The Radicality of Repair

A Study in Obsolescence, Resistance, and Art

Figure *i*. Drawing by artist Gadzooks Bazooka https://twitter.com/GadzooksB

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I would also like to thank my family for their interest and support—particularly Wasabi who was my constant writing companion during the completion of my first draft. Also—shouts to Soco #9 and the Snow Whites Dwarves for their support and reassurance throughout the year. I deeply appreciate their embrace of the cause and how they work to incorporate repair and thriftiness into their lives. As this thesis explores, the work of building alternative worlds begins with profound connections between individuals, and these friendships are some of the most profound connections I have ever known.

Introduction

I first heard of the Repair Café movement in February of 2021 when I began an internship with the organization Sustainable Hudson Valley (SHV) through Vassar's Office of Community Engaged Learning. I learned on the job that a Repair Café is a volunteer-run event where members of a community gather in a shared space with the purpose of fixing broken or damaged objects (fig. *ii*). At each Repair Café, people bring personal items they need help repairing: clothing, furniture, bikes, electrical appliances, tech gadgets, toys, jewelry etc. In arranging my internship placement, I reached out to SHV director Melissa Everett who connected me with the dedicated Repair Café organizer and scholar John Wackman. I exchanged a few emails with John who was lovely and full of excitement about growing student involvement with the movement and everything on the horizon for the Hudson Valley coalition of Repair Cafés.

Figure *ii*. Repair Café volunteers at work, https://repairtogether.be/en/repairs-cafes-in-figures/

The first repair movement event I attended was a virtual talk given by Elizabeth Knight about the recently published book *Repair Revolution,* which she co-authored with John. The meeting was full of enthusiastic scholars, activists, and hobbyists from around the world asking Knight questions about her book, planned obsolescence, the recycling industry, diversity in climate resistance work, and how to launch a Repair Café. I left the meeting feeling curious about the RC movement specifically, and more broadly feeling energized and hopeful from the fresh and go-getting environment of that virtual RC organizer space.

Tragically, that week this community was hit by the devastating news that John Wackman had unexpectedly passed away. My first meeting with the organizers of Repair Café a couple weeks later began with a very somber memorial service where each one of the local Repair Café organizers and volunteers shared stories about John's eclectic extraversion, mentorship, woodworking skills, and passion for the repair movement. I recall anecdotes about how John could always be found buzzing between the tables introducing himself to everyone who showed up—everybody spoke to how his warmth and openness fed the movement and forged a path for its future. I came to learn just how much Repair Café was about connections between people and repair of communities as much as it was about repair of objects. I was incredibly moved by people's stories and also by the resilience of the RC organizer community and their plans for carrying John's fervor for community-building through to realizing a kinder and more sustainable world (fig *iii*).

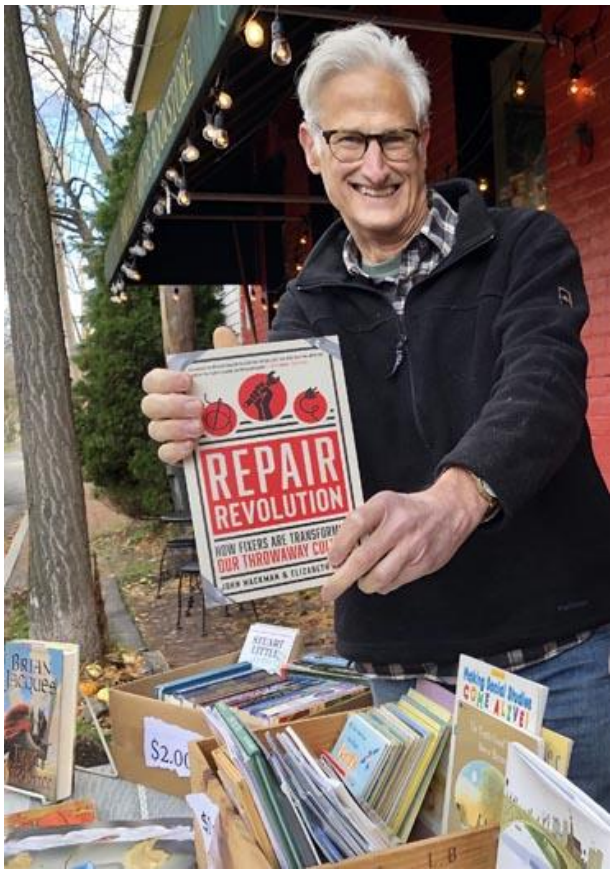

Figure *iii*. John Wackman holding a copy of *Repair Revolution*, https://hudsonvalleyone.com/2021/01/13/community-mourns-hudson-valley-repair-cafe-founder-john-wackman/.

After John's death, of the projects on the horizon for the movement was to hold a national conference of Repair Café organizers to try to centralize the movement slightly, as at the time it was being managed by a handful of unaffiliated Facebook groups and email chains. As a new need for inter-café communication arose to discuss the norms and best practices for COVID-era repair, my supervisors Melissa Everett and Don Fick helped me to curate and organize a database of all existing and active RCs in the United States in order to create a directory accessible to all organizers to help facilitate communication. When the database had been completed, Don uploaded all of the cafés and their different information fields (city, state, email, phone, activity

status, social media, websites etc.) onto the directory website and we drafted and sent out an email campaign to all 230 organizers listed. From here, the organizers joined the platform, edited their contact info as necessary, and reached out to their fellow organizers. Don also created an online Discourse server which served as a chat forum where the organizers could post information and resources and share ideas about COVID norms, in-person and remote repair events, and RC related Zoom calls, newsletters, and webinars.

In this work I learned that while Repair Café is by nature a sustainability movement, not all organizers, repairers, and café attendees come to Repair Café with this in mind. Some approach it from the perspective of consumer rights, some come from engineering or mechanical backgrounds and see repair as a way to lend their skills to the community, and others just see it as a community-strengthening exercise that holds political importance outside the realm of the sustainability movement. Outside of personal intention, everyone at a Repair Café leaves having made friends and fixed things. When I began working with Repair Café, I was interested in the specificity of the act of repair as a gateway to realizing large-scale societal improvements. I was also slightly skeptical of the potential RC has for drumming up real political consciousness in attendees, and even more skeptical of the movement's potential to truly combat the systemic factors contributing to climate change. But as I delved further into research of the repair movement and the movements that preceded it, I began to wonder if Repair Café's barebones foundation of community-building—which touts the radicality of marginal progress through a coalescence of individual actions—might serve as a humble catalyst for actualizing systemic upheaval.

In Wackman and Knight's book *Repair Revolution*, they quote volunteer Fixer Joe Holdner from Brooklyn's Fixer's Collective who asks "Have you noticed that when you repair a

lamp and the light goes on, the owner lights up also?"[1] This perfectly encapsulates the spirit of the movement as I have come to understand it—repair of the object and the person work in tandem. *Repair Revolution* cites moving examples of people bringing in objects for repair that hold meanings which far transcend the functioning of the objects themselves. Visitors bring in family heirlooms or gifts from family members like jewelry or grandfather clocks. Many kids also bring in well-loved toys and stuffed animals that they couldn't bear to part with. One moving story was of a woman named Heidi Spinella who bought a beautiful set of decorative plates on her honeymoon in Mexico. She hung the plates on the wall of her home until her son accidentally knocked them down and broke them. Now that her son was getting married, Heidi brought the plates, which had been sitting in a cardboard box, into a Repair Café so they could be pieced back together and gifted to him as a wedding present.[2] In another sentimental story, RC volunteers mended a stuffed dog that had been tucked into a visitors' hospital isolette after she was born prematurely. Another RC volunteer recounts a repair involving a broken necklace containing a loved-ones ashes, and another involving a woman with a broken bracelet that had beads containing dried flowers from her husband's funeral.[3] Many Repair Café attendees remark on the wholesome atmosphere generated by the Repair Café ethos and approach. *Repair Revolution* records an RC guestbook entry saying "I love this—everyone here is so warm and friendly. Need to go home and break stuff just so I can come back."[4]

At the outset of this thesis, I seek to clarify that there is no essentialist definition of repair, and that repair as a practice and/or philosophy looks different in the many different contexts in

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[1] Elizabeth Knight and John Wackman. *Repair Revolution: How Fixers are Transforming Our Throwaway Culture* (Novato, California: New World Library, 2020), 43.
[2] Knight and Wackman, *Repair Revolution*, 36.
[3] Ibid., 41.
[4] Ibid., 35.

which I will examine it here. As we shift focus between geographic regions, historical periods of wartime and peacetime, advances in technological development, trends in economic philosophy, and dominant modes of media communication, it becomes evident that each context defines, leverages, and builds upon repair as a transformative force that is both literal and cultural. Beginning in the first chapter, I will present repair in three different historical contexts which will run as threads throughout the thesis as these histories all inform the repair movement as it exists now. These contextual analyses will show that repair is continually presented not as what it empirically is, but rather as how the hegemonic institutional powers and their interests define repair—whether that be as an insurgent threat to the free market or a mandatory personal sacrifice for social and civil benefit. In looking at repair's multiplicity and the relatively negative valence with which it is perceived in today's capitalist United States, we arrive at an understanding of how the repair of consumer-owned items is contextually defined as a political practice.

Given this context, the thesis will continually make reference to the organized practice of repair as a socio-political "movement". Sociologist Mario Diani engages in a comparative discussion on the concept of the social movement in which he arrives at the following definition: "Social movements are defined as networks of informal interactions between a plurality of individuals, groups and/or organizations, engaged in political or cultural conflicts, on the basis of shared collective identities."[5] Varied definitions specify that social movements are short term impulses and reactions giving way to collective long-term action, wherein association between groups transforms from situational to sustained, intentional, and action-oriented. Additionally, movements are distinct from crowds or generalized groups in that these categories have no

[5] Mario Diani, "The Concept of Social Movement." *The Sociological Review* 40, no. 1 (February 1992): 1–25. https://doi.org/10.1111/j.1467-954X.1992.tb02943.x.

motivational mechanisms or drive to action—a crowd cannot organize over nations and between continents. Social movements are also intrinsically linked to the realization of social change, and inherent to this is the assertion that social movement members' behavior does not reflect the belief that things will continue as they are. This hopefulness or undergirding belief in the power of the movement then becomes a defining attribute of the mentality of a movement's members. Social movements are also defined by the semi-formal character of their structure, which can prescribe behavioral norms and practices, but without the full stability and authority of an established institution which abides by the social contract as it exists currently. The authority of a movement, however it may be exercised, is often not centralized or absolute as the boundaries of a social movement are never coterminous with the organizations.

This inclusive rendering of the social movement is mirrored by contemporary sharpenings of the definition by scholars such as adrienne maree brown. In her book *Emergent Strategy: Shaping Change, Changing Worlds*, brown writes "If love were the central practice of a new generation of organizers and spiritual leaders, it would have a massive impact on what was considered organizing."[6] This thesis will examine the full breadth of the "repair movement" in this broad and disruptive way that centers repair not only as a tangible practice which provides sites for connection (as with Repair Café) and grounds for political contention (as with Right to Repair), but also as an *idea* which drives social change beyond the boundaries of organization.

This thesis will begin with a study in repair in three different historical contexts—the folk origins of repair practice, the institutional support of repair during wartime, and the institutional condemnation of repair during the rise of planned obsolescence. While these threads are crucial to understanding the repair movement as it exists now and the status quo the movement seeks to

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[6] adrienne maree brown. *Emergent Strategy: Shaping Change, Changing Worlds,* (Chico, California: AK Press, 2017), 9.

disrupt, these three contexts by no means constitute a comprehensive history of repair. It is also necessary to mention that these contexts alone present a narrative that is particularly exclusionary of how non-Western institutions have changed their relationship to repair over time, and what resistance resultantly looks like in a non-Western geographic context. After this contextual historical analysis, the thesis will examine three early experiments in resistance to obsolescence and mechanized production which preceded the repair movement of today. While these three late 20th century countercultural experiments failed to transform the systems of production which continue to define our world, they were reactions to the industrialized abundance and existential threat of the Cold War Era, as the repair movement of today is a reaction to the existential threat of climate catastrophe.

In this thesis I will analogize these 20th century countercultural movements and today's repair movement. I will engage Langdon Winner's analysis of why the countercultural movements "failed" as a rubric with which I can assess this 21st century iteration of anti-industrial organizing as a reaction to existential threat. Through an application of Winner's suppositions about these movements, his STS theory of technological somnambulance, and contemporary theories of organizing and activism, I will examine the many 21st century manifestations of resistance through repair. Mirroring my experience with the repair movement, the thesis uses Repair Café as a window into other forms of resistance until the thesis at last arrives at repairative art as the origin and future of repair as a political and cultural force for suggesting and then enacting systemic change.

