have the time, I need to learn as I go. There are several journal entries about tackling the sharpening process. In this passage I focus on the turning tools which need a keen edge to cut properly:

> *I've been sharpening some of my rough, old chisels. I've spent ages watching videos, reading, asking people, taking notes, and stressing generally about sharpening. I'm afraid of messing up my chisels as I've done this before and it's a pain to put right. But also, I am trying to clarify what it is I'm trying to achieve when I'm sharpening. This sounds so obvious as to seem ridiculous. Of course, when I am sharpening, I am trying to make something sharp. This is not the whole story though. I need to know something about the properties of the metal itself. I need to know which surfaces are abrasive to that metal in the right way, so they remove some but not too much material. What am I going to use the tool for? On which kind of woods? There is a bewildering amount of information out there but the process needs to be simplified in my own mind to get me started. So far, it's gone quite well. The tools I've worked on are sharper than they were before, and I haven't ruined any. There are a couple that have definitely improved - for example the 1½ inch chisel - which has always been one of my favourites but was very blunt with an off-square end. This*

> *one took me the longest and I bought a jig to help with it. The jig kept the angle straight across, what, 20 hours of grinding? It took that long to grind this chisel square with an even edge across its width. Of course, it would have taken seconds on a grinding wheel but it matters to me that I learn by hand. I bought the coarsest paper I could find and stuck it to the granite slab given to me by Fuzz. Yesterday I worked on lapping the back having watched more videos, and reading, which both emphasized how important this part of the process is. The last hurdle is the secondary bevel, which is confounding me more because I am afraid to mess up the work I've done so far. With the secondary bevel I am going to finally make the chisel sharp, focussing just on the area right next to the blade, by honing it at a slightly steeper angle than the primary bevel. I'm going to have to get brave enough to take the chisel out of the jig—a Big Deal—as it's been in that jig for ages. Perhaps I have really lost perspective with this sharpening thing. Actually, it's something that needs to be done as quickly as possible so I can get on with making the tools blunt. That's a glib underestimation of how tricky it is to learn and part of a bigger conversation about the processes of learning and practicing enough to get good at it. Back to the chisel, I need to take the chisel out of the jig and refit it for the secondary bevel.*

Several different approaches to sharpening are needed, although the basic principle of wearing down the steel to reveal a new edge is always the same, the process varies from tool to tool. The axe was one of the last I tackled. Some makers advised me that a sharp axe was not as useful as a dull one, and I clung to this theory for a while. When it became more and more difficult to shape the logs, I knew it was time to act:

> *Yesterday I sharpened my axe for the first time. I did it in a pretty unsafe way by just holding the axe flat on the table with my left hand, crouching down so that I could look at if from underneath to check the bevel, and rubbing it with the coarse side of the Norton stone in a forward and back motion with my right hand, until I had raised a burr. The risk was that if I lost connection with my left hand because all my attention was on the right and watching what I was doing, then the axe could easily slip off the table and take a chunk out of my thigh (where all the main arteries are). Despite this recognition of the danger of the activity I couldn't stop my own momentum and fixation on this thing in order to find and use a clamp instead, as a safer arrangement. Fortunately, nothing did go wrong and I sharpened both sides of the axe head without a hitch. I concentrated on the angle of my forearm and wrist and keeping them locked into position to avoid a rocking motion which rounds the bevel and ruins the cutting potential of the edge. Incredibly, the axe seemed sharp*

