

A Familiar Materiality:

*Merging the material worlds of crafts and
communication technology*

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Merging the material worlds of crafts and communication technology

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Introduction

In this text, I would like to propose and ponder on the following question: how can we merge the material worlds of crafts and technology?

Through this thesis, I aim to look for parallels between the making processes of craft and communication technology, pushing towards a transfer of skills and a more craft-oriented approach towards observing the makings of basic circuitry in crystal radios. This is grounded through an attentiveness to materials, slowness, intention, an ethos of repair, and tactility.

I am constantly interested in the everyday objects that shape our daily lives, whether it be a mug, a laptop, a pen, or a phone. Having previously researched ceramics and their impact on daily experience, I now want to explore how communication technology has become just as integral to our routines, and whether there might be a way to bring these two material worlds into conversation, or even merge them.

Alongside this, I am curious about how familiar knowledge from other skill sets might help us better understand such devices. Could the embodied knowledge found in craft (where the hand is the primary tool) find parallels in the making of technology? This thesis develops through an introspective methodology, looking towards my family and their practices to trace connections, while exploring how electronic materiality can mix with crafting materials.

The project will explore the making of a physical radio receiver by bending its materiality through the introduction of crafting materials such as clay and textiles. As the practical component of the project explores that approach, the thesis begins with a familiar understanding of radio, while also examining how the need for communication emerged in ways that parallel craftsmanship: as a form of self-sustenance through making and connecting. This opening chapter also focuses on the story of Lucretia Walker, whose life and experiences intersect with the development of the telegraph by Samuel Morse.

The second chapter considers craft as a self-sustaining practice, looking closely at DIY repair culture while also reflecting on the disappearance of craft in favour of fast consumables. The final chapter looks onto 'the spin' as a way

to understand the cycles of crafting, kin, and electronic manufacturing. Additionally, I also look into ceramic techniques, identifying parallels between the jargon used in manufacturing processes of clay and electronic hardware.

Because this thesis is grounded in materiality, the research remains attentive to the origins and implications of materials, highlighting shared concerns between craft, its history and the materials that we embody. The writing process inspires the graduation project, where I question how shifts in materiality might alter not only the form of an object, but its function, use, and meaning.

Chapter 1: Hearing you loud and clear

The parallels of crafting techniques and radio making

In the beginning, there was radio.

Some say that there was a quickening, and that the Earth's core bubbled and burped to release the egg, and that the soft, brittle egg cracked to release the worm – the double worm of two entwined in one – to let it slither out and go underground, to disperse through all the elements and up through the aether, burrowing down and emerging up at the same time.

But the sun and rocks and stars know that there was radio even before that.

And nuclear waste (among other things) will go on to tell our more-than-human successors that there will still be radio, even then.

Radio art piece by Kate Donovan & Gabi Schaffner called Radio Ecologies – Lost In Transmission (Donovan and Schaffner, 2020).

I remember coming across this piece three years ago, during a time of moving away from home and settling in Rotterdam. It resonated with me, especially in the way it related to my reflections and fascinations on the crystal radio¹: the idea that a signal is not something abstract, but something rather present, waiting to be tuned into. An image comes to mind, that of grounding metal into soil, which quite literally represents the rooting of the device in the earth so that it can receive more clearly. This act made radio feel less like a technological intervention and more like a natural force.

Radio, in that sense, has been very much present in my life since childhood. I grew up with its persistent sound in the background. My father's hobby of amateur radio

¹ A crystal radio, or crystal set, is an early and very simple type of radio receiver that works using only the energy of the incoming radio signal, requiring no external power. Its key component is the crystal detector, now known as a diode. Built from just a few basic parts, crystal radios are entirely passive, which means they produce faint sound and can receive stations only at close range.

shaped much of that atmosphere: he enjoys making his own radios, carefully assembling each component, often showing this perfectionist, almost faux-engineer side of him. I have always been fascinated by this precision, by the patience and seriousness he brings to it. At the same time, I doubt he would read the quote above and agree with it (though I might be wrong). For him, radio is a serious, technical hobby; there is little room to philosophise about its poetics.

For me, however, this text affirms something I have long felt: that the signal has always been there, something running through and around us. Radio is not only circuitry and calibration, but an embodied practice. You have to move your antenna by hand to catch a signal, and once you've hit a good spot, frequencies start to emerge, in different languages and narrations. It is also about the many layers of tangibility: the soil, the metal, the careful tuning, and about sensing what is already present. In that way, it feels grounded, both literally and personally, woven into my own experience and into the earth itself.

Observing the materiality of this device has also led me to connect radio to practices of making more broadly: the use of scrap and raw materials, the careful assembling and reassembling of parts. In that way, radio becomes a form of crafting: an attentive, grounded engagement with matter and unseen forces.