Chapter 1: Repair in Thematic Context

By zooming into varied historical, geographic, cultural, and political contexts, in this chapter I will present a few of the many microcosmic existences of repair practice and philosophy that inform current repair resistance work. Thes contexts include the folk origins of repair work and philosphy, the institutional and nationalistic embrace of repair for political convenience, and the institutional rejection of repair coinciding with the rise of the Great Depression and the Keynesian economic model. Stitched together, these contextual examples will tell a story of how repair exists now as a radical and destabilizing force. The beauty of the repair movement lies in the simplicity, accessibility, and replicability of repair as a mode of resistance, and in this chapter I seek to deliver a narrative of how this model of humble radicality came to pose such an immense threat to our world in its quest to save it.

I. Folk Origins of Repair

Established aesthetic repair practices and philosophies are born out of the political, religious, and cultural conditions of the regions in which these practices and philosophies of repair arose. In this section, I will describe some traditional repair practices and worldviews as well as the contexts in which they were established.

Boro

The art of boro, an ancient stitching technique, has its origins in the Japanese Edo period (fig. 1.1). At the time, the peasants in the rural regions of Japan had to produce food for the population while being heavily taxed by the government. The farmers were made to plant, harvest, weave, and hand-dye all of their fabrics which placed a heavy strain on the availability of textile. The traditional indigo dyes used in boro stitching stems from Edo-era government

regulation on dye availability intended to provide distinction between classes based on the colors people wore. The indigo dyes were very popular among the peasant classes because the ingredients to produce the dye were easily found and harvestable. The indigo dye also provided insect repellent and fire resistant properties which made it well-suited to the needs of the working class.[7]

Figure 1.1. Japanese boro stitching repair technique https://medium.com/@leftsideoffashion/the-traditional-japanese-art-of-boro-is-experiencing-an-unexpected-resurgence-88149aebe6d7.

With each new generation, boro garments were passed through families and the scarcity of available materials made continual repairs paramount to a methodical recycling of garments. The

[7] Molly Martin, *The Art of Repair* (London: Short Books, 2021), 23.

repairs themselves, while aesthetically intricate and beautifully crafted, also provided a utility as the layers of reinforcing fabric insulated the garments to make them warmer.[8] Boro can also be complemented with the reinforcement technique of sashiko. This was also typically used on the workwear of fishermen and firemen and the pattern served a functional purpose of reinforcement by also incorporating mystical symbolism intended to protect the wearers from harm. The practice of boro indicates how the aesthetic speciality of continual repair is drawn from utility coupled with the patchwork of intergenerational additions that speak to the beauty of sustained and intentional maintenance over time.

Kantha

The practice of intergenerational maintenance also takes aesthetic form in the east-Asian practice of kantha—a decorative embroidery technique that dates back to the pre-Vedic period (fig. 1.2). Kantha comes from the Sanskrit word for "rags" and the practice emanates from the thriftiness of rural women in the Bengali region of the Indian subcontinent.[9] Similarly to boro, kantha arose out of the necessity of resourcefulness, and the technique therefore existed solely among the rural classes and never the gentry. Traditionally, kanthas were made from old cotton saris, lungis, and dhotis which had been worn down through years of wear. Around five to seven of these old fabrics would be layered on top of one another with the lightest-colored fabrics on the outside so that the stitching—which was drawn out from the fabrics themselves—could be visible on the surface.[10] Kantha also mirrors boro in how the practice was passed down from mother to daughter through the generations, and the different cotton layers of which the garment was composed also represented the layers of time (as did the layers of boro workwear).

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[8]Martin,*The Art of Repair,* 23.
[9] Martin,*The Art of Repair,* 36.
[10] "Kantha: The Story," House of Wandering Silk, accessed January 11, 2022, https://www.wanderingsilk.org/kantha-history-and-meaning.

Figure 1.2. Intricate Kantha stitching, https://www.wanderingsilk.org/kantha-history-and-meaning?lightbox=dataItem-jz9zflp0.

Wabi-Sabi

While born out of government restriction, the art of boro aligns with Japanese aesthetic philosophies which emphasize the beauty of the imperfect. The Japanese worldview of wabi-sabi centers around an acceptance of transience and derives from the Buddhist teachings of the three marks of existence—impermanence (無常, *mujō*), suffering (苦, *ku*) and absence of self-nature

(空, *kū*).[11] While wabi-sabi embraces transience and melancholy, however, it does so by allowing damaged or well-loved objects to remain in our lives instead of insisting, as a throw-away culture does, that they must be disappeared. As Robyn Griggs Lawrence writes "Broadly, wabi-sabi is everything that today's sleek, mass-produced, technology-saturated culture isn't. It celebrates cracks and crevices and rot and all the other marks that time and weather and use leave behind."[12] The Japanese practice of kintsugi similarly embraces the beauty in flaws by repairing broken pottery and then highlighting the cracks with metallic lacquering (fig 1.3).[13] Artist Teresita Fernandez describes the aesthetic wisdom of kintsugi in a speech as she says "after mending, the bowl's unique fault lines were transformed into little rivers of gold that post repair were even more special because the bowl could then resemble nothing but itself."[14]

Figure 1.3. Kintsugi bowl exemplifying elements of wabi-sabi aesthetic, https://sahouston.com/wabi-sabi-kintsugi-and-the-art-of-grace/.

[11] "Wabi-sabi: A Yonobi Guide to Japanese Aesthetic and Philosophy," Yonobi, accessed January 20, 2022, https://itsyonobi.com/blogs/news/wabi-sabi-a-yonobi-guide-to-japanese-aesthetic-and-philosophy.
[12] "Wabi-sabi, Kintsugi, and the Art of Grace," St. Andrew's Presbyterian Church, accessed January 12, 2022, https://sahouston.com/wabi-sabi-kintsugi-and-the-art-of-grace/.
[13] "Wabi-sabi, Kintsugi, and the Art of Grace."
[14] Kevin Brown, "Kintsugi and the art of mending relationship conflict", World Meditation Summit, last modified March 5, 2017, https://www.worldmediationsummit.com/kintsugi-and-the-art-of-mending-relationship-conflict/.

Mottainai

Another ancient Japanese aesthetic value which garners new meaning in the Anthropocene is the philosophy of *mottainai* which Molly Martin defines as "a gentle call to arms to prolong the life and use of something that might otherwise be discarded."[15] The philosophy also has origins in Buddhism which teaches a focus on the essential value of objects and a respect for resources. Like repair, *mottainai* takes a two pronged approach to discouraging waste by reinforcing the idea that not only must the earth be protected, but so must the value in our items themselves.[16] The idea that items have an inherent value is often dismissed as materialistic or consumerist, but in truly believing in the value of an object you come to respect it as more than simply material.This is a common sentiment shared among many dedicated volunteers of Repair Café such as Cathé Linton on the Warwick Repair Café jewelry repair team. In *Repair Revolution* Cathé is quoted as saying "Everything that comes in here has had a life. We are not just fixing items. We are repairing souls."[17]

Tikkun Olam

In the Jewish philosophy of *tikkun olam* which translates to "repair of the world", it is said that the object which has been repaired is holier than the one that is new. The concept has Kabbalistic roots and comes from the sixteenth century mystic Isaac Luria's retelling of Genesis. In Luria's vision, he saw that God had filled the universe perfectly and that the world could only be created if there was space made for life. God then contracted himself to make this space, and in doing so the potential for that new creation exploded outward and scattered sparks of divinity

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[15] Martin, *The Art of Repair,* 30.
[16] Lily Crossley-Baxter*, "*Japan's ancient way to save the planet*," BBC,* March 9, 2020, https://www.bbc.com/travel/article/20200308-japans-ancient-way-to-save-the-planet.
[17] Knight and Wackman, *Repair Revolution, 40.*

all throughout the universe in which we now live. The teachings of *tikkun olam* tell us to find these sparks of the divine within the ordinary and reunite them. In *Repair Revolution,* Knight and Wackman explain that "*Olam* or 'world,' comes from the same root as *hidden*, and so the repair we are asked to accomplish requires that we see the sacred hidden within the ordinary—the wholeness that exists in all things everywhere."[18]

II. Institutional Support of Repair

Shifting focus to the context of America's colonial nascency, the philosophy of thrift emerges as a vestige of the scrappy, hardscrabble imaginaries that defined the pioneering age. Practices like stretching finances, salvaging food scraps, economic homekeeping, and repair were widely encouraged and societally promoted. In this context, thrift was the language used to promote and discuss repair, and thrift (and resultantly repair) were framed as necessary practices which made possible survival and sustenance at the individual level, while scaffolding the American experiment at the collective level. At the time, thrift represented the American political culture of individualism as it stood among other early modern movements such as temperance, Boy Scouts, muscular Christianity, and early incarnations of social work which all adhered to the principle of achieving social reform through character reform.[19] The moral reformers which bolstered the thrift movement at the beginning of the twentieth century sought to "better" their working class audiences. In Benjamin Franklin's *Poor Richard's Almanac* which was widely circulated throughout the thirteen colonies after its initial publication in 1732, Franklin venerates the value of personal thrift and writes "The Art of getting Riches consists

[18] Ibid., 94.
[19] Andrew L. Yarrow. *Thrift: The History of an American Cultural Movement,* (Amherst, Massachusetts: University of Massachusetts Press, 2014), 5.

very much in THRIFT. All Men are not equally qualified for getting Money, but it is in the Power of every one alike to practise this Virtue."[20]

Repair During Wartime

Thrift was widely encouraged not only through popular culture but also via government initiatives which served to co-produce support for U.S. domestic efforts and an American national cultural identity. Andrew L. Yarrow writes in *Thrift, The History of an American Cultural Movement* that during the First World War thrift became a "patriotic crusade in which citizens would help themselves by buying government bonds while helping Uncle Sam defeat the Kaiser."[21] Because thrift in the context of wartime presented the US government with a way in which the needs of austerity could be met with enthusiasm from the individuals and civil society groups that constituted the movement, the federal government rapidly nationalized thrift in the late 1910s.

A pamphlet published by the U.S. Department of Agriculture in 1918 aimed to instill within children the importance of being a good earner and the dependability of purchasing reliable government securities, investing in War Savings stamps, and avoiding the temptation of large profits advertised by speculative investment. Published at the end of World War I, the pamphlet (fig.1.4). emphasizes the link between patriotism and savings. Through associations like these promoted through print media, the government used thrift movement ethos to subsidize the war effort by encouraging the purchase of government-issued war bonds and stamps.[22] The pamphlet also propagandizes by making continual reference to the strength of the U.S. army which they compare to the strength of the thrifty citizen who is able to support themselves

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[20] Benjamin Franklin. *Poor Richard's Almanack: Being the Almanacks of 1733, 1749, 1756, 1757, 1758, (*Garden City, N.Y.: Doubleday, Doran and Co, 1928*),* 57.
[21] Yarrow, *Thrift: The History of an American Cultural Movement, 7.*
[22] Yarrow, *Thrift: The History of an American Cultural Movement, 6.*

without government assistance. The pamphlet tells children "The wise person also saves for unknown goals:—to meet any emergency such as sickness or accident; to be ready for the opportunity that one can seize only if one has money; to build up a money reserve, which, like the reserves of an army, is always ready to save the day."[23] Here, the pamphlet highlights how a bloated defense budget links to the institutionalization of wartime austerity politics which the government props up here by linking thrift with patriotism. The pamphlet also implies that individual practices of thrift promise domestic safety by indicating to children that a strong military is a direct result of Americans diligently exercising prudence and abnegation. Other periods of national turmoil like the Panic of 1907 and the post-WWI inflation era helped concretize economic instability and therefore thrift as a fundamental part of American life.[24]

[23] United States Department of Agriculture and Treasury Department, *Thrift Standards for Boys and Girls,* (Washington D.C.: United States Government, 1918), 3.
[24] Yarrow, *Thrift: The History of an American Cultural Movement, 6.*

THRIFT STANDARDS FOR BOYS AND GIRLS

EARNING AND PRODUCING. Everyone should contribute to the cost of his support by doing useful work at home; and in time by earning and contributing money toward his expenses.

SPENDING for boys or girls, whether by themselves or by others for them, should be wisely planned to avoid wasteful expenditure.

SAVING should be made whenever any money is received by gift, allowance, or earning. These savings should be invested and re-invested to create a fund that will safeguard the owner.

GIVING should be planned to serve the one who receives.

KEEPING RECORDS encourages a person to earn at full capacity, to spend wisely, to increase his savings and investments, and to give liberally.