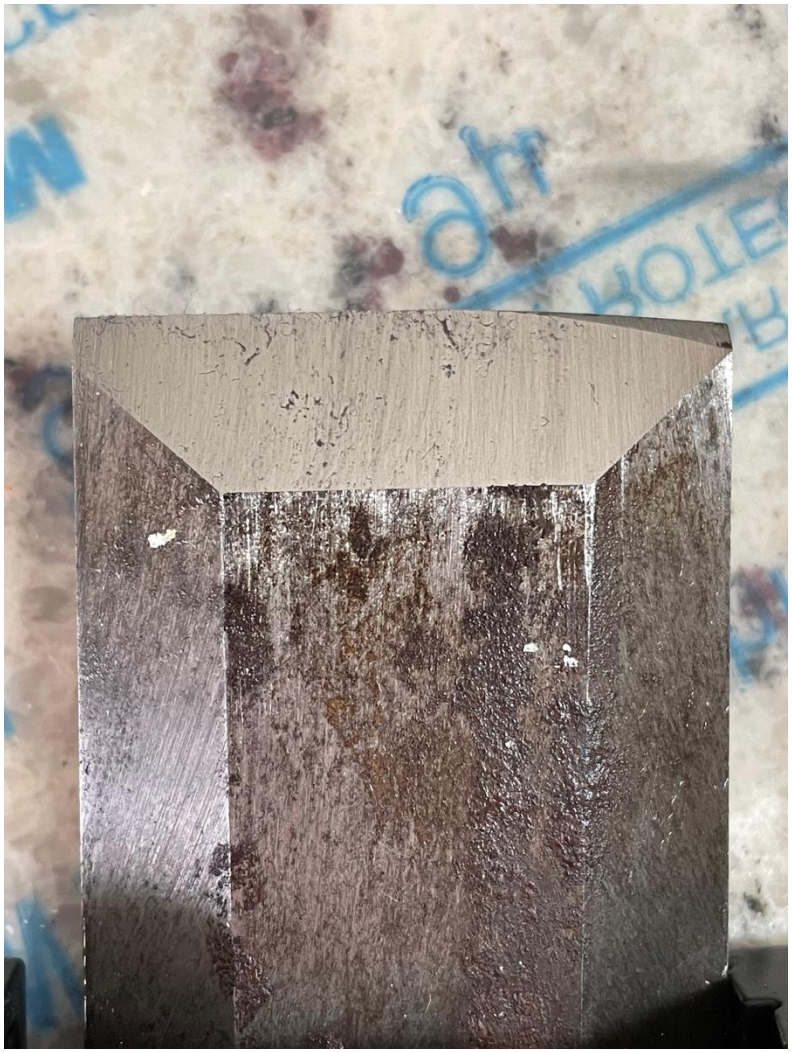
> *when I tried it out on a leg-blank of cherry wood, much keener than it was before. There is a noticeable improvement in my sharpening technique which I'm pretty astonished by. It's this process of a long slow realization of how things work, in tandem with development of the motor skills and technique.*

There is grittiness to this way of green woodworking including blisters, soreness, bruises and cuts that come from the physical labour of wrestling heavy logs. Wood fibres resist splitting and the metaphorical and literal aspects of driving a wedge into them is not lost on me. The process of becoming more familiar with wood is the magnetic pull of this practice. Working with wood has, in turn, woken me up to the essentialness of living alongside trees, especially in the urban desert. Trees have become the mentor I have been looking for and observing them adapt to ever-changing situations in various stages of life, decay and regrowth has been another lesson in the endurance that can come from adaptation. Scarry refers to the "sturdiness and vibrancy of the presence of the natural world" and this has given structure to my material explorations (280). In the following passage I reflect on my growing awareness of the forceful presences of trees and listening to them more and more:

> *I compare splitting a log to the experience of opening a book because there is just as much of a narrative to be found there. Only so much can be determined from the cover and it is necessary to read all the pages to find the whole story. It is the same with trees. Identifying trees by their bark is possible if I am looking at well-known ones like birch, walnut or London plane, but more often multiple factors need to be considered such as leaf shape, branch configurations and growth pattern. The way a log splits also reveals information about how dense the wood is, how straight the grain, and whether it is green or dry. All trees grow in a spiral and sometimes this is very pronounced and obvious in the splitting. Significant twisting is not ideal – I am always hoping for straight, even fibres because this makes the thin sections used for legs and spindles incredibly strong. Having said all this, observations by eye can only go so far. The sound of a log is just as important and in fact, for me, working with wood is closer to music than anything else.*
>
> *Like music, what trees can teach me about the world seems endless, and the only limit is my willingness to spend time attuning to them. I don't even think it's necessary to have book-knowledge or a scientific background as this cannot*

substitute for noticing and wondering. If I wait until I have 'mastered' trees in a classroom I will never get started. To this point I have been walking close to trees every day for some years now, in the ravines close to where I live. I spend time in Mud Creek and Yellow Creek, both of which weave partially unknown trails through and underneath the city. These waterways are part of stormwater management and have borne rotations of human intervention. With the naked eye I can clearly see that the colour of the water is different every day and I think about how these effluents will find their way into the trees and into me. Water is a significant part of this project, and it materialises in different forms. In green woodworking water is both friend and foe. To make a successful object out of green wood the water content needs to be just right at each phase of the process. This reduces the chance of splitting (which happens when wood dries out too quickly) or loose joints (when water dries out too slowly). Having a sense of when the wood is ready is gained through weight, feel and the way the wood responds to tools.