Since I could remember, my parents both had their own hobbies. My father obtained his ham radio license and would frequently hang out with other enthusiasts at the Maltese amateur radio league, the only one on the island founded in 1922 during the British colonial period. When he married my mother, his radio shack relocated into our family home, building a large collection of bought and self-made radios - he even built his own antenna to obtain stronger signals and perform moon bouncing.²

Whilst my father was tinkering and soldering on the roof, my mother would be crocheting her evenings away in the living room. She attended trade school at the age of sixteen for three months, to learn the basics of the sewing machine, crochet, knitting, textile repair and occasionally learning traditional Maltese crafts like *trajbu*³ (Fig.1).

She has always been interested in DIY skills and crafting things for our house. She made curtains, sofa spreads, tablecloths, and occasionally dabbled in painting and pottery to make her own plant pots, vases and touched up the walls yearly when they needed servicing.

² Amateur radio operators use a method known as Earth-Moon-Earth (EME) communication, in which radio signals are reflected off the Moon, to reach other operators who would otherwise be out of range beyond the horizon.

³ *Trajbu* (pronounced "try-boo") is a lace pillow that is used to make Maltese lace.



Figure 1. Archival image demonstrating traditional Maltese lace making (source and date unknown).

From a young age, I've always shown an interest in crafting, so my mother took over the reins and shared her knowledge with me, making me more inclined towards my mothers hobbies. But there were moments when my father would

teach me morse code on a transmitter he had built himself, or let me talk to his radio friends, asking them how the weather is on their side of the world. I could see both of my parents making and repairing things by hand, using different materialities. Growing up with two opposing hobbyists has led me to embrace both crafts, recognising connections between their practices, while also being captivated by both processes. I could talk to complete strangers, repeating back call signs⁴ my father would tell me to use, feeling as if I am speaking some secret yet universal language. On the other hand, crafting gave me a great sense of attention and satisfaction, concentrating so much on perfecting a textile pattern to ultimately be rewarded with a new garment. Both crafting and radio making left me curious, often shuffling from my fathers radio shack to fumbling around my mothers stash of yarn. Both practices are so tactile in nature and both of my parents would hoard many materials, often extracted from pre-existing objects - hoping to repurpose in a new project. The materials at hand are the crucial tools.



Figure 2. Psychic Radio by Claire Williams (Williams, 2025).

While having these personal reflections - finding connections between crafting practices and tactile hardware tinkering - I wanted to learn from other artists that have explored these parallels. A project that helped me recognize links between craft and electronics

is *Psychic Radio* by Claire Williams (2025, see fig. 2). This project shows an embroidered electronic circuit inspired by 19th-century spiritualist practices and early

⁴ A call sign is a distinctive identifier assigned to a transmitting station. These identifiers may be officially issued by a government authority.

radio technology. Drawing from the imagery of female mediums as living transmission systems, it combines textile techniques from *Ouvrages de Dames* with the minimalist design of crystal radios that harness ambient static electricity. The embroidered radio acts as a sensing surface, capturing and revealing invisible radio energies and ghostly presences in the environment. The project bridges craft, technology and the unseen electromagnetic forces surrounding us.

Bending materiality through new functions

My fine art background was a time of exploration, investigating the intersection of personal and material archaeology. I could not sit still with one medium, I wanted to be a jack of all trades but a master of none. I wanted to familiarise myself with every single medium I had access to; I started out with drawing in high school, gathering a good understanding of perception and the general basics. Throughout the past five years, I settled on photography, textiles and ceramics. I felt that these materialities could be molded in many different ways, allowing me to explore notions of collective tangible memory.

In this current exploration, I am delving into new and undiscovered territory. I feel that a part of me wants to explore the world of electronic DIY hardware because of the parallels I am encountering with crafting practices. As mentioned earlier, the piece of DIY electronics that caught my eye was the crystal radio. The first time I encountered it was over a year ago when I attended a workshop at WORM, led by *Shortwave Collective*, where we built our own crystal radios. I was fascinated by how accessible the process was and how we were encouraged to bring items from home and repurpose them, such as small scraps of metal or empty toilet paper rolls, which we used to coil copper wire onto. What I particularly enjoyed was that no prior knowledge was required; everyone could participate and we all learned together through hands-on making.



Figure 3. The Mystic Bug crystal radio manufactured by Brush-McCoy in 1926.

The materiality of this radio reminds me of all the materials I used to hoard for my crafting projects: cables, thread, pieces of wood, safety pins, cardboard, metal wire. By familiarising myself with the materials, I started to become interested in

electronics and wanted to bend the materiality of this radio making process. Given my clay practice, I was curious to see if I could stumble upon a project, that includes clay components mixed with electronics, someone that might have explored the makings of such a radio - and that's when I found The Mystic Bug crystal radio (Fig. 3), manufactured by Brush-McCoy in 1926. They had initially made it for all the radio

enthusiasts, coining the term 'radio bugs'. The design was later discontinued, as radio technology advanced, which led to the bug design being adopted as a door stopper. It's interesting to see that as soon as radio technology advanced, the radio bug took on a whole new function and the manufacturer simply removed the radio innards, kept the ceramic outer shell, and the object could live with a whole other function. The bug does not look like a radio, unless the headphones are plugged in, the radio is a shapeshifter; it could be exercised for other purposes.