Thrift Leaflet No. 20

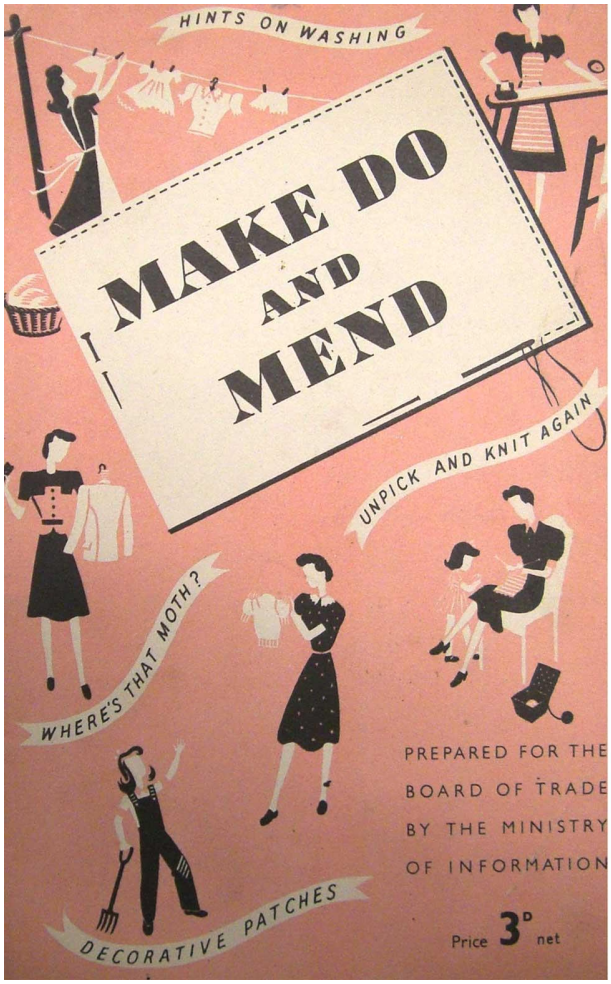
UNITED STATES
DEPARTMENT OF AGRICULTURE & TREASURY DEPARTMENT

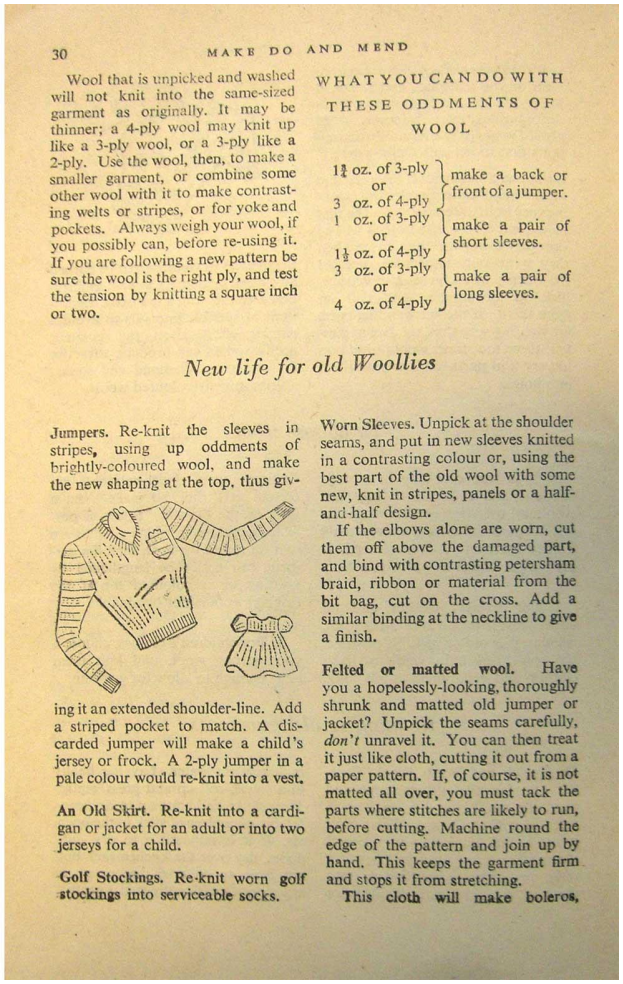
Figure 1.4. *Thrift Standards for Boys and Girls,* United States Department of Agriculture and Treasury Department, 1918.

Similarly, World War II austerity politics established thrift and repair practices as an exercise in English nationalism as every household was made to comply with the restrictions of

wartime rationing. The English government placed initial rations on petrol and food in 1939 which later expanded into a rationing of clothing when textile and garment factories had to pivot production to focus on necessities like uniforms, tents, and stretchers. The government soon issued coupon books for clothing purchase which priced every garment according to a point system that awarded points based on how much labor and how much material went into each garment. Everyone was given 66 points to be redeemed on one new outfit per year. The English government advertised the slogan "Use it up—wear it out—make it do—or do without"[25] as a patriotic motivation to frame thrift as a necessary sacrifice for the greater good. The spirit of this thriftiness also extended past frugality and into repair as the English Ministry of Information published a "Make Do and Mend"[26] pamphlet in 1941 (fig.1.5). The pamphlet was geared toward teaching English housewives repair techniques such as darning, reinforcement, and patching, with instruction from the propaganda mascot "Mrs. Sew and Sew". The pamphlet also included techniques for reuse including turning men's clothes into women's clothes, unwinding old sweaters to repurpose the yarn for new ones, and preemptively defending against moth holes. Interestingly, the *Make Do and Mend* pamphlet was updated and reissued during the economic recession of 2008 with the same messaging techniques centered around bucking-up alongside your countrymen in the face of adversity.

[25] Molly Martin, *The Art of Repair* (London: Short Books, 2021) 56.
[26] Martin, *The Art of Repair,* 56.





30 MAKE DO AND MEND

Wool that is unpicked and washed will not knit into the same-sized garment as originally. It may be thinner; a 4-ply wool may knit up like a 3-ply wool, or a 3-ply like a 2-ply. Use the wool, then, to make a smaller garment, or combine some other wool with it to make contrasting welts or stripes, or for yoke and pockets. Always weigh your wool, if you possibly can, before re-using it. If you are following a new pattern be sure the wool is the right ply, and test the tension by knitting a square inch or two.

WHAT YOU CAN DO WITH THESE ODDMENTS OF WOOL

1¾ oz. of 3-ply or 3 oz. of 4-ply — make a back or front of a jumper.
1 oz. of 3-ply or 1½ oz. of 4-ply — make a pair of short sleeves.
3 oz. of 3-ply or 4 oz. of 4-ply — make a pair of long sleeves.

New life for old Woollies

Jumpers. Re-knit the sleeves in stripes, using up oddments of brightly-coloured wool, and make the new shaping at the top, thus giving it an extended shoulder-line. Add a striped pocket to match. A discarded jumper will make a child's jersey or frock. A 2-ply jumper in a pale colour would re-knit into a vest.

An Old Skirt. Re-knit into a cardigan or jacket for an adult or into two jerseys for a child.

Golf Stockings. Re-knit worn golf stockings into serviceable socks.

Worn Sleeves. Unpick at the shoulder seams, and put in new sleeves knitted in a contrasting colour or, using the best part of the old wool with some new, knit in stripes, panels or a half-and-half design.

If the elbows alone are worn, cut them off above the damaged part, and bind with contrasting petersham braid, ribbon or material from the bit bag, cut on the cross. Add a similar binding at the neckline to give a finish.

Felted or matted wool. Have you a hopelessly-looking, thoroughly shrunk and matted old jumper or jacket? Unpick the seams carefully, *don't* unravel it. You can then treat it just like cloth, cutting it out from a paper pattern. If, of course, it is not matted all over, you must tack the parts where stitches are likely to run, before cutting. Machine round the edge of the pattern and join up by hand. This keeps the garment firm and stops it from stretching.

This cloth will make boleros,

Figure 1.5. *Make Do and Mend,* The Ministry of Information, 1941.

History also indicates that a war-time normalization and promotion of repair led to an inversion of the traditional gender roles associated with routine mending. Up until World War I, European soldiers were often deployed to go fight with the mending kit equipment called "Hussifs" which comes from an abbreviated version of "housewife" (fig. 1.6). The kits, which contained basic sewing tools such as needles, pins, and scissors, were popular among soldiers and sailors who had to do their own repairs while in remote locations where women weren't available to mend.

Figure 1.6. Traditional hussif sewing kit

http://stitchingbyacornishseashore.blogspot.com/2016/05/the-military-housewife.html.

Outside of the state-led popularization of thrift and repair during periods of wartime, however, Western imaginaries began to antagonize thriftiness beginning the interwar years and then extending into the second half of the twentieth century. In the 1920s, the thrift movement gained a reputation for being anachronistic and conservatve amidst the encroaching reign of the boom economy and laissez-faire grandiosity. While this new era was ushered in however, thrift became a way to reconcile the ideals of a bygone homesteading America with the emergent industrialized one defined by increasing economic inequality and compulsory over-consumption. It could be argued that thrift gained increasing relevance and attention in this period than it had in times of ubiquitous popularity, as it began to work against the grain of national culture and policy interests which in turn engendered a staunch opposition towards the movement. The country's public figures and the zeitgeist-endorsed idols of consumption—Douglas Fairbanks, Mary Pickford, Babe Ruth, and the fictional Jay Gatsby, among others—who embodied the emergent (and prevailing) American imaginary which conflates unbridled spending with the "freedom" ethic upon which the country was founded.[27]

[27] Ibid, 152.

III. Antagonizing Repair—Repair Without Institutional Support

The ideational opposition to thrift only grew with the stock market crash of 1929 which was attributed to a variety of mainstream monetary explanations but nevertheless directed negative attention toward the thrift movement. Economists began to vilify the leery thrift mindset which had already begun to decline as the Depression set in—people could no longer choose to be thrifty in their consumption habits and personal bookkeeping given that they had no resources with which to be thrifty. This decline dovetailed with a swell of Depression era academics who, anticipating the theory of Keyensian economics, argued that spending at the individual, corporate, and governmental levels bolstered the economy while excessive thriftiness generated an economic chokehold. The "paradox of thrift" as Keynes refers to it, argues that excessive saving and finance management would cause demand to plummet, thus causing employers to lower wages and employee savings to decrease.[28] Additionally, the era's most prominent public figures disparaged personal "economy" as a destructive holdover of the expiring thrift movement. Henry Ford predictably disparaged personal economy by calling it "a waste of the juice of life"[29] while F. Scott Fitzgerald quipped "We're too poor to economize. Economy is a luxury."[30] Philosopher John Dewey similarly attacked the stingy American consumer in referring to thrift as an "old-fashioned ideal" which had been outmoded by the "duty" to consume.[31]

The Rise of Planned Obsolescence

At this juncture, the well-being of the economy and the labor market was seen as a collective responsibility which also responsibilitizes the individual as a consumer. The bold

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[28] Ibid, 134.
[29] Ibid.
[30] Ibid.
[31] Ibid, 126.

consumer was performing a requisite social good in engaging in market transactions, while the timid, thrift-minded citizen, in using their personal items for an independently determined length of time (perhaps elongating the life of an item through mindful upkeep and practices of repair), was contributing to market suffocation and causing widespread unemployment. In Bernard London's 1932 essay *Ending the Depression Through Planned Obsolescence*, he argues that the Depression resulted from a failure of human relationships and he attributes the state of the economy to how "too much is staked on the unpredictable whims and caprices of the consumer."[32] London argues that the production-side of the market was thriving as advances in business science were allowing for unlimited production capacity, while the bear market was produced by a lack of buying power. London targets the thrift movement, specifically stating that people everywhere, "in a frightened and hysterical mood, are using everything that they own longer than was their custom before the depression. In the earlier period of prosperity, the American people did not wait until the last possible bit of use had been extracted from every commodity."[33] London accused the Depression-era consumer who held onto assets and property of "disobeying the law of obsolescence."[34]

In the pages that follow these accusations, London outlines his plan for systematized obsolescence in which all products of mass production would be given a government-assigned lease of life which would place a cap on how long the consumer is able to extract value from the object they have purchased. Upon expiration of this lease, these objects would be termed legally dead and then sent into a local collection center for destruction. The previous owner of the object would receive a receipt with the estimated value of the surrendered object which could then be used as cash in paying off the sales tax of the next object they purchase. London argues that this

[32] Bernard London, *Ending the Depression Through Planned Obsolescence* (New York: self-published, 1932), 3.
[33] London, *Ending the Depression Through Planned Obsolescence,* 4.
[34] Ibid.

means of squashing the sales tax would bolster consumption, as he considers it backwards that we tax people engaging with the economy and not "the man who is hoarding his money and keeping old and useless things [...] for a longer time than originally allotted."[35] While intended to bolster employment numbers, this systematic penalty for the thrifty individual emerging out of the Depression era would certainly take the form of a regressive tax thus demonstrating fully the extent to which thrift was often misunderstood as an ideological and unpatriotic evil rather than a product of necessity for those already scorned by the vicissitudes of the market economy.