Reflecting on these entries from my notebooks I see that I was gathering information of an observational and sensory kind. In return for this focus on direct experiencing, there is always an abundance of feedback. Theory and thinking have their place as essential elements of the making process, but this feedback is what I have come to value the most. Feedback from the body, from the tools, from the materials, and from other people. Feedback from my emotions, energy level, muscles, mind, level of experience, and sense of hitting the edge of what I understand. From the feedback comes an unconscious process of adaptation and correspondence in both the mind and in the hand. How else does my hand know instinctively the angle of the gouge needed to take off razor thin shavings or to change direction if the wood starts to tear out? This is an ongoing process. Nothing is revealed all at once. I keep in mind what James Krenov said about not working to *know* but to become more sensitive. I am learning to trust the flow of thinking through making - of repetition, feedback and correspondence - that underpins this shared human experience.



Figures 17-18. Left: Sharpening a 1½ inch chisel on aluminum oxide abrasive film stuck to a granite slab. Right: Evidence of previous uneven sharpening shown on the top right corner of the blade. This must be completely removed to produce one bevel.

Figures 19-20. Yellow Creek ravine, Toronto, March 10, 2023. A maple just north of the St. Clair bridge. Freshly fallen and blocking the way. I sawed up the log with a folding hand saw. I later used this dense, hard wood to make gluts (wooden wedges for splitting logs) and spoons.

Figures 21-22. Ongoing experiments in spoon carving. Top: Shown in order of making; first attempt on the far left. The neck was too narrow and eventually snapped. Maple, alder, walnut. Bottom: Turning a long-handled spoon on the pole lathe. Cherry. 2022-4.

Chapter 4: Conclusion

Aligning thinking through making and green woodworking has provided a framework for linking the practical and the theoretical. Both emphasize the importance of engaging with materials as a way of exploring processes and generating understanding. Thinking through making also encourages experimentation in hands-on learning which fits alongside the use of hand tools and low-tech techniques of green woodworking. They both value building skills and iterative learning through repeated forms. An ecological approach is another link between them, where green woodworking is based on the idea of using local, coppiced wood and thinking through making brings a critical reflection to the use and using up of materials. The making practice demystifies the processes of working with materials and is only possible through feel, touch and exploring through the hand. This is research that can only be experienced in the now. There will always be more to learn.

What is the meaning of 'mind' in a practice of thinking through making and what does this mean for the potential of the hand as a means for linking the practical with the theoretical?

From the beginning I knew I didn't want to write a manifesto on a return to making by hand. I had broader philosophical questions about the meaning and role of making that I wasn't sure how to address. I started from a sense that my questions were to do with how to foster an embodied understanding through lived experience. The turning point came when I discovered the fundamental concept of thinking through making, where head and hand are not separate but distinct aspects of a continuous process. This idea expands my view of the value of making and the necessity for continuing to work with materials and the body as a way of learning about the world. In this way philosophy and artistic practice are integrated.

Does this result in my becoming a better maker? Not necessarily, but to have a sense of the layered interaction of mind and hand enhances my experience of making and this is valuable as it goes back to the idea of bringing enchantment into the everyday.

Perhaps it is the enchantment I have been chasing all along as the connection with reality that is concealed behind cynicism and apprehension. I have come to regard this new understanding as more than a thinking through to a thinking beyond, which brought me to the title of this project. As Peter Korn says in his book *Why We Make Things And Why It Matter: The Education of a Craftsman*, making "starts off as a search for identity and ends up as an empowering way to act upon and reconstitute the world" (151). Thinking beyond the hand has become both an attitude and action to bring to the world which reinforces an understanding of my place within it. By its nature, it is ongoing work that will never be finished.

How can working with a traditional making process - which makes no sense to the economic systems we live within - connect to critical conversations about the urgency of making and humanness?

It wasn't until the very end of the writing process that a conversation in *The Globe and Mail* between journalist Ian Brown and University of Toronto professor Geoffrey Hinton landed on my kitchen table. Hinton, described as "the godfather of AI," developed the first computerized algorithm to predict the next word in a sentence back in 1985 (Brown 1). He says this means the machines understand what they are saying in the same way a human does. It also means that while chatbots have the cognitive experiences of being human, they are lacking the physiological ones. Hinton doesn't see this as a drawback. It doesn't mean they won't be able to respond to rewards or frustration. It just won't be in a 'human' way. Hinton discusses his fears that AI machines will replace us in as soon as five to twenty years from now. The point is he would rather people stay in charge (Brown 8-9).

I was struck that Hinton speaks as an authority on humanness and definitions of mind, when my research is showing how much more there is to explore. Hinton argues that as humans we are nothing more than neural pathways and that subjectivity is caused by a break down in those pathways. I'm not sure exactly what he means by subjectivity, but he elaborates:

> The point is, what makes most people feel safe (from intelligent machines) is that we got something they ain't got. We have subjective experience, this inner theatre that differentiates us from mere computational machines. And that's just rubbish. Subjective experience is just a way of talking about what your perpetual system's telling you when it's not working 'properly' (Brown 1,8,9).