Figure 4. Clay PCB's by *Patricia J. Reis and Stefanie Wuschitz* (2024).

Another project I was particularly inspired by are the works of Patrícia J. Reis and Stefanie Wuschitz, specifically their research on Feminist Hardware: Making Printed Circuit Boards With Natural Clay (2024, see fig. 4).

Throughout their research, they tested out alternative ways to make hardware, specifically using locally sourced materials. This process encourages consideration of sustainable practices that benefit both human and non-human entities. Their research is all public, where anyone can make their own clay PCB through their manual. Alongside their research, both Reis and Wuschitz hosted a two-day workshop with Creative Coding Utrecht, where participants could make their own clay PCBs. Unfortunately I did not attend the workshop myself but spoke with someone who did and they described the process: participants extracted natural clay from a nearby woodland area, processed it by hand, sifted it and molded it into a ball of clay. The next day they imprinted the PCB mold onto the clay, placed melted silver into the folds of the mold and let the clay PCBs solidify in a fire. She described that the process was a long one, a process that left many clay PCBs not working and some functioning with very low power. Hearing this somewhat confirms that the materiality could indeed bend and manipulate the object's function, leading to exploration rather than disappointment.

Tracking back into communication technology, this chapter examines radio for its materiality and how those material choices could alter its function, a function that is needed on a daily basis: communication. I sometimes think of a time before the smartphone, before the radio or the telegraph, how people can be driven by certain

experiences and be compelled to craft and build these devices. What drives people to engineer new communication technologies and how do personal experiences affect their design?

The emergence of communication out of emergency

Our desire to communicate has roots in practices similar to craft, as a means of self-sustenance through making and establishing connection. I often wonder how this need arose, how it became evident that we needed some form of device to help us reach out to others. The first electrical telecommunication method that came to mind was Morse code⁵, which I was introduced to around the age of ten, by my father. He had to learn it for his radio license exam, so he was quite knowledgeable and taught me using his self-built Code Practice Oscillator⁶ (Fig. 5)



Figure 5. Code Practice Oscillator (Source: unknown).

I remember looking at this contraption and being more distracted by its making than by the sounds it produced, which meant I never properly learned anything. I also remember asking my father why we even bothered using this for radio communication, which led me into an internet deep-dive about Morse codes creator and his work:

⁵ Morse code is a system of communication that represents written characters through standardized patterns of two signal lengths, known as dots and dashes.

⁶ A code practice oscillator is an electronic device that produces a sound when Morse code key is applied, enabling users to practice the transmitting and recognizing of dots and dashes.

Samuel Morse, who was first a painter, had to leave his pregnant wife to complete a painting of Marquis de Lafayette, a commission for the New York City Hall (Morse, 1914). Relying on letters to stay in touch, messages inevitably travelled slowly. But Samuel always updated his wife Lucretia (Fig. 6), be it updates about the painting and everything that was happening at the City Hall. In his letters, it is very apparent that he wanted Lucretia to know every detail about his days while they were apart. Reading the letters made me think of long distance couples, constantly texting and updating their significant other in real time. Morse did not have the same luxury; letters often delayed communication by three days (if not more) and unfortunately, some delayed and terrible news was on the way. It is unclear whether it was caused by childbirth, but Lucretia fell ill at the age of twenty-five and passed away shortly after. By the time Morse received the news and returned home, she had already been buried.



Figure 6. Lucretia Pickering Walker, wife of Samuel F.B. Morse, painted by Morse (1914).

I am aware that this might not be the reason as to why Morse invented the telegraph but I can't help but think so. I think that Morse went on to invent the telegraph because of the frustrations he had while communicating with his wife. Mourning led him to research, he wanted something instant, communicating in real time while being so far apart. It is a tragic example

but one that underscores the role of craft-like technologies (radio) as tools shaped by human needs for everyday connection, rather than solely by military or geopolitical purposes. To support this argument, I would like to introduce the research of

Alexander Badenoch and Golo Föllmer, 'Transnationalizing Radio Research: New Approaches to an Old Medium'. This research lists different guides for exploring radio's history, stating that radio hobbyists used the knowledge of such radio technologies, and applied it in their everyday lives before the First World War, shaping a re-appropriation of the technology (2018).

In one chapter written by researcher Dr Maria Rikitianskaia, she explains that radio amateurs were experimental with the medium, applying it in everyday life, outside of institutional settings, often corresponding with one another and sharing their knowledge (2018). This proves that radio technology was somehow evolved and could be experimented through social use and radio amateurs globally.

Going back to Morse code - something shaped slowly out of ordinary longings: the telegraph is not only a technical breakthrough but an attempt to hold on to everyday connection. Remembering this brings technology closer to the world of craft, where objects grow from need, impatience, and imperfect materials rather than from pure efficiency.