In this paper, Bernard London calls for obliging consumers to comply with destruction of their personal items by codifying coercive participation in obsolescence. Rather than calling for systemized governmental support of the individual in times of crisis, the logic of "planned obsolescence"—a term which London is often credited with coining—instead calls for manipulation of the individual to support the government. This logic clearly precedes today's dominant neoliberal political ideology which invites the consumer to assume complicity in the generation of copious waste, scorns them for having contributed to global climate change, and then harps on the obligations of the individual to do better.

London's paper also offers no explanation of the practicalities of mass destruction of objects in regards to environmental consequences or the strain it would place on the extraction of nonrenewable materials. This manifesto, published on the heels of the turn of the century conservation efforts, exemplifies a shift in American ideals as described by author Erik Barnouw, who wrote in *The Sponsor: Notes on a Modern Potentate*—"reverence for nature has been replaced by a determination to process it. Thrift has been replaced by the duty to buy. The work ethic has been replaced by the consumption ethic."[36]

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[35] Ibid, 8.
[36] Erik Barnouw, *The Sponsor: Notes on a Modern Potentate.* (New York: Oxford University Press, 1979), 98.

London's anti-thrift messaging, however prevailing, did have its intellectual opponents. Aldous Huxley's *Brave New World,* which was published in 1932, the same year as London's essay, also spoke of obsolescence. Huxley writes how in the year 600 AF (after Ford), consumption and the discarding of personal items is a societal requisite, and that children are indoctrinated into this belief system with anti-repair rhetoric through sleep teaching. The children are forced to repeat: "Ending is better than mending . . . old clothes are beastly. We always throw away old clothes. Ending is better than mending, ending is better . . . Ending is better than mending. The more stitches, the less riches; the more stitches..."[37] Huxley's satire here is cutting edge as it criticizes the meretriciousness of meaninglessly new and better objects and bashes throwaway culture as the movement for obsolescence with all its unfortunate staying power just began to set in. That said, London's theories of obsolescence were also cutting edge in that his conceptualization of death dating, which in this case referred to the expired object becoming legally dead, was later actualized through modern practices of intentionally engineering an object to break after an allotted time.[38]

The process of death dating coincided with the process of adulteration—the production of goods that were purposefully designed poorly or with cheap materials so they would break quickly and encourage repetitive consumption. In Giles Slade's book *Made to Break: Technology and Obsolescence in America,* Slade writes that at the point at which adulteration practices emerged, internal documentation of corporate policies on production were wary of mentioning their use of adulteration techniques as it either required an illegal share of market control through monopoly, or the capacity to institute price fixing. According to Slade, because

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[37] Aldous Huxley, *Brave New World.* (London: Chatto & Windus, 1932), 35. https://www.energyandstuff.org/sites/default/files/media/ebook/BraveNewWorld.pdf.
[38] Giles Slade, *Made to Break: Technology and Obsolescence in America* (Cambridge, Massachusetts: Harvard University Press, 2006), 76.

of the illegal nature of this death dating, there is little documented trace of these early internal design practices that now shape our world.[39]

Obsolescence Progresses

In the Introduction to *Made to Break,* Slade locates the rise of obsolescence as an inherently American history tied to the legacies of manufacturers' exploitation of obsolescence and the American consumers' somnambulant response in welcoming it into every aspect of their lives. Slade outlines the progression of how obsolescence commandeered American standards of production by tracing its origins from the beginning of the 20th century through to the present day. The first phase of obsolescence—*technological obsolescence*—first emerged in 1911 when the introduction of the electric car starter rendered earlier hand cranking starter models obsolete. Obsolescence due to technological innovation then gave impetus to planned models of obsolescence like *psychological obsolescence* (also referred to as progressive or dynamic obsolescence). Industry originally picked up on psychological obsolescence from the textile industry's seasonal production cycles which catered to the whims of passing sartorial trends. Slade discusses how one of the first uses of this model in the auto industry was how General Motors executive Alfred Sloan manufactured a consumer need to have the latest in car trends by producing stylish cars with less durability than their counterparts at Ford.[40] The entertainment industry also played a considerable role in convincing consumers of the need to purchase items for fashion rather than function. Then, as the Great Depression gripped the nation, manufacturers began to use cheaper, cost-effective materials that would both lessen input costs and generate a basis for repetitive consumption. This third phase—*planned obsolescence*—which Slade defines as "the assortment of techniques used to artificially limit the durability of a manufactured good

[39] Slade, *Made to Break,* 79.
[40] Ibid., 4.

in order to stimulate repetitive consumption"[41], has continued to define the American marketplace through the present day.

The politicization of thrift and repair practice continues to this day as obsolescence, overproduction, and overconsumption remain at the forefront of American political culture. Through a historical analysis, a narrative emerges about how the once ubiquitous practice of repair has since transformed into a humble yet radical act of resistance. In the next chapter, the narrative continues as I will present three 20th century attempts at organized resistance followed by Langdon Winner's analysis of their work.

[41] Ibid.,5.

Chapter2: Roots of Resistance

The progression towards obsolescence described in the previous chapter recalls the argument of Langdon Winner's essay "Technology as Forms of Life". In the essay Winner writes that the introduction of robotic manufacturing to the workplace alienated users of technology from the process of production, and thus altered the relationship between individuals and their possessions. Winner then asserts that automated production also discouraged modes of critical thought interrogating the ways we use and develop technology. He concludes technological innovation creates new worlds of its own while changing the texture of modern life without widespread public acknowledgement. This "technological somnambulance" reigned while Americans remained largely oblivious to shifting modes of obsolesce-oriented production and massive quantities of waste piled up. In considering the new worlds brought about by technology, Winner asks "Are we going to design and build circumstances that enlarge possibilities for growth in human freedom, sociability, intelligence, creativity, and self-government? Or are we headed in an altogether different direction?"[42]

The unfortunate different direction originated the "throwaway ethic" that persists as the axis around which all other American imaginaries revolve, yet this takeover was not met entirely without resistance. The 1960s first saw a cropping up of a variety of countercultural movements contending with the disillusionment felt by the postwar generation faced with this rapid technological advance. Academics Daniela K. Rosner and Fred Turner explain how these movements were fueled by the moral complexities of American consumer complicity in both the large-scale military technologies that promised mass-death and planetary ruin, and the consumer technologies born from the same military industrial complex which greatly improve individual quality of life. They write "To the young longhairs of the counterculture, a question hung in the

[42] Langdon Winner, *The Whale and the Reactor,* (Chicago: University of Chicago, 1986), 17.

air: How could a person embrace small-scale technologies and at the same time, turn away from mass industrial processes and the threat of war?"[43]

I. Countercultural Resistance Movements

The three movements that follow all attempted to offer discrete responses to this question by diametrically positioning individual capacity against existential threat.

Comprehensive Design

One response came in the form of Buckminster Fuller's comprehensive design doctrine which philosophized that because the militarization of production was a problem of resource allocation, the individual could be tasked to undo this by repurposing industrial technologies in favor of forging a more egalitarian lifestyle. Rosner and Turner cite hobbyist constructions of geodesic domes out of old car parts (fig. 2.1), windows out of plastic sheeting, etc. as both material and symbolic enactments of Fuller's vision.

Figure 2.1. One of Buckminister Fuller's geodesic domes, https://www.bfi.org/about-fuller/big-ideas/geodesic-domes

[43] Daniela K. Rosner and Fred Turner, "Theaters of Alternative Industry: Hobbyist Repair Collectives and the Legacy of the 1960s American Counterculture," *Design Thinking Research* (2015) https://doi.org/10.1007/978-3-319-06823-7_5.

The Whole Earth Catalog

Stewart Brand's *The Whole Earth Catalog* also sought to address the conundrums of post-war industrial production by convincing people at a time when national citizenship was complex and guilt-riddled that they were citizens of mother earth. Launched in 1968, *The Whole Earth Catalog* provided the like-minded ecologically conscious consumers that comprised its readership with information, reviews, and listings on over 2,700 products (fig. 2.2).[44] The catalog also introduced a new generation to principles of thrift which had fallen to the wayside by publishing essays on topics like "Local Dependency" and "Voluntary Simplicity".[45]

Figure 2.2. Stewart Brand's *The Whole Earth Catalog ,* https://www.electronicbeats.net/heatsick-recommends-the-whole-earth-catalogue-california-and-the-disappearance-of-the-outside/

[44] Knight and Wackman, *Repair Revolution,* 55.
[45] Ibid.

Similarly to Fuller's comprehensive design movement, *The Whole Earth Catalog,* also upheld that the individual possessed a transformative power that could change our society. The catalog's statement of purpose declares "a realm of intimate, personal power is developing—power of the individual to conduct his own education, find his own inspiration, shape his own environment, and share his adventure with whoever is interested."[46] Winner describes this vision in his essay "Building the Better Mousetrap" as a hope that people could "fit into a new complex world system destined to save the earth from the destruction of overidustrailization."[47]

Appropriate Technology

Belonging to this same era and ethos, the appropriate technology movement spearheaded by Victor Papanek and James Hennessey embraced the idea of small-scale revolution made possible through individual innovators and consumers' discretely rejecting inhuman design as inhuman design had rejected them. Papanek and Hennessey launched the movement motivated by the guiding principle that a new school of design could innovate its way out of the downward spiraling trend of profit-driven cost cutting of the obsolescence model. In "Building the Better Mousetrap", Winner writes that "As successful grassroots efforts spread, those involved in similar projects were expected to stay in touch with each other and begin forming little communities, slowly reshaping society through growing aggregation of small-scale social and technical transformations."[48]

Papanek also addresses the rise of obsolescence and the influence of our consumerism on other domestic and political facets of American life in his seminal book *Design for the Real World: Human Ecology and Social Change.* Papanek writes "Throwing away furniture,

[46] Langdon Winner, *The Whale and the Reactor,* 65.
[47] Winner, *The Whale and the Reactor, 65.*
[48] Winner, *The Whale and the Reactor, 79.*

transportation, clothing, and appliances may soon lead us to feel that marriages (and other personal relationships) are throw-away items as well and that on a global scale countries, and indeed entire subcontinents, are disposable like Kleenex."[49] With this, Papanek coined the term "Kleenex culture" and disparages the product designers for their acquiescence to the world of obsolescence calling them mere stylists whose societal function is analogous to that of doctors if they were to "forsake general practice and surgery, and concentrate exclusively on dermatology and cosmetics."[50] The book is credited with having anticipated the green architecture and humanitarian design movements which aim to redress the ways in which modern architectural and industrial design have failed to accommodate the needs of the planet and its inhabitants.

Papanek's comments on "Kleenex culture" read as an argument couched in the language of technological determinism as it implies that society is shaped around the technologies that define it—in this case designing technology for obsolescence and disposability. In arguing that "throwaway" attitudes have seeped into the rest of Western culture, Papanek fails to consider the societal factors and the technological infrastructure that shaped the reigning principles of design to begin with. Other of Papanek's ideas, however, bear resemblance to the theory of social construction of society (SCOT) which emerged in the decades following this publication.

In the preface, for example, Papanek writes "Design must become an innovative, highly creative, cross- disciplinary tool responsive to the true needs of men. It must be more research oriented, and we must stop defiling the earth itself with poorly-designed objects and structures."[51] He critiques how most design manuals neglect to consider the practical use of

[49] Victor Papanek, *Design for the Real World: Human Ecology and Social Change* (New York: Pantheon Books, 1972), 97.
[50] Papanek, *Design for the Real World,* 211.
[51] Ibid.,15.

technology in the social sphere stating that "The social context of design, as well as the public and lay reader, is damned by omission."[52]

II. Winner's Analysis

Papanek's inclusive design politics as well as the other countercultural movements that buoyed it were in part, as Winner points out, born of the sixties-era New Left fatigue in which hippies and radicals found themselves wearied by protest and unsuccessful elections campaigns. The consumer-oriented tinkering movements that followed like comprehensive design, *The Whole Earth Catalog,* and appropriate technology all centered around the small actionable steps that individual people could take to build a brighter world. In this way, these movements clearly forged a path for the repair-centered movements of today such as Right to Repair and Repair Café which center around both the consumer experience and the abilities of individual actors to create a new, more sustainable future through small, yet radical action.