Hinton is talking about individual experiences as errors, blips in judgement, and proof of the inefficiency of the human mind. I read on and mull the question of what happens when we parse out human experiences for singular evaluation? Deciding that an aspect of human nature is dispensable could easily translate into a blueprint for colonization. It seems that human thinking has been appropriated and is on the verge of being colonized.

This is an existential threat of a new order and yet it comes right back to Arendt who foresaw this in *The Human Condition*. This is a perfect example of her fear that man cannot think and make at the same time, with the result being machines and inventions which are destructive. Arendt, Scarry, Sennett, and Ingold all come to the same conclusion that it is within social groups, sharing skills in a distributed, active method of thinking and making that humanness is reinforced and matured. I am interested that Hinton's first work in replicating human thinking was in digitalizing the use of language. This is where he determined humanness to be.

My point is who do we accept as the authority on what constitutes thinking, making or humanness? I would argue the answer will depend on who is being asked. Now we are asking government to draw that line as they are the ones with the power to legislate against technology which will be capable of overrunning us. In this paper I have circled the questions of what the humanness about humans *is*, with the critical piece being that mind is made up of interactions between the physical and material. We are more than a brain. Now this question has taken on a new urgency because in the rush to become more highly functioning we are to become collateral damage to technology. It is still too soon to tell what exactly will be lost. Do we definitively know what humans can do? The need is urgent

for more time to drill deeper and consider this question from as many viewpoints and contexts as possible. Before it's too late.

How does building tools and learning to use them contribute to new forms of understandings about how to live and work in an increasingly uncertain world?

Last fall, I set up my pole lathe at a greenwood gathering in Caledon, Ontario and invited people to try it out. Most had heard of these lathes but not seen one, and they hadn't tried using one. The main thing to learn is that force doesn't work. Co-ordination, rhythm and a sensitive touch pay much bigger dividends. I noticed the men really struggled to get going. They dug the gouges into the wood and gave up quickly. I assumed they were more used to working with heavy, electric tools which power their way through the wood. Women had much better results by avoiding brute force and attuning to the way the tools were cutting. It was the children who excelled. They naturally grasped the motion of the treadling, they were relaxed, and had no qualms about trying the tools in different ways until something worked. They circled back and forth to the lathe all day seeing what they could do until the wood was so thin it snapped, much to their great amusement and satisfaction.

I tell this story not to highlight the gender or age differences but as an example of how different bodies can be. How the possibilities are broad for the ways humans can handle tools. The point can be simply to find out what the results are, and this goes beyond subjectivity towards fostering an impactful curiosity about the world. The joy of the children working on the lathe and their ability to adapt to its feedback in turn supports the development of their individuality. Their approaches to the tools and materials, and their responses to the feedback of the lathe showed their literal flexibility and sensitivity. This was beyond thinking with the head. They were happier to take the process to the limit and find the breaking point than to make something they could use. This was about learning and experimentation and goes back to the story of the human and the stone. If we are 'programmed' for anything it is for this type of finely tuned experience of exploratory making

and there is everything to lose if these opportunities are lost. To see the lathe and tools generating goodwill that day brought this project to life, and I am indebted to those children for a lesson so well taught.

Last Thoughts

From here I go full circle, back to my Dad and his admonition to never work with your hands. Little did he realize then how his advice would spark the authority oppositional streak in me, something I either learned or inherited directly from him. Of course I was going to end up working with my hands in ways he would have frowned upon as not being suitable for girls. Little did either of us realize how much of the world was reflected in those calloused, gnarled hands of his, as he encouraged me to think beyond them. For me, they remain emblematic of the fact that we are material beings sublimely emersed in a world of materiality and forces. Here's to you Dad, I am positive that somewhere in the universe, in a form that even AI can’t imagine, you are material still.

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Appendix

Thinking Beyond the Hand

Exhibition Photographs

Figure A1. View of the exhibition *Thinking Beyond the Hand*, 205 Richmond Street, Room 418, August 15th to August 19th, 2024. Looking north. In the foreground is the shaving horse with pole lathe behind. The 2 ledges on the wall show experiments in tool making, turning and carving. Cherry, walnut, ash, alder and maple.

Figure A2. View of the exhibition looking south east. The pole lathe is shown freestanding in the foreground and pole lathe behind. On the wall at the rear is the Research Wall of photographs, sketches, journal pages, index cards and mind maps. To the right, hung on the wall, is the chair made in Clissett Wood, England in 2022.