Radio is not as a purely technical object, but as a grounded, craft-like practice shaped by attention, necessity, and lived experience. Reflecting on my own memories of growing up between two modes of making, I recognise a shared language of assembling, repairing, and repurposing materials. The artistic projects discussed before strengthen this link, showing how electronics can be reimaged within alternative material traditions.

The crystal radio becomes a key case where these threads meet: accessible, responsive, and entangled with its environment. At the same time, tracing communication histories like Morse's shows how such technologies arise from urgency, longing, and the need to stay connected. Altogether, this chapter frames radio as both inherited and continually reworked, a medium between craft and technology, shaped as much by human touch and improvisation as by the invisible signals around us.

The next chapter looks at craft as a way to live with and question materials, treating making as both a form of self-sustenance and a method for looking more carefully at the electronic things we rely on everyday, while observing materials within DIY repair culture.

Chapter 2: In the age of craftsmanship

“I grew up in a warm and comfortable social environment surrounded by cheap and attractive commodities, colored plastic toys, convenient items such as disposable cups, pens, and bottles, light and warm clothes, personal cars, low-cost airlines, and so much more. Today I am lulled by the sweet music of countless buzzwords like recycling, re-treating, repairing, or reusing into the dream of a virtuous technological circle with no waste, no residues, no traces. The new era of clean, dematerialized technology, where artificial intelligence can do the dirty or boring jobs, is as seductive as the Disney world of the late twentieth century.”

“Tracking World-Materials” by Bernadette Bensaude-Vincent, an introductory essay written for “Being a Photograph” by Susanne Kriemann (2025).

While looking through Susanne Kriemann's reader for ‘Being a Photograph’, the introductory essay by Bernadette Bensaude-Vincent, discusses the everyday materials in which we situate ourselves in. The author opens up the text by mentioning plastics, and how these materials have become somewhat of markers or scars left by us humans. This narration of the author being brought up within a warm climate, with plastic commodities made me think of my upbringing in Malta in the 2000s: specifically having this shift in the materials we use and how re-cycling practices work on the island.

In this chapter, I would like to discuss how our attitude towards technology would benefit from a slower, more intentional approach that critically questions the material - but first, I will ground the subject matter by introducing craft, its history, and its parallels to the making of a crystal radio.

Historically, the concept of craft has been through many shifts in meaning. According to the English bookbinder and artist Thomas James Cobden-Sanderson, in his book ‘The Arts and Crafts Movement’ early uses of the term were often associated with cunning nature and deception, before later being reframed as a form of enjoyable work, that was increasingly detached from seriousness and excellence (1905). In contemporary contexts, craft has begun to re-emerge in a fragmented way,

particularly within art and design, as a means of reconnecting with material knowledge and embodied forms of making.

One craft that I would like to discuss is Ganutell (Fig. 7). This is a traditional Maltese craft of making decorative flowers using thin wire that is coiled into springs and then wrapped with silk thread and beads. The practice was brought to Malta from Europe during the eighteenth century and over time, it developed in its own way and gradually became a unique Maltese form of craft (Kerr, 2004).

Ganutell was introduced to me when I was ten years old, by an employee that worked in my father's bike store. During her lunch break, she would bring out a bag full of wire thread and beads, teaching me the basics of this craft. At the time, I was hoping that this person was not annoyed that I was taking up her lunch break, but she explained to me that this was the only time she had to practice the craft, allowing her to have a moment to slow down.

During the initial stages of the graduation project, I made connections with this craft and that of the crystal radio; the way in which the wire is woven and folded in Ganutell reminds me of the same precision used to coil copper wire onto a toilet

paper roll to make a radio. Similarly to the practice of crystal radios, this craft was hardly known by the Maltese population and only a few had mastered the various techniques of the craft (Kerr, 2004). The techniques had been passed on from generation to generation by word of mouth with little or no documentation until it seemed that it was destined to be forgotten.



Figure 7. Ornamental silver candlesticks near a Ganutell-decorated vase; reproduced from Samwel Borg, *Contextual Studies Essay*, blog post (date unknown).

While trying to understand the relations between crafting practices and electronic circuitry, I came across an article titled “Crafting technology:

Reimagining the processes, materials, and cultures of electronics”, written by designer Hannah Perner-Wilson, and designer-engineer Leah Buechley (2012). In this article,

both authors conducted research for the MIT Media Lab on how the experience of electronic making could be compared to that of crafting, specifically sewing, wood carving and painting. The research also reflects on the historical elements of crafting, stating that there is a loss that reflects a pattern in which craft practices have been historically undervalued as informal or decorative, despite the high level of technical skill they require, leading to gaps in documentation. In the case of Ganutell, I believe that these might not be gaps but a lack of kin inheriting skills in addition to the shifting culture of a colonised Malta.

When building a crystal radio, you are somehow slowing down and understanding your materials to better the function of the object you're trying to make. Both the practice of Ganutell and the makings of a crystal radio require similar materials, both need attention and slowness to perfect each coil. Placing these two practices side by side highlights not only the similarities in their making processes, but also how craft can become a familiar way of engaging with and understanding the materials and construction of electronic devices. Reflecting back on Buechley & Perner-Wilson's article (2012), research on craft suggests that people are particularly drawn to hands-on practices that build on existing skills and knowledge, especially when these practices emphasise attentiveness to material behaviour and process.