That said, Winner's "Building the Better Mousetrap" critiques these sixties and seventies countercultural movements for their inability to to sustain their legacies through to the next generation of their reformers. In the essay, Winner also diagnoses the ultimate fizzling out of the appropriate technology movement: "fascinated by dreams of a spontaneous, grass-roots revolution, [appropriate technologists] avoided any deep-seeking analysis of the institutions that control the direction of technological and economic development."[53] This oversight was made possible by an ignorance of the history of industrial technological development. Winner writes that these movements as a collective "were willing to proceed as if history and existing institutional technical realities simply did not matter. That proved to be a serious shortcoming. It

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[52] Ibid.
[53] Winner, *The Whale and the Reactor, 80.*

meant that many of their projects were irrelevant to the technical practices they hoped to challenge."[54]

This thesis leverages Winner's critiques of these resistance movements as a framework through which to assess the anti-industrialist repair movement of the modern day. The counter cultural tinkering movements discussed above were fed by the existential anxieties of Mutually Assured Destruction (MAD), military industrialization, and the cognitive dissonance of postwar abundance. While the existential threat which fueled much of this collective anxiety was set aside at the end of the cold war, the new existential threat of climate crisis stepped up as a motivator of collective social action. The old movements died off along with the threat of MAD but the systems which eluded the 20th century movements are the very same that continue to threaten posterity and livability. Does the repair movement of today have the systemic mindset and popular support it takes to truly carry the legacies of folk repair practice and tinkering resistance through to a guaranteed and livable future?

[54] Ibid.

Chapter 3: Repair In the Present

In accordance with the definition of "social movement" discussed in the introduction, the boundaries of today's repair movement are not coterminous with the many organizations that the movement includes (i.e. Repair Café, Right to Repair, iFixit). Instead, the repair movement extends beyond these organizations to include the work being done by all individuals invested in repair as resistant practice. In this chapter, I will present different instantiations of modern repair resistance on a scale ranging from an analysis of individual consumer attitudes to a summary of recent victories in collective action. The chapter will begin with a look at U.S. consumer attitudes towards both repair and obsolescence followed by an assessment of the work this spells out for the repair movement in reaching the public in a profound and generative manner. This discussion on the modern consumer's alienation from repair sets the stage for the arrival of the Repair Café movement which focuses on critical connection and reinforcement of community ties through the simple process of patiently and intently reinviting repair practice back into daily life. Beyond the individual and community levels, the repair movement also operates at the level of the institution as organizations such as Right to Repair have taken on legislative campaigns to transform our culture of repair from the top down. In looking at these modern day manifestations of repair resistance ranging from informal to formal and individual to collective, an understanding emerges of how today's repair movement compares to the countercultural movements before it.

I. Consumer Attitudes Towards Repair and Obsolescence

Several studies analyzing the third-party repair industry in the U.S. show that the U.S. consumer base maintains a fairly strong aversion to repair in contrast to buying a new product.

Largely, this aversion is based partially off of a consumer-run cost-benefit analysis which factors in time, money, and effort on behalf of the consumer. Additionally, the cost of repair in the U.S. has been increasing relative to the price of new products because most product manufacturing is exported overseas where companies use cheap labor to lower the input costs of their products. The repairs to these products, however, are carried out in the country of sale (the United States) where the cost of labor (the repair technician) is more expensive.[55] A study conducted by John McCollough reports that "throughout the 1980s and the 1990s, the price of new televisions and washing machines has increased by 20% and 40% respec-tively, while during the same time the cost of repair for both appliances rose by more than 150%."[56] A different study by scholars Mostafa Sabbaghi, Willie Cade, Sara Behdad, Ann M. Bisantz reports consumers also experience frustration with seeking out repair services because of the additional travel times and service selection process, high customer expectations, and the lengthy process which often includes laborious troubleshooting and ordering of spare parts in addition to the actual repair process.[57] These factors lead this study to conclude that "consumers would rather replace an obsolete product with a new one, which leads to more generation of End-of-Use/Life (EoU/L) items."[58] The Sabbaghi et. al. study recommends that the repair business needs to pivot toward a demand-based pricing strategy which would cater more toward consumer preferences and extend product lifespan. The value appraisal of repair services must factor in shifting consumer attitudes toward repair which are subject to change in relationship to consumer attitudes towards the circularity, anti-obsolescence, and environmental movements. The government can also play a crucial role in promotion of repair via reduction of repair costs with macro-level policies such as

[55]John McCollough, "Factors impacting the demand for repair services of household products: the disappearing repair trades and the throwaway society," *International Journal of Consumer Studies* 33 (2009): 620.
[56] McCollough, "Factors impacting the demand for repair services of household products", 620.
[57] Sabbaghi, Cade, Behdad, and Bisantz,"The current status of the consumer electronics repair industry in the U.S." 138.
[58] Ibid.

increasing the supply of workers in the repair trade by including government retraining programs as a part of climate policy. Other potential supply-side approaches include tapping into immigration policy to seek more skilled mechanics, and training more students in the repair trade and home economics. Other policies could include eliminating the sales tax on labor, and creating longer and stricter warranties which add to the cost of products but make the prospect of repair more attractive to consumers.[59] Though it's too early to endorse these policies without a thorough investigation of their long term effects,

The Sabbaghi et. al. study also reports that end-users are increasingly interested in conducting their own repairs, and that repair techs increasingly show a preference to conducting repairs at home. Given this rise in repair interest, the study concludes by recommending that repair businesses could benefit from partnerships with green initiatives and efforts to raise awareness of repair. This aligns with Repair Cafés' principle that RC in no way detracts from independent repair business, but rather strengthens it given not only the collective amnesia repetitive consumers display when it comes to the option to repair, but also the active *aversion* to repair on account of its costliness and hassle. Evidently, bringing repair into the mainstream of consumer decision-making would require a revolution in social attitudes and this overhaul of obsolescence-induced somnambulance is precisely what the Repair Café movement aims to accomplish.

Further evidence of the consumer-based approach to understanding the decline of repair is presented by a 2004 study on customer attitudes towards product obsolescence. This study authored by Tim Cooper reports that while there exists a popular belief that customers would prefer their obsolescing products to have longer lifespans, there is little substantial evidence to support this. Echoing the findings of McCollough and Sabbaghi et. al., over two-thirds of the

[59] McCollough, "Factors impacting the demand for repair services of household products", 620.

study's respondents cited cost as the biggest deterrent toward seeking repair for broken items. The study also shows that there was no correlation between households who considered environmental issues and waste reduction important, and the extent to which respondent households had their appliances repaired. While the consumers in the study largely showed an aversion to repair and intentional purchase of durable appliances, the reasoning for consumer behaviors varied across different socioeconomic groups. Individuals of higher socioeconomic status expressed concern that appliances designed to last longer would appear out of date or unfashionable, while individuals in lower socioeconomic groups expressed concern over the cost of these durable appliances. The study also placed an emphasis on the role that technological obsolescence—the issuing of new product models as a result of innovation or increased knowledge—played in shaping consumer behavior. The study showed that appliances subject to this kind of constant updating (such as computers and cell phones) were most likely to be functional when discarded which in part explains the consumer role in the rapid increase in e-waste. Interestingly, the focus group discussion in the study revealed that consumers felt pressured to "keep up" with technological change and "felt obliged to replace appliances or the poor quality of new, supposedly ''leading edge,'' models."[60] Despite these attitudes and admissions to discarding functional appliances, however, surveyed consumers also expressed dissatisfaction with the decreasing durability of products and blamed the manufacturers.[61]

Possibilities

While Chapter 2 explored the methodical rolling out of the planned obsolescence model of capitalist production, these findings indicate that the consumers who have grown accustomed to this model also shoulder some of the responsibility. The article suggests educational measures

[60] Tim Cooper, "Inadequate Life? Evidence of Consumer Attitudes to Product Obsolescence," *Journal of Consumer Policy* 27 (2004): 442.
[61] Cooper, "Inadequate Life?", 433.

and environmental product labeling could aid in consumer behavioral changes, along with economic policy incentives like a "pay as you throw" waste management policy. Given the class differential in attitudes towards durable appliances, however, the rate at which people cycle through appliances is shown to be not fully a function of unsustainable attitudes, but rather a combination of the inaccessibility of repair combined with a marketplace gap in durable and affordable appliances. For this reason, many consumer-taxing waste management policies are regressive in nature and will likely doubly harm the low-income consumers most harmed by obsolescence.

While the Cooper study shows that consumers harbor throwaway attitudes, it is the producers of intentionally obsolescing products that are shaping these attitudes and have the ultimate responsibility to forge a change in consumption habits. The seminal "treadmill of production" theoretical framework introduced by scholar Allan Schnaiberg in 1980 supports this claim. While many scholars have entered into conversation with this theory and tailored these claims toward the more environmentally-conscious consumers of recent history, the foundations of the theory—that the false capitalist belief in endless growth leaves advanced economies and resultantly consumers stuck on a treadmill—supports the contradictions displayed by consumers in the Cooper study. As the 2004 article "Interrogating the Treadmill of Production" reports, "Desire is socially constructed, and material desires are largely constructed by material producers."[62] That the consumers simultaneously express both anger at producers for the decreased durability of products, yet an obligation to abide by the laws of producer-planned obsolescence, supports this dynamic which leaves consumers at the whims of the production treadmill. The theory can also be extrapolated into explaining how industry shapes consumer

[62] Kenneth A. Gould, David N. Pellow, and Allan Schnaiberg, "Interrogating the Treadmill of Production: Everything You Wanted to Know About the Treadmill but Were Afraid to Ask" *Organization and Environment* 17, no.3 (2004): 301.

attitudes toward repair as evidenced by consumer disinterest in repair because of both the market forces which make it unaffordable and unavailable, as well as producers constructing barriers which make repair impossible (as we see with Apple).

The contradictory comparison of consumer opinion and consumer behavior in the study are also perfectly symptomatic of Landgon Winner's theory of technological somnambulance, which states that "societies involved in [technological somnambulance] have quickly altered some of the fundamental terms of human life without appearing to do so."[63] The capitalist, "growth"-producing technology of obsolescence has phased out repair as a fundamental of product ownership and the natural life cycle of resources without ceremony or even acknowledgement on behalf of the societies that have outgrown it. As Repair Café volunteer Nina Tellegen says in an article for the New York Times, older RC volunteers particularly feel welcomed by the Café experience because they "have skills that have been lost [...] We used to have a lot of people who worked with their hands, but our whole society has developed into something service-based."[64] Cooper's findings show that consumers feel trapped by the restrictions of technological obsolescence and the inaccessibility of repair, yet consumers continue to somnambulantly buy.

The goal of Right to Repair on a legislative level and Repair Café on an interpersonal one, is to publicly diagnose and *repair*, if you will, this consumer desire/behavior disconnect so that individuals can regain control of their consumption habits in a time where this need is increasingly acute. It is now up to industry to recognize the latent consumer demand for durable, repairable products, and the government to incentivize industry to cooperate with this demand in the ways that are urgently and environmentally necessary.

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[63] Winner, "Technology as Forms of Life," 9.
[64] McGrane, "An Effort to Bury a Throwaway Culture."

Ultimately, the ethos of the Repair Café movement should be integrated into the functioning of our economy as we reorient our understanding of our consumption and extraction habits within the context of the ecological and find ways to slow down and circulate material flows on a macro-scale. The practice of repair works to familiarize people with circularity on a conceptual level—objects/consumption should be reduced and reused when they can, and beyond this be remanufactured to allow for reuse, repair, and reduction to the largest extent possible. While large scale overhaul of linear economy logics is paramount, the reorientation of consumer habits and perspectives is also a crucially generative and gratifying practice at the level of the individual. As adrienne maree brown's *Emergent Strategy* illuminates, critical connection wields more transformative potential than a non-invested critical mass, and Repair Café offers a site for fostering these connections on a grand scale.

II. Repair Café Movement

The Repair Café founder and former journalist Martine Postma first launched the movement in 2011 when the birth of her second child led her to think about how our single-use throwaway culture endangers future generations (fig. 3.1.).[65] Postma launched the program to cater to those who are deterred from seeking professional repair services because they are too expensive.

[65] Sally McGrane, "An Effort to Bury a Throwaway Culture One Repair at a Time," *New York Times*, May 8, 2012, https://www.nytimes.com/2012/05/09/world/europe/amsterdam-tries-to-change-culture-with-repair-cafes.html?pagewanted=1&_r=1&ref=earth&.

Figure 3.1. Repair Café founder Martine Postma, https://huddsrepaircafe.com/

Simply, people bring in items that they want fixed by people who have volunteered their repair skills at no charge. Markedly, Repair Café exists outside the realm of the service economy, as Postma explains to the New York Times "It's definitely not a business model."[66] Postma also drew inspiration from the Dutch design exhibit Platform 21. The exhibit website proclaims "Stop recycling, start repairing!" and explains "If we don't consider repair a contemporary activity we will loose [sic] an incredibly rich body of knowledge – one that contributes to human independence and pleasure."[67] The idea was picked up by the Dutch media and it caught on in the Netherlands almost immediately–by the end of the year there was at least one established Repair Café in each of the country's thirteen provinces.[68]

[66] McGrane, "An Effort to Bury a Throwaway Culture."
[67] "Platform 21=Repairing: Stop Recycling, Start Repairing!" Platform 21, accessed December 21, 2021, https://www.platform21.nl/page/4315/en.
[68] Knight and Wackman, *Repair Revolution,* 5.