Figure A3. Riving Frame shown leaning against the north wall. Pressure treated 2 x 4-inch SPF and reclaimed wood. On the ground are 3 mallets made from branches of birch, maple and mulberry. June 2024.

Figure A4. Ledge 1 showing split sections of logs, experiments in turning tapered cylinders for stool legs, gluts and a mallet. Ash, cherry, walnut, mulberry. 2022-2024.

Figure A5. Ledge 2 from left to right showing progress of spoon carving, whittled knives, experimentation in turning and cylindrical stool stretchers. Maple, walnut, alder, cherry, birch. 2021-2024.

Figure A6. Pole lathe. Oak, ash and SPF, bungy cord, nylon cord, leather. August 2022.

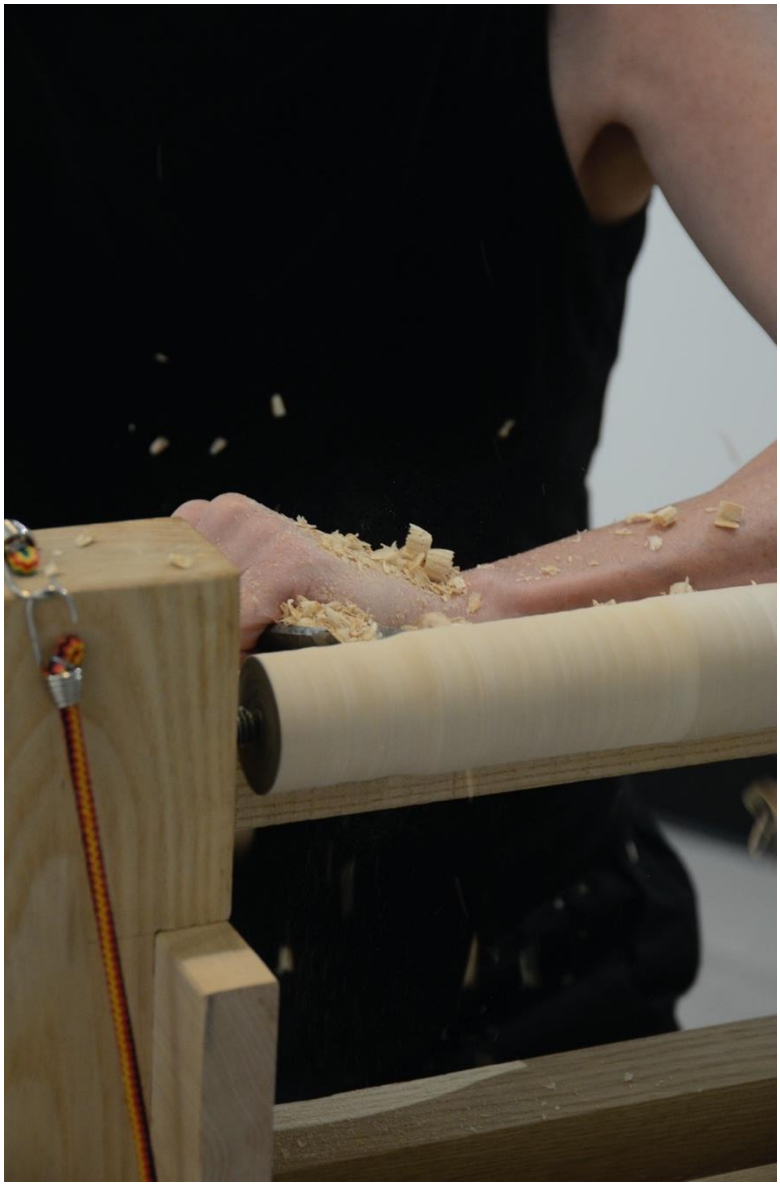

Figure A7. I am shown turning a piece of ash on the pole lathe. The roughing gouge is just visible in the photograph on the right. Visitors to the exhibition were invited to try their hand at using the lathe.

Figure A8. Shaving horse. The pegs shown on the right can be used to grip lengths of wood to be sawn or shaped. Douglas fir, maple, ash, cherry. April 2022.

Figure A9. Research Wall showing process documentation: including journal entries, photographs, cutting lists, index cards, mind maps, sketches, templates and notes. 2021-2024.

Figure A10. Stick back chair made in Clissett Wood, England. Ash, oak. August 2022. This chair was not assembled as it was brought to Canada from England in a suitcase, and it has come to mean more to me in parts. Shown in this state of suspension it bypasses assumptions that I know what chairs “are” and instead asks me to consider how I assess, understand and value everyday items.