Whether shaping a decorative flower or coiling copper for a crystal radio, the maker is drawn into a dialogue with the material, discovering its possibilities and limits. In this way, the act of making becomes its own conclusion: a reminder that discovery can grow from slowness, attention, and the repetition of making something by hand by using the same motion over and over again.

Collective practices of accumulation and repair

The piece of text I remember encountering during my first year of XPUB was 'In the Real World of Technology' by Ursula Franklin (1990). Franklin was a metallurgist and researcher, mainly focusing her work on the social and political outcomes of technology. In this particular text, Franklin mentions the notions of holistic technologies, in which the maker has full control of the process from beginning to end, and prescriptive technologies, which divide labour into narrow and managed steps that remove knowledge from the worker. A perfect representation for someone practicing holistic technologies would be a ceramicist: when they are making an object, the maker has full control of each bend, carving, press, form and finish, making the object unique in its own way and having one person work on it from start to finish. While reading Franklin's work, I thought of how holistic technologies within the Maltese islands are slowly shifting, almost disappearing. The country is ever changing and I look onto it with an observant eye. The changes that I notice are mostly in the small habits that have entered artisans daily practice and how their craft is slowly being replaced by larger business entities.

As an example, I want to talk about the change in my mothers crafting practice. She starts off by sending me links to objects she wants to buy from Temu⁷. I am her personal bookmark and she needs help to purchase an item, the online payment system seems mysterious to her. This usually ends up in a conversation of me trying to convince her not to buy from this website and think of the intense labor and poor conditions the makers of these items go through. Additionally, I also try to make her aware of what materials these objects are manufactured from. As Bensuade-Vincent mentions previously in her essay (2025), this reliance on convenience reflects a cultural condition in which comfort and speed are prioritised, while the material origins, labour conditions, and environmental consequences of objects are seen as invisible through digital interfaces. While this reflects on the consumer's choices to opt for cheap convenience, Franklin reflects on manufactured objects made through many workers' hands, that of what she describes as prescriptive technologies.

I tell my mother that the same crocheted bag she wants from Temu can easily be made by herself, with locally sourced materials. She tells me that all the yarn, sewing needles, and materials on Temu are way cheaper than the haberdashery store in our village and that she is slowly making this shift to buying cheaper materials and ready made knitted items rather than making them herself. She could choose local wool, feel its weight, adjust the pattern as she works, and finish a piece that carries her decisions in every stitch. This agency she would take in making something herself with tools sourced from her mother, grandmother or friends reminded me of a text by Ernesto Oroza called Technological Disobedience (2016). Oroza is a Cuban artist and

⁷ Temu is an online platform selling heavily discounted goods, mostly shipped directly from China.

designer, mainly interested in topics that link design methods and communities during political difficulty. Oroza mentions that Cuban people in the 1960s accumulated materials and continued to make objects themselves, allowing them to hold onto technical principles, crafting methods, and forms of knowledge that would otherwise be lost (Oroza, 2016).

This kind of making Oroza mentions connects the hand with the material. Malta is currently going through a big Temu craze, everyone talks about it as if it's some sort of postage miracle that has hit our island. People claim that it's fast and provides you with everything you need. Near our house the old ironmongery still survives, a crowded shop where tools hang from the ceiling and the owner knows exactly which washer fits which shower head. Stepping inside feels like a place where information is shared rather than automated. As Oroza mentions (2016), such repair-oriented environments often rely on shared technical languages and collectively understood solutions, where knowledge circulates through word of mouth rather than being embedded in standardised systems. If places like the local ironmongery are losing clients due to larger companies, I am worried that this community of knowledge-building and problem solving will be lost.

The choice is not only about fast purchases. It is about whether we remain participants in the making of our world or become users following instructions written far away. I find it hard to understand how people can resort to these websites when the ironmongery has all you need.

I guess it's a change that's happening on the island, everything seems to be fast paced. My mother used to go to the haberdashery once a week or use any previous scraps and materials for her projects and textile repairs, but now claims that she has no time to do that, making an excuse that the opening hours of the store are inconvenient and that it is easier to order everything online. Even though some of these behaviours are slowly getting lost, the island still has a self-sustaining nature and it lingers in daily practices. The next section describes a moment I encountered a self-sustaining act through a DIY community contraption, which I have decided to call the shimmering box due to its mysterious qualities.

The shimmering box

I noticed that whenever I go walking around my neighborhood, I would often take the same trail and find myself in the village of Santa Luċija, which is a modern town built in the 20th century, mostly containing social housing and farmland. The closer I walked towards the farms and their nearby houses, I observed something that caught my attention (Fig. 8).



Figure 8. The mysterious box, Santa Lucija, Malta (2025).