In 2011, the Dutch Ministry of the Environment granted the movement $525,000 to be directed toward macro-scale organizing efforts.[69] Postma launched the Repair Café Foundation as a non-profit organization which provides professional assistance to groups looking to start their own Repair Café. From there, the movement began to proliferate internationally with the first U.S. Repair Café cropping up in Palo Alto in 2012. Three more Repair Cafés were established in the U.S. by mid-2013, and all organizers took inspiration from the New York Times article that had profiled Posta the previous May.[70] Now the Repair Café International website boasts a total of 2,236 Repair Cafés with over 33,510 estimated volunteers and 40,212 objects repaired. These numbers also seem underreported given the expanse of under-the-radar Repair Café networks in the U.S. which I discovered while creating the database for Sustainable Hudson Valley last spring. The largest concentration of U.S. Repair Cafés is in the Northeast with the upper Midwest and the West Coast coming in with the next largest amount of Repair Cafés. The most concentrated region of Repair Cafés is in small towns of New York states throughout the Hudson Valley, Catskills, and Capital Regions which saw over 120 events in 40 different communities visited by over 600 volunteers in 2019.[71]

Every café brings volunteers with a range of backgrounds and repair experiences and skills in varying fields. People with administrative skills, engineering backgrounds, mending experience, or just loud-mouthed enthusiasm all have discrete skill sets from which Repair Café can benefit. Many volunteers who lend repair skills come without extensive prior repair knowledge and find their niche through their repeated experiences visiting at the Cafés. Everyone from attorneys, veterans, management consultants, nurses, etc., have all taken a liking to helping others through offering their handiwork.

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[69] McGrane, "An Effort to Bury a Throwaway Culture."
[70] Knight and Wackman, *Repair Revolution,* 5.
[71] Ibid., 6.

Each café is also equipped with different tools for every kind of repair which can be sourced from volunteers' personal tool supply or a local Tool Library. Central to the Repair Café ethos is the foundation of community building and community *repair*, given how the alienation which impacts people's relationships to their things also extends into isolating people from their neighbors. This is why at every RC event, people are encouraged to come even if they have nothing to repair. Another foundational element of RC is that everyone who brings in an item must stay and either watch or take part in the repair of that item—as authors Wackman and Knight emphasize in *Repair Revolution*, Repair Café is *not* a drop off service. This reflects adrienne maree brown's principle of interdependent organizing which centers learning to lean on one another and accepting that this requires a process of reconditioning. brown writes, "Most of us are socialized toward *in*dependence—pulling ourselves up by our bootstraps, working on our own to develop, to survive, to win at life. [...] In a capitalist society like the United States, every aspect of our survival—from food and water to healthcare, childcare, eldercare,—is based on our success at being an individual in the world: *Do we compete well enough to make good money so we can live a good life?*"[72] The work done by Repair Café is radical in how it identifies and seeks to remedy this social fissure that prevents and stifles many contemporary attempts at collective action.

Other house rules as listed on the Repair Café International (RCI) website include a limiting of one or two objects to be repaired per person, a suggestion of voluntary donation, an understanding that any new materials deployed for repair are to be paid for by the customer, and a series of statements regarding the limitations of liability given that all repairs are performed on a volunteer basis and all visitors offering broken items for repair do so at their own risk.[73] Cafés

[72] brown, *Emergent Strategy,* 87.
[73] "Repair Café House Rules," Repair Café, accessed December 21, 2022, https://repaircafe.org/en/house-rules/.

also often include a reading table with information on repair and DIY, a kid's tinkering corner or Take It Apart Table for unsalvageable items, and a refreshments table with snacks, tea, and coffee.

III. Other Repair-Adjacent Organizations and Movements

The decentralization of the movement (which is particularly pronounced the U.S.), while an asset in the inclusivity and mutability it provides to individual cafés, also means organizers must be tactful and savvy in how they finance, advertise, and coordinate their café events. While the Repair Café Foundation was backed by Dutch government funding, in the United States governmental uptake on subsidizing repair efforts has been largely non-existent. That said, a common topic of discussion at RC organizer meetings I attended included the potential for eventually receiving subsidies from revenue earned through carbon taxation programs intended to recycle funding back into sustainability efforts. In *Repair Revolution*, Knight and Wackman advise prospective organizers to look for partners and sponsors in local government offices, libraries, faith-based institutions, civic/service clubs, schools and universities, senior associations, and historical societies. The book also mentions potential for RC overlap with other community organizations like New York state's Climate Smart Community (CSC) initiatives which rank and reward sustainability action items on a point system which can qualify municipalities for government funding, or Transition Towns which sponsor sustainability movements through the non-profit Transition US. *Repair Revolution* also encourages organizers to seek out partnerships with "green" 501(c)(3) non-profits, community TimeBanks, Habitat for Humanity ReStores, and Thrift and Reuse centers.[74] This kind of potential for overlap demonstrates the broad range of potential energy toward transformative movement to be

[74] Knight and Wackman, *Repair Revolution,* 191.

harnessed and synthesized into generating large-scale change. That said, organizers of such a decentralized movement clearly have to be extremely connected, ambitious, experienced and available to tap into these networks to generate and sustain community interest.

That said, Repair Café is only one of the organizations picking up from the work of the 1960s and 1970s tinkering movements that preceded them (e..g comprehensive design and appropriate technology movement's discussed in the previous chapter). This collection of disparate yet ideologically-related movements like community-based DIY and tinkering spaces such as Fablabs, Hackerspaces, Makerspaces, and Fix-It Clinics also serve as potential sources for generating interest and collaboration in/with Repair Café. These spaces are motivated by the same objective of keeping salvageable objects out of landfills, yet they find their difference in their emphasis on re-educating (or diseducating) young people to resist the reflexive and compulsive trashmaking tendencies that they've grown up with, and their mission of generationally instituting "repair literacy".

Additionally, the Tool Library movement which often works with Repair Café is invested in realizing small-scale "sharing economies" and this community-led approach to minimizing consumption and restoring lost skills perfectly complements the RC mission. Tool libraries represent a key step in the transition from individual to collective models of ownership and ways of thinking about neighborhood coexistence, as do other organizations like the Free Store, Little Free Library, and clothing swap programs. Similarly to Repair Café, Tool Libraries adhere to a decentralized and easily replicable structure to be implemented anywhere in accordance with the needs of the community they serve. An RC organizer explains "Tool sharing is part of the collaborative spirit among [Repair Café] fixers, and conscientiously returning borrowed tools builds bonds of mutual respect."[75]

[75] Ibid., 173.

Another Repair Café adjacent movement pushing this same ethos in an ad-hoc and action-oriented way is iFixit. iFixit aligns itself with the Right to Repair movement by simultaneously pushing for legal mandates of open source repair instruction spanning across thousands of tech gadgets and other products, and in the meantime crowdsourcing step-by-step repair manuals for an expanding list of items to be uploaded to their website for public reference.

A similar mode of resistance is exemplified by China's *shanzhai* culture, which originated in the knock-off manufacturing of cell phones under names like Samsing. Similarly to iFixit and Right ot Repair, the *shanzhai* movement represents a grassroots disruption of monopolistic authority. The term translates literally to "mountain fort" or "stronghold" and comes from the Song dynasty when bandits would evade the corrupted authorities and perform deeds that resisted imperial rule.[76] In his book *Deconstruction in Chinese,* philosopher Byung-Chul Han interrogates the cultural milieu which differentiate Western notions of piracy and desecration from the Chinese cultural values of deconstruction and "decreation". The culture blossomed in the late aughts but the government announced a campaign to crack down citing security threats and the use of SIM cards in theft schemes, but the government interference was more likely due to securing foreign company investment via defense of Chinese intellectual property rights campaigns.[77]

Collectively, all these organizations and sub-movements use repair of community and alternative small-scale economic models as a way to combat the unsustainable, alienating, and impersonal nature of our economic and social systems.

IV. Addressing Inclusivity and Access in the Repair Movement

[76]Stefan Landsberger, "Shanzhai = Creativity, Creativity = Shanzhai," in *Boredom, Shanzhai, and Digitisation in the Time of Creative China,* (Amsterdam: Amsterdam University Press, 2019), 217.
[77] Xu Chi, "Number's Up For Fake Cell Phones," *Shanghai Daily*, January 14, 2011.

At the first Repair Café info session I ever attended to ground myself in the movement, Elizabeth Knight presented *Repair Revolution* and took audience questions. One of the standout questions was about the inclusivity and accessibility of the movement, to which Knight responded that the Cafés deliberately locate themselves in diverse areas near public housing and public transit stops. Despite continual efforts taken by movement leaders and organizers to diversify and promote the movement, however, there are still gaps in coordinating this involvement. Again, the basic elements of a Repair Café event are highly adaptable to any environment or circumstance—it can go up in any community space, be organized and promoted by any extroverted go-getting individual or group, and be attended by any community members looking to have items fixed, fix items, or meet their neighbors. While this is true and the rapid proliferation of the movement owes much of its success to this innately replicable model, there is still evidence that the movement could be made more broadly-accessible and geographically egalitarian. In an interview for *Repair Revolution,* Chicago Tool Library founder Tessa Vierk says "Chicago is very segregated racially and socioeconomically by neighborhood. We want to make this replicable because we want other neighborhoods in Chicago to have one too."[78] Here, Vierk speaks to some of the systemic issues that can prevent organizing communities from forming across racial and class divisions. In all forms of organizing, it is important that movements looking to accomplish systemic change must also be invested in liberation work on all other fronts. This intersectionality across stratifications of class, race, gender etc. is something it seems the repair movement has yet to fully accomplish.

As I collected information on the existing cafés for the master database on active Repair Cafés in the United States, it was evident that while there are a wealth of RCs in small towns and cities along the coasts, there are far fewer instances of RCs in the South, Midwest, and

[78] Knight and Wackman, *Repair Revolution,* 130.

Southwest. In my consultations with my supervisors Sustainable Hudson Valley director Melissa Everett and RC organizer Don Fick, we discussed some of the barriers to entry for launching a Repair Café. These barriers can include disparities in access to disposable time, the €49 price of purchasing a starter kit from Repair Café International (optional step), not knowing the right people/networks in your community (i.e. people with repair skills, connections to pre-existing faith and community organizations), or a general lack of technical and organizational knowledge (i.e. starting up a website, email list, Facebook advertisement etc.). In my search I'd come across online forums with demonstrated interest in Repair Café start-up in certain cities (like Atlanta and the Twin Cities) but action was never taken, perhaps because of the aforementioned factors. With Repair Café as well as with any other decentralized grassroots movement the questions of how knowledge of the movement travels and how people access/cannot access participation in the movement are central questions to be interrogated and synthesized into how the movement intends to move forward and grow.

V. Right to Repair, Apple, and the Federal Trade Commission

Crucially, Repair Café is collaborating with the Right to Repair Movement, which is pushing for eco design remanufacturing and consumer protection laws in protest of the linear economy and the predatory nature of planned obsolescence. As of fall 2020 Right to Repair legislation has been introduced to legislators in more than 20 states and has been gaining momentum and bipartisan support. In the summer of 2021, the Right to Repair movement saw

another huge victory as the Federal Trade Commission announced it was planning to amp up law enforcement against tech companies barring non-proprietary repair of their products.

Historically, Apple Inc. was one of the largest opponents of non-proprietary repair and one of the worst offenders of the Right to Repair principles. They have long opposed third-party repair of their products claiming that it would threaten customer data security, although the FTC investigation concluded that there was little evidence of this. Apple responded by announcing plans to launch a self-repair program in which people can order Apple parts to fix their gadgets at home themselves, and receive credit toward the purchase of the new parts. Repair Café International (RCI) has commended Apple for their promise to launch the self-repair program (fig. 3.2).

Figure 3.2. Promotional artwork for Apple's self-repair program

https://www.dpreview.com/news/8185781394/apple-self-service-repair-program

RCI founder Martine Postma is quoted in a statement on their website saying "This is the result of years of pressure from the international repair movement of which Repair Cafés are a prominent part. [...] We need to keep showing the world that more and more people want to repair their own products. Manufacturers should enable them to do so."[79]

This victory signifies a major turning point in tech industry consumer rights given the millions that Apple has previously spent on anti Right to Repair lobbying campaigns, and of course in how Apple—the largest of the tech giants—shifting their policies represents imminent change for all of big tech.[80] The fact that Apple's compliance will factor into other tech company policies is also crucial given that "e-waste" or discarded electronic devices is the fastest growing waste stream in the world.[81] While this is a massive win for the movement, a healthy skepticism remains as an article published on the Right to Repair EU website cites concerns regarding proprietary price gouging which remains the leading reason that customers typically do not repair their gadgets, and why Apple's pre-existing Independent Repair Program (IRP) piloted in 2020 was met with hesitancy from consumers. The New York Times coverage of Apple's announcement also notes this pitfall stating "Currently, a replacement iPhone 12 screen costs an authorized shop about $234 after a broken screen is traded in. At an Apple store, repairing an out-of-warranty iPhone 12 screen costs about $280."[82]

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[79] "'Major victory' for repair movement: Apple allows self repair", Repair Café, accessed December 22, 2021, https://repaircafe.org/en/major-victory-for-repair-movement-apple-allows-self-repair/.
[80] "Too good to be true? Apple announces giving access to (some) spare parts and repair information to consumers," Right to Repair, accessed December 22, 2021, https://repair.eu/news/too-good-to-be-true-apple-announces-giving-access-to-some-spare-parts-and-repair-information-to-consumers/
[81] Mostafa Sabbaghi, Willie Cade, Sara Behdad, Ann M Bisantz, "The current status of the consumer electronics repair industry in the U.S.: A survey-based study," *Resources Conservation and Recycling* 116 (2017): 138.
[82] Brian X. Chen, "What Apple's New Repair Program Means for You (and Your iPhone)," *New York Times,* November 17, 2021,

The monopolization of parts presents a lingering barrier to repair despite program compliance with FTC standards because the self-repair model still allows Apple complete ownership of all new parts, mentions nothing of the planned obsolescence design features of these pieces, and transfers all repair and assemblage responsibilities to consumers who are then doing free labor for the company.

Apple has also made it increasingly difficult for customers to seek help at third-party repair shops. Sometimes, even if the proper Apple products are acquired through Apple and used in the repair process, the repairs need to be authenticated through Apple's software system which is not publicly accessible.[83] Third-party shops can only access the software if they've been authenticated by the company via a contractual agreement that they will only supply parts from the company, as well as an obligation to collect detailed service records with customer names, gadget serial numbers, and mailing addresses to prepare for Apple-conducted audits to monitor repair processes.[84] After harsh and consistent criticism from the Right to Repair movement, however, Apple announced that they plan to remove software locks that specifically bar independent repairers and end users from replacing the screen on an iPhone 13.

Moving forward, the movement seeks confirmation from the company that they will remove *all* software locks, which would then also allow for third party manufacturers to provide parts for repair. Other short term goals for Right to Repair EU include EU legislation setting design requirements which ensure easy disassembly of tech gadgets, fair and inclusive national registration of the legal framework which makes accessible repair parts and information, and an

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https://www.nytimes.com/2021/11/17/technology/personaltech/apple-iphone-self-repair.html?searchResultPosition=1.

[83] Chen, "What Apple's New Repair Program Means for You."

[84] Brian X. Chen, "Why You Should Care About Your Right to Repair Gadgets," *New York Times,* July 14, 2021, https://www.nytimes.com/2021/07/14/technology/personaltech/right-to-repair-iphones-android.html?action=click&module=RelatedLinks&pgtype=Article.

EU Scoring System on Repairability which rates all energy-consuming products and informs consumers of the accessibility of repair for their products (fig. 3.3).[85]

Figure 3.3. Protesters at a Right to Repair EU event https://www.ethicalconsumer.org/technology/right-repair-campaign.

At the outset, his chapter grappled with the paradoxes inherent to a somnambulist mindset in which obsolescence, while normalized, remains frustrating to the consumer. The repair movement offers antidotes to this confusion as it works concurrently on multiple scales to critically connect the individual to the cause while also sustaining a systemically-grounded fight. While the systemic fight allows for big victories and lofty ambitions, this progress is made possible through the repair movement's fractal composition. The next chapter will explore the

[85] "What we want," Right to Repair, accessed December 22, 2021, https://repair.eu/what-we-want/.

contours of *how* people connect to repair, and the artists and activists who encounter and exhibit repair's beauty alongside its import.

Chapter 4: Looking Forward—The Art of Folk Maintenance in the Absence of Institutional Support

If a movement wants to win victories, gain public support, and maintain momentum through to a next generation willing to continue the work, it has to be built upon a foundation of profound individual investment. As Winner mentions, the countercultural tinkering movements which fizzled out with the introduction of a new existential threat were grounded in the self-reproach of a US elite made uncomfortable with the new world order which prioritized and mandated their meretricious consumption. Yet this personal connection that these hippies had to their movements seems more adjacent to a retreat from mass production as a means of self-exoneration rather than a individually-felt and institutionally-applied investment in recharting the course of our global systems of extraction and destruction.

So what makes the repair movement more than a flash in the pan reaction to crisis?

The repair movement owes much to the physical practice of repair itself for providing a replicable site of connection both to the work of the movement and between the people that constitute it.

Ultimately, effective organizing is about values writ large—taking what people really care about and aiming this collective defense of value sharply at the systemic pressures which threaten this value in people's lives and futures. adrienne maree brown describes how the individual must mesh with the collective writing that "In a fractal conception, I am a cell-sized unit of the human organism, and I have to use my life to leverage a shift in the system by *how* I

am, as much as with the thing I do. This means actually being in my life, and it means bringing my values into my daily decision making. Each day should be lived on purpose. This has meant increasing my intentionality about being with others."[86]

As this thesis has examined, repair has always existed in different contexts both literal and conceptual. At the outset of this study I presented these instances of contextual repair as a thread which reveals the contours of culture, economics, and politics throughout human history. Before all else, however, repair existed as a functional practice with folk origins. As the repair movement works to recenter critical connection as a tool of insurgent potential, individual and collective practice of repair as art arises as a statement of symbolic resistance against how ideas of maintenance and restoration have been societally ignored, suppressed, and forgotten.

In the chapter that follows, I will introduce theories of repairative art as a self-soothing practice that allows for the individual's personal connection to repair as praxis. As Knight and Wackman write in *Repair Revolution* "The concept of repair as a cultural and political expression came from activist artists."[87] The chapter will spotlight the seminal work of such maintenance artists who leverage broader concepts of repair and revival to make statements about our world and how we function within it. This discussion naturally segues into a discussion of the repairative aesthetic at the popular level and how the art form is being adopted and commanded by the newest generation of activists.

I. Repair as Art: Looking Ahead

Repair and Self

[86] brown, *Emergent Strategy,* 54.
[87] Knight and Wackman, *Repair Revolution,* 91.

In Maggie Nelson's book *On Freedom,* Nelson describes psychoanalyst Melanie Klein's concept of the reparative as "something felt and enacted by a child when she fears she has damaged a love object (usually, a mother), and subsequently feels the need to restore and protect it."[88] While studied by Klein as a "position" through which one passes in the stages of developmental psychology, Nelson highlights how this tendency toward reparation is continually revisited by people in all stages of development, and repair therefore remains the subject of a renewable creative practice for many artists. This concept was also later adopted by theorists such as Eve Sedgwick who wrote of repair as a means of "assembl[ing] and confer[ring] plentitude on an object that will then have resources to offer an inchoate self."[89] This concept also calls to mind the Japanese proverb found in Molly Martin's book *The Art of Repair* "If you can wrap three beans in a piece of cloth, then it is big enough to keep."[90] The ethos of repair requires a greater patience than a throwaway culture allows us to have with our stuff and ourselves. When we imbue objects with importance, then they can serve us in return.

Martin continues to offer evidence of repair as a self-soothing practice as she cites studies which posit that repetitive hand motions can lower blood pressure. During the COVID-19 lockdown, many looked for solace in picking up new crafting skills as is described on the UK website Upcycle Fashion. In a post from May, 2020 Julia Roebuck writes "Spending time mending a garment brings a calm focus. The repetition of precise stitches required for stitching on a button, darning or patching is therapeutic for many and has been coined *Mendfulness* in response to the rise of Mindfulness: The practice of paying attention in the current moment."[91] Behavioral neuroscientist Kelly Lambert's research focuses on the "critical link between

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[88] Maggie Nelson, *On Freedom: Four Songs of Care and Constraint* (Minneapolis: Graywolf Press, 2021), 30.
[89] Ibid., 30.
[90] Martin,*The Art of Repair,* 36.
[91] Julia Roebuck, "Making Do and Mending in Lockdown," *Upcycle Fashion*, May 8, 2020, https://www.upcycle-fashion.co.uk/post/makedoandmend.

symptoms of depression and key areas of the brain involved with motivation, pleasure, movement, and thought". Lambert studies how we derive emotional well-being from practices of physical embodiment and tasks we complete with our hands. She describes how our consumer culture revolves around effortless-driven rewards which can create conditions for unhappiness by rendering obsolete the "hand-eye-head-heart-body coordination that furnishes us with a meaningful understanding of the materiality of our world."[92] One of the origins of the word "thrift" comes from the Old Norse *thrifa* meaning "to grasp, get hold of" as thrift pertains to attaining success through workmanship.

Maggie Nelson also places emphasis on repair as a self-servicing art when she writes "the whole point of reparative making is that it is reparative for the *maker*, which guarantees nothing in particular about its effect on the viewer."[93] While Nelson speaks of a larger school of reparative making, the work of mending can be read as pertaining to this movement in both the literal and theoretical sense. Many testimonies from Repair Café volunteers echo this sentiment such as this quote from Larry James, a co-organizer of a Repair Café in Lincoln, Nebraska—"When I fix something for someone, even just a lamp or a wobbly chair, it enhances their life, saves them some money, and makes me feel good. For a few minutes, I am the person I want to be. That by itself would keep me coming back. Saving things from the landfill is just a bonus."[94]

II. Bastardizing Repair: The Aesthetics of Fast Fashion

Ironically, globalization and the fast-fashion industry have coupled up to appropriate and bastardize ancient repair aesthetics as retailers sell garments touting aesthetic qualities of

[92] Knight and Wackman, *Repair Revolution,* 88.
[93] Nelson, *On Freedom*, 31.
[94] Knight and Wackman, *Repair Revolution,* 41.

techniques like boro and kantha while fully violating the slow-fashion philosophies that undergird their meaning and their beauty. Not only are these new garments made with the intention of rapid deterioration (or obsolescence) which entirely disregards the philosophy of the practices, but they are manufactured in unsafe and unethical circumstances. There is also an sustained trend in distressed clothing in which not only are the clothes made intentionally and fashionably to look spent and tenuous, but the chemicals that are used to weather and wash the clothes are toxic for the environment, and the synthetic fibers used in manufacture disintegrate rapidly and pass into the waterways with every wash.[95] The poor quality of the clothes made in the fast fashion industry also disincentivizes repairs even though they are constantly necessary—why repair clothes that are made to break? Langdon Winner speaks to this pattern of appropriation in the exposition of "Building the Better Mousetrap" writing "Movements for social change in late twentieth-century America have often ended up as fashion trends. In a matter of weeks the radical thrust of a new idea can be absorbed into the glossy, ephemeral surfaces of the postindustrial marketplace."[96] Here, Winner describes the issue at the crux of fast fashion's depreciation of ancient repair techniques—the beauty of repair is that it flies in the face of the glossiness, ephemerality, and disposability upon which the treadmill of production is reliant. As the aesthetics of repair continue to catch-on as a marketable and profitable trend, how can repair resistance movements save these radical practices from the deradicalizing clutches of commercialization?

III. Repairative Artist Spotlights

Miriam Dym

[95] Martin,*The Art of Repair,* 85.
[96] Winner, *The Whale and the Reactor,* 61.

Artist and activist Miriam Dym tangles with this paradox of repairative art at her repair enterprise *Dym Products* which she established in 2001. In her work, Dym walks the line between labor and craftsmanship as repair walks the line between utility and art. *Dym Products* provides services such as logo removal which preserves and recycles a T-shirt's utility without implicating the wearer in the messy politics of brand loyalty (fig 4.4.). Dym also practices mending mass produced clothing (i.e. her son's H&M jeans) which she asserts leaves the garments in a higher quality state of composition than their original manufacturing job. Dym acknowledges the entrepreneurial aspect of her craft both as a practical matter of supporting her family but also as a commentary on the ways in which it's largely impossible for slow fashion to compete with mass production in a capitalist linear economy. Dym says "I feel like if I'm going to be in business I need to acknowledge the mass production. And if I'm going to be an artist I need to acknowledge the mass production *and* I need to try to compete with machines in the way that chess players compete with an IBM machine… So it's completely quixotic."[97] This largely symbolic (but aspiringly normative) mending practice is of the same spirit with which Repair Café volunteers approach their craft. Daniela K. Rosner describes how people visiting public sites of facilitated repair (like RC and Fix-it Clinics) "orient repair toward a countercultural conceptual framework for social change."[98] What I have found to be inclusive of Repair Café, however, is that while many approach it from within political and cultural context, people can, or rather people *should*, be able to engage with RC at any level to allow for a more democratic means of inclusion and access.

[97] Rosner and Turner, "Theaters of Alternative Industry: Hobbyist Repair Collectives and the Legacy of the 1960s American Counterculture".
[98] Ibid.