Resting on the ground is a box completely covered by duct tape. I can't tell if it's an electrical box, but it is drilled to a metal rod, fixed into the limestone wall. The duct tape edges can be seen, there is no clean finish and two orange cables come out of the box, one of them strung to a bolt in the ground and the other one spirals around it. A gel pod rests comfortably right next to these orange cables (I'm speculating that this has nothing to do with the function of the box, but it seems to be placed

there intentionally). I'm still not sure what object this is but it's something that the local council might have not noticed and the neighboring community took it into their own hands to construct this DIY contraption. This duct tape box shimmered in the sun, ambiguous and constructed from mismatched materials. It once again reminds me of Oroza's article (2016) where he states: "when you have enough broken fans you start to see them as a collection of usable structures" rather than as singular finished objects. Maybe this mysterious box was constructed to become a usable structure.

It felt like a small monument to the kind of knowledge Franklin calls holistic: messy, responsive, and inseparable from the people who made it. Unlike the objects arriving from Temu, this contraption carried its process openly on its surface. It showed how the landscape is still being crafted by hands that improvise rather than follow instructions.

Following Oroza's writing (2016), in this sense, repair can be understood as a disobedient act, where one restores, partially or completely, the technical, functional, or visual qualities of an object that has lost them. This creative reuse and repair sometimes changes the object's purpose from its intended use by its manufacturer. Such improvised makings remind me of a phrase philosopher and historian Michel Serres terms as "world-objects": material traces left by human activity that are directly embedded into landscapes and everyday environments (1974). Serres started to use this term to help him flow through his thinking about the relationship humans hold between technology and evolution.

In some way, I see connections between Oroza and Serres' observations. The objects that people decide to repair are ultimately made from objects that had a previous life, they are stripped from their previous bodies and restored into new functional structures. The materials used are often plastic, bits and pieces of parts manufactured in companies, materials that Serres would describe as 'world-objects'. To visualise these two thoughts together, the shimmering box is the ideal example: the box functions as a small "world-object" within the landscape, a crafted trace of human technical knowledge, while subtly showing how global systems of repair and material reuse are negotiated at a local, everyday scale.

I see a growing tension between the speed and convenience of contemporary technological culture and the slower, more attentive modes of making that craft embodies. Reflecting on materials makes clear how our relationship to technological devices is often distanced from their origins. By placing practices like Ganutell alongside crystal radio making, I understand craft as a way of observing, one that sustains skills while reopening dialogue with materials, labour, and process.

At the same time, shifting craft practices in Malta show how knowledge, agency, and communal exchange risk being replaced by automated systems. Yet moments of resistance remain: in accumulated materials, acts of repair, and improvised objects like the shimmering box. These suggest crafting is not nostalgic but ongoing, a way to stay engaged with material realities and insist on participation in how technological environments are made and understood.

In the next chapter, I will further discuss my family's hobbies, linking them closely to the idea of cycles of life and the spinning that is at the root of many machines and craft. Through the example of a studio or workshop practice, I will also reflect on ceramic production methods and compare them to acts of making within electronic manufacturing.

Chapter 3: A distinct likeness

Spinning endlessly

“You might think that turning means repeating, being forever doomed to go back to the same starting point. But that’s not true. Rotation is progress. Each spin takes us somewhere new. Each cycle, even if it seems identical, is in fact a variation, a new step. It’s a loop that never closes.”

Introduction text of Tools Magazine, edition 5, ‘To Spin’, (2025).

After reading this, I could no longer unsee the constant rotation within our actions. I came across this magazine in Eindhoven, intrigued by its cover: an orange ceramic pot with the title ‘Tools’ written at the top. The team behind the magazine focuses on redefining how we look at craftsmanship and design, reshaping the way we approach both form and meaning. This particular issue discusses the act of spinning, be it spinning wool, spinning clay on a potter’s wheel, or spinning glass.

In the introductory text, they mention the overlooked actions we take. Throughout history, and still today, we have relied on circular rotation to produce objects and to make machinery function, giving us the materials we live with (2025). They go on to describe how artisans and crafters rely on mastering the spin, which made me think

about my own year of learning to work on the potter’s wheel. I remember the moment I realised that the speed of the wheel was not something to be frightened of, but something to work with. Rotation became a tool in itself.



Figure 9. My grandfather Joseph Farrugia painting a set design, date unknown.

Putting machinery and tools aside, there is also a certain energy in the rotational acts we experience as humans. I do not mean literal acts, but rather the cycles we move through in life. I admit that I chose this specific quote to introduce this chapter because it resonates with the crafting skills I inherited from my family. It feels as though there is a cycle they began that I would like to continue. Previously, I focused mainly on my parents' hobbies, but I would like to refresh my memory and think about my grandparents as well. I believe it is important to look more closely at how these cycles began.

Starting with my father's side of the family, I do not think they necessarily shared similar hobbies. My grandfather (Fig. 9), my father's father, worked as a commercial photographer before he got married and joined the family business. He would take passport photographs, and documented his daily life in his spare time. The images he took became a visual inspiration for me, and I can see how my earlier photography work was influenced by my grandfather's imagery.



Figure 10. My grandfather Andrew Cauchi on the job, date unknown.

On my mother's side of the family, my grandmother was a housewife, although she had also attended trade school. My grandfather, my mother's father, was a stonemason (Fig. 10) who worked with limestone. He was introduced to the trade by his father at the age of fourteen and continued working until his death at sixty-eight. I say that he was thrown into this trade, but I always remember him

loving every second of it. He worked for his own clients: people would commission him to build limestone arches or carry out house restorations. Many appreciated his eye for detail, and would hire him instead of a larger company to work on their homes. He loved his job and never complained about how labour-intensive it was, although it certainly was.

Inside his garage, all of his tools were neatly stacked, and in the centre of the room stood his stone-cutting machine. On the right side, chunks of limestone were piled on top of one another, stacked almost up to the ceiling. He was his own boss, and this was his workshop.

In the next section, I want to talk about how my grandfather's workshop became a source of motivation and inspiration towards learning about crafting practices, relating them to the power of the rotational force that we live in.

The workshop

I remember watching my grandfather use the cutting machine, observing in awe as he sliced through limestone and made it look like an effortless job. The machine had a circular blade that would gradually increase in speed once he turned it on, until it reached its maximum, making the blade appear like an unstoppable force. I used to tell him that his machinery looked intimidating, and how that intimidation slowly turned into fascination. I admitted to him many times that I wanted to be just like him when I grew up, which made him feel very flattered every time I reminded him. Whenever I said this, he would smile and tell me that I should focus on my education and get a job that would make me a lot of money. My younger self used to roll my eyes at him, but my current self understands that he meant well.

His workshop was situated in his garage, among storage boxes and his car tightly parked at the front. Everything was cramped into that space, yet he still thrived there, working for hours without the limitations of the space disrupting him. Reflecting back on the work of Oroza discussed in Chapter two, he mentions that people in Cuba would use their spaces at home to serve “as the true laboratories for invention and manufacturing” (2016). Even though these activities took place after their work hours, they relied on the materials they had at hand, what they collected from work or salvaged by upcycling broken devices. In some way, I find a relation to this remark with my grandfather’s practice. Even though he was his own boss, he could not afford a separate workspace outside of his home to cut limestone, so he worked with what he had available. He divided his garage accordingly: one side for parking his car, another corner for stacking limestone, and another area dedicated to tools and small machinery, many of which were collected from family members or inherited from his father. It was not much, but his garage brought him joy in his craft and work, sustaining the cycle of both his commissions and his hobby.

The idea of the makerspace (a studio, a workshop) has inspired me since a young age. I remember seeing my grandfather collect the dust from freshly cut limestone and place it in a bucket so it could be recycled. I also remember observing how neatly his tools were stacked, everything arranged within its own section, with the placement of each tool carefully considered to make his work easier. This progression, process, and almost ritualistic way of maintaining a workspace is what eventually led me to ceramics. I started working with clay around 2021, mostly for fun and to learn how to use the wheel. Over time, I began making tableware ceramics, and later used the medium to produce small-scale sculptures that would work in conversation with my photographic work. Only later did I realise that the feel of the medium and its tools resembled my grandfather’s practice: the sensation of having dusty hands, dust gathering under your fingernails, keeping a bucket of water nearby, chucking tools

into the water to keep them clean, and having several carving tools within reach. The similarities in these methods slowly became clear to me, and I feel that in some way I have maintained my grandfather's cycle of craft.

In the next section, I would like to discuss ceramic practices in more detail, mainly focusing on La Borne, the village of potters, and their segmentation of tasks. Additionally, I want to loop back into craft and technological parallels, outlining the similarities between the vocabulary of ceramic production, and the processes involved in the manufacturing of electronics.

Ceramics in parallel

The ceramics section in *Tools* magazine focuses on studio visits inside the ceramic workshops of La Borne (2025). This village in France is historically known for its rich clay deposits, with working ceramicists dating back to the seventeenth century. In the article, Camille Azaïs, a writer and art critic, visits several studios in the La Borne region. Azaïs explains that in the past, ceramicists in the village would share kilns with one another, and the trade was so active that individuals often worked on separate tasks. These included cutting up clay, shaping it, carving it into form, firing, and glazing.

This kind of segmentation of tasks once again reminds me of Ursula Franklin's remarks about prescriptive technologies (1990). In this case, however, the ceramicists in La Borne seem to work with a mix of holistic and prescriptive technologies. Each individual is responsible for one specific act of making, which aligns with Franklin's definition of a prescriptive method. At the same time, the passing of a single clay piece from one set of hands to another, each person leaving their mark in the process, still feels holistic. According to Franklin, a fully holistic approach would involve one individual completing the object from start to finish, yet the collaborative nature of the process in La Borne alters this distinction.