Figure 4.1. Miriam Dym “Logo Removal Service” https://www.miriamdym.com/post/use-it-all-up-logo-removal.

Celia Pym

Artist Celia Pym also provides insightful commentary on repairs' relationship to the self as she focuses on the resurrection of severely damaged objects through extensive and careful repair (fig. 4.5.). Pym says “I love well-worn and holey clothing for its closeness to the body and the skin. How garments can take the shape of a body. For me the more worn down, thin, softened and stretched a garment is, the better.”[99] As the damage to a garment reflects the life of the body

[99] Martin,*The Art of Repair,* 78.

wearing it, the work of repair artists such as Pym reflects how repair should then share this closeness to the body. Mindful repair work asserts that to care for the items you live in is to care for yourself.

Figure 4.2. Hand-darned Norwegian Sweater by Celia Pym https://www.heddels.com/2017/06/weekly-rundown-celia-pyms-vintage-norwegian-sweaters-are-hand-darned/.

Mierle Laderman Ukeles

Repair work also breaks from the tradition of the "treadmill of production" and instead spotlights the ubiquitous and false conflation of productivity with production of something new. The devaluation of this kind of labor, as it does not align with the extractive and waste-making modus operandi of the linear economy, also ties in to the erasure of women's work as is explored

in the art of Mierle Laderman Ukeles. In Ukeles' "Manifesto for Maintenance Art 1969!", she presents the binary systems of development and maintenance claiming that the inherently male drive to develop and produce is the only thing valued by our culture while the female obligation toward maintence "takes all the fucking time."[100] The manifesto then outlines a proposal for a show titled "Care" which would consist of Ukeles doing housekeeping work in the museum, conducting interviews about maintenance with members of the public, and displaying rehabilitated and recycled trash to be delivered to the institution of exhibition. Although the show was rejected from every institution to which it was proposed, the concept forges a path for a feminist blurring of the development/maintence binary in that the maintence work also doubles as development—by situating typically invisible women's work in an art institution it becomes uncharacteristically both important and productive. The proposal also meddles explicitly with the notion that restoration is protective of the planet while production is destructive and trash-making, therefore presaging the production model of a circular economy as restorative and caring, yet progressive and forward-facing nevertheless. Ukeles other works also center around intersectional feminist conceptualizations of labor made invisibile with projects like dressing her kids to go out, washing the steps of the Wadsworth Atheneum, and spotlighting sanitation workers as artists. By elevating often unacknowledged labor of women and the working class to the level of aesthetics, Ukuleles draws a critical attention to these practices that is typically reserved for work belonging to the realm of "development". The next step, it seems to me, would be to not transform maintenance into development via an aesthetic framework, but to go beyond this by recognizing the inherent value of maintenance in its pure and unelevated form.

[100] Jillian Steinhauer, "How Mierle Laderman Ukeles Turned Maintenance Work into Art," *Hyperallergic*, February 10, 2017, https://hyperallergic.com/355255/how-mierle-laderman-ukeles-turned-maintenance-work-into-art/.

Jenny Odell

To return Eve Sedgwick's philosophy on the repairative, she examines repair as evidence of "the many ways selves and communities succeed in extracting sustenance from the objects of a culture… whose avowed desire has often been not to sustain them."[101] This extraction of value and sustenance from the objects of our consumerist throwaway culture is what artist Jenny Odell explores in her work the *Bureau of Suspended Objects*. The project (in its virtual form) consists simply of an array of blog posts in which Odell includes a photograph of an object found in a landfill, followed by extensive description of each object's history following its origins of manufacture, history of distribution, potential uses, and cultural significance. Resultantly, the viewer is made to sit with an object redeemed from its endpoint designation as "trash", like looking at something revived from death or the realm of no return. Odell posits that we categorize objects as trash based on our emotions about that object and how these inform the objects' changing circumstances, rather than the material reality of the objects' ability/inability to fulfill an intended purpose. Additionally, in photographing the objects Odell nods to the promotional image as the dominant mode of communicating about objects in our culture, and how images of objects are so commonly intended to manufacture desire within their onlookers. If "trash" becomes trash solely through a connected shifting of opinion and circumstance, then Odell's resurrected objects become art with similarly minor shifts in imbued importance. Making trash art calls attention to the importance of our own emotions and the power that individual and thus collective thought patterns have on our things and therefore our world.

[101] Nelson, *On Freedom*, 30.

Figure 4.3. Jenny Odell's *Bureau of Suspended Objects,* https://www.jennyodell.com/bso.html.

The more recent works of Mierle Laderman Ukeles similarly meditate on how individual emotions shape our landscape. In an Ukeles artistic collaboration beginning in 2001 with Fresh Kills, a Staten Island landfill being transformed into a public park, Ukeles asks "How does a place switch its meaning and become something else?" In her proposal, Ukeles continues to describe the landfill as "a true social sculpture composed of 150 million tons from literally billions of individual decisions and acts of rejection."[102] One of Ukeles projects called *The Social Mirror* that went up both at the site and in other venues was the installation of mirrors which paneled garbage trucks so anyone with proximity to the truck (and therefore societal complicity

[102] Steinhauer, "How Mierle Laderman Ukeles Turned Maintenance Work into Art".

in the endless creation of garbage) would see themselves reflected in the processing of that garbage (fig 4.7.) (fig. 4.8.).

Figure 4.7. Mierle Laderman Ukeles, *The Social Mirror*, 1983 https://freshkillspark.org/.

Figure 4.8. Mierle Laderman Ukeles, *The Social Mirror*, 2010 https://freshkillspark.org/.

This piece is so provocative because it strips viewers of the privileged dissonance that they are typically granted, and in doing so calls attention to how this dissonance fuels the continuation of our somnambulance. Another of Ukeles early proposals for Fresh Kills involved encouraging members of the public to donate objects they consider valuable to the site so they could be embedded in the soil. This plays with the concepts of inverting the emotions surrounding trash as Odell does, and urges people to think about the life of objects and the relationship between objects and the earth.

IV. Repairative Art Democratized

Beyond the museums and performance spaces where artists have centered repairative art as a form of artistic insurgence, repairative art has also been adopted, crucially, by the masses of artists and activists of the younger generations. The trend of visible mending, for example, simply encompasses any mending style that can be noticed in a wearable garment (fig 4.9). The style borrows classic techniques of darning or felting but uses fibers of contrasting colors to make a statement about the wearers' personal values and how their actions support their political and social beliefs. All fashion serves as a construction of identity, and with visible mending the identity of the wearer is expressed and fortified not through the purchase of new items, but through this absence of repetitive consumption made visible.

Figure 4.9. Example of visible mending

https://www.ockpoptok.com/blog/crafting-mending-bookhou/

Mending circles that offer a site where people can bring damaged clothing specifically also work in conjunction with Repair Cafés. Much of the rhetoric used with mending calls attention to the repair as a lost art form, and the latent power that a mending education has for upcoming generations. Lisa Z. Morgan is a department head at the Rhode Island School of Design and in *Repair Revolution* she comments on the student's embrace of repair as a political tool and widespread disdain for the fast fashion industry. "Their passion emerges out of individual commitments that are political, ethical, or personal, and for some students, it is a way of coping with anxieties about the future."[103]

I recently attended an on-campus event co-hosted by the Vassar Knitwits, Vassar SEED, and the Vassar Greens in which students were encouraged to bring old clothing for "drop-in mini-workshops on patching and mending, sewing, yarn making, seed starting, and more". At the event, students were working on different projects as determined by the needs of the garments

[103] Knight and Wackman, *Repair Revolution,* 90.

they brought in. One student patched and sashiko stitched their garment while another learned to darn a hole for the first time (fig, 4.10, 4.11). To me, the event exemplified how young people are enthusiastic about engaging with sustainable praxis through repair. The students not only use fashion but activism and skill sharing as a means of self-expression and socializing. The mending event was promoted through campus org networks, email lists, and word of mouth—everyone there was either associated through prior friendships or the organizing community fostered through gathering to practice shared values. As a newcomer, the other attendees welcomed me warmly, and in this warmth I felt the enthusiasm for connection that drives change.

Figure 4.10. A student practices visible mending at a Vassar event.

Figure 4.11. A Vassar student learns to darn.

Conclusion

This thesis has investigated the role of repair as a mechanism of establishing and reinforcing human connection. It is this capacity coupled with the threat that an intentional repair practice poses to our repetitive consumption culture that grants repair its radicality. As we have established, repair has its origins as a ubiquitous imperative which compliments natural material life cycles and patterns of object use. We have also established, in accordance with the theory of Langdon Winner, that as all artifacts have politics, so too does the decision-making inherent to extending or terminating the lifespan of a given artifact. The folk repair practices that this thesis has examined exemplify the political contexts which instituted repair as a necessity of survival and, crucially, as a mode of cultural aesthetic expression and tradition. Following the thread of repair's politicization, the thesis examines how repair extends beyond these folk origins into the top-down government-led campaigns to promote repair during wartime. In this context, repair was leveraged by national power structures as a patriotic display which exemplifies the sacrifices to be made by the individual on behalf of the nation. Repair's politicization continues as this logic is then inverted during the interwar and postwar years while the Western individual, in order to fulfill their responsibilities to their country, was expected to abstain from repair. In this context, which we trace through to the political and economic contexts of the modern day, the patriotic and tactful individual must allow their products to obsolesce so that they can repetitively consume and thus fuel an endless economic boom through sustained market interaction. The thesis then examines how these duties have been made compulsory by the emergence of planned obsolescence and the resultant somnambulance of consumers to whom repair is a lost art.

Through this historical analysis, the radical potential of harnessing the power of repair in the present day emerges. In order to ground an investigation of the modern day repair movement simultaneously in the landscape of STS theory and the anti-industrial social movements which preceded it, I engage Winner's analysis of three different countercultural tinkering movements which emerged in the latter half of the 20th century. Winner attributes their failure to extend their momentum into the present day to an ignorance of the institutions that control technological development and the historical circumstances that led to their hegemony. I couple this criteria for movement success with contemporary theories of organizing as the thesis then pivots into an analysis of the repair movement on individual/collective and formal/informal scales. Winner's analysis concludes that countercultural movements must target the operations of systems and institutional power structures to have far-reaching impact—this assertion holds true and this thesis demonstrates that the repair movement accomplishes this breadth of vision in a way that the late 20th century movements did not. This thesis, however, finds that the real power of the repair movement lies in its ability to operate fractally—both at the level of the institution and at the level of profound interpersonal connection. Individuals find personal grounding in this movement not only through a connection to others in the Repair Café setting but through a connection to the work itself which Repair Café aims to foster within every attendee—nothing can do more for the longevity of a movement than a personal connection to the cause felt deeply by every movement member. In the final chapter, I equate this depth of connection with the repairative art's recent rise to prominence and the emergence of repairative art in the work of a new generation of activists and artists.

I want to conclude this thesis by acknowledging how the repair movement exists as a specified instance of a social movement made discrete from other social movements by the

politics embedded within it as a result of the movement's history. As previously stated in this conclusion, the politics of maintaining an artifact serve as an extension of the politics of the artifact itself. The movement to maintain, then, carries with it a politics that pertains specifically to the repair movement, and that politics is studied in this thesis through the applied lens of emergent strategy. While the repair movement may share some overlapping qualities with other social movements in organization, motivation, and approach, each social movement essentially exists as its own social artifact which is embedded with its specific politics that couples to its context and history. While the findings of this thesis could be extrapolated to an analysis of other social movements existing outside the realm of repair work, this disclaimer of inherent and embedded difference should remain foregrounded in that discussion.

The repair movement initially interested me because, like so many other movements, it arose as a form of existential response to the decline of a familiar world. The movements' emphasis on centering marginal and individual action presents the climate crisis as an issue to be simultaneously tackled in ways both small and large. This model of approachability wards off the paralytic stasis or fearful retreat that often accompanies acknowledgement of existential threat. As the crisis mounts, repair teaches us how to approach the work of resistance in the most effective way the individual can—humbly and holding hands.

Lingering Questions

As I delved further into my research, questions emerged for me about institutional power and the ways in which the repair movements' organization of individual actors lends new legitimacy to repairers. What is the role of a social justice framework in legitimizing repair work (and maintenance more broadly) as a radical practice? Does Repair Café raise awareness of

repair for everyone or only for those alienated from repair and maintenance practices as a result of a privileged socioeconomic background? How can those doing repair or maintenance work outside of voluntary social justice movements like Repair Café be celebrated for the work done both presently and extending into the past?

What can the Western repair movement examined in this thesis learn from the parts of the world less consumed by throwaway culture, where repair remains incorporated into daily life? What would an analogue of the repair movement look like in a context (such as a globally Southern context) in which a developing economy positions repair not as a choice but as a necessity? Can this movement exist in the Global South not as an analogue but (hopefully) as a part of a whole interconnected movement with the same goal in mind?

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