This cycle of segmented tasks kept the rotation of work going, creating a form of self-sustaining production in a village so abundant in clay. However, the demand for ceramic tableware eventually decreased as new industrial materials such as plastic, glass, and metal were introduced. As a result, the village slowly shifted toward becoming a touristic attraction, where the spinning of the potter's wheel became the central spectacle. As Azaïs cleverly points out, the life cycle of the craft was changing rapidly, and ceramics seemed to struggle to find a place within that shift, especially within modern systems that prioritise cheaper materials and faster production processes (2025). It makes me sad to think that a cycle we worked so hard to perfect is rapidly changing in order to fit consumerist needs.

Throughout this research and the process of writing, I find myself moving back and forth between the act of making by hand (within craft practices) and the possibility of using that understanding as a way to approach the making of electronics. I am not suggesting that we can become experts in electronic material manufacturing through craft alone, but introducing familiarity through other practices can make the process of discovering new knowledge feel more approachable. I mention this here because, over the past year, my studio space has accumulated many different materials: old speakers, thread, fabric, pieces of dried clay, wood, and copper wire. The studio space,

and the materials you become familiar with inside it, help keep that rotation of prototyping and thinking ongoing.

As mentioned previously, the crystal radio has been a useful reference point in understanding how a received signal can be constructed using materials I have accumulated. Alongside this parallel process of making, I have also noticed similarities between the jargon ceramicists use for specific tasks and the terminology used in electronic manufacturing in factories. The phrasing of the tasks can be strikingly similar, even though the actions themselves operate at completely different scales.

The following are a few observations I have made, written as free-flowing notes:

1. In ceramics, we use the term ***slip casting***, which refers to pouring clay in a liquid state into a plaster mold. A comparable process in digital manufacturing would be ***die casting***, where molten metal is poured into a steel mold.
2. Clay goes through the processes of ***glazing and firing***. In this stage, the ceramic object is coated with glaze and then fired in a kiln at the optimal temperature for the clay body. In factories, metal objects are often coated using ***powder coating***, where a dry powder adheres to the material's surface and is later on heated to finish the coating.
3. Finally, continuing with the firing process, clay undergoes a ***kiln firing***, which removes the water contained within the clay body, allowing it to reach a solid state. Similarly, ***soldering*** also involves the application of heat to melt solder metal. In both cases, heat is used to alter the state of the material.

Of course, these are only a few examples that come to mind at the moment. This knowledge comes from years of ceramic practice, as well as from listening to my father talk about his experiences from working with metal to make outer shells for his radios. Observing the similarities in the phrasing of these actions creates an unexpected connection between two very different material practices. I realise that these parallels may not resonate with many, and not everyone will necessarily see a connection between crafters and electronic makers. Still, I hope these observations offer some encouragement for people to explore unfamiliar fields by looking at the cycles that exist across different disciplines.

To conclude this spin, the chapter frames rotation not only as a physical act within craft, but as a way of understanding how knowledge, skills, and material practices are carried forward and transformed. Through reflections on my family history, I recognise crafting as a cycle rather than something static: a continuous movement where gestures, tools, and techniques

are inherited, adapted, and reactivated. Spinning, on a potter's wheel or within a cutting machine, becomes both a literal and metaphorical force that sustains making.

At the same time, collective practices such as those in La Borne blur distinctions between individual and shared authorship, showing how cycles of production move between holistic and segmented approaches. Tracing parallels between ceramic processes and electronic manufacturing reveals how these cycles extend across disciplines, creating unexpected points of familiarity. Ultimately, making emerges as ongoing rotation, resisting closure and allowing craft, technology, and personal history to continually reshape one another.

Conclusion

This link between traditional crafts and radio making, rooted in my experiences with my parents' hobbies, is deepened through my involvement with DIY electronics and by looking at artists who blend ceramics and electronics. Alongside this, the mention of Samuel Morse and Lucretia Walker, highlights shared roots of communication and craft in human need and responsiveness, emphasising parallels of embodiment, attentiveness to materials, tactility, and urgency.

By looking into the definition of craft, parallels between crafting and electronic making emerge through examples like Ganutell and crystal radio, while also highlighting the disappearance of craft from everyday life in Malta, but noting small gestures of resistance, such as the shining box. These parallels suggest how our attitudes towards technology could benefit from a slower, more intentional approach that questions the material.

Rotation is introduced as a way to understand cycles of crafting - acts of repetition, like the pottery wheel - as well as cycles in technology and family history. This sense of spinning strengthens the parallels between crafts and making practices, making the learning of new skills feel more approachable. This is further supported by similarities between the vocabulary of ceramicists and the industrial processes of electronics manufacturing.

This has not only been a theoretical exploration of how craft and radio materialities might merge, but also a way of looking outward, towards other disciplines, and recognising connections across practices. Beginning from materiality has been a meaningful way to enter unfamiliar territory.

Simultaneously, looking inward, toward my family, and applying their material knowledge has become a new way of approaching my artistic practice. It has made the research feel more approachable, and more personal. I hope that anyone who encounters this writing finds something to relate to, whether in the humour of family stories, the understanding of a craft, or a familiarity with the materials that surround us.

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