

ABSTRACT

Title of Dissertation: SOFT CIRCUITRY: METHODS FOR QUEER
AND TRANS FEMINIST MAKER
CULTURES

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Fiber craft practices such as knitting, crochet, quilting, embroidery, and weaving have been used as experimental, hands-on methods for queer and trans feminist knowledge production, especially since the 1970s and 80s when feminist art movements in the United States were thriving. “Soft Circuitry: Methods for Queer and Trans Feminist Maker Cultures” tracks do-it-yourself (DIY) knowledge through contemporary feminist art praxis and high-tech maker movements, demonstrating how overlapping communities of practice use the language and techniques of craft in order to make sense of their worlds. Queer and trans fiber artists use craft in order to create historiographical interventions in the mechanisms of canonization, thereby reimagining what artistic and educational institutions might look like. At the same time, the commercialized maker movement purportedly seeks to democratize technology while transforming education, manufacturing, and war through “making”: a hybrid of art, craft, and machine-assisted fabrication, encompassing a vast array of

construction techniques. Combining feminized skills such as sewing with new digital technologies for physical computing, wearable electronic textiles, and soft circuitry, maker education seeks to attract girls and women to Science, Technology, Engineering, and Mathematics (STEM) fields, incorporating them into the official narrative that the U.S. is a “Nation of Makers.” This nationalist narrative simultaneously excludes others from its narrow definitions of creativity, entrepreneurship, and innovation. I argue that the theories, methods, and conceptual tools that have been prototyped and iterated by generations of queer and trans feminists can be used to refigure the maker movement, which has a longstanding, yet devalued, relationship with craft. By attending to intergenerational feminist dialogues about craft and identity, recent art activist projects that queer digital technologies in order to create safer worlds for trans people of color, and my own fiber craft practice, I demonstrate that present-day maker cultures are active sites of transformation and feminist intervention. Borrowed from maker movements, the language of soft circuitry suggests useful metaphors for doing speculative feminist materialism. Feminist craft praxis functions as a soft circuit: a technological pathway or schematic for feeling our way toward newly habitable worlds and ways of being.

SOFT CIRCUITRY: METHODS FOR QUEER AND TRANS FEMINIST MAKER
CULTURES

by

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Dedication

This work is dedicated to my grandmothers, Lillian Hubbs and Carol Rogers, and my mother, Margaret Kerbs, for teaching me the many arts of making something out of nothing.

It is also dedicated to the crafters and the teachers, who make the world and keep it together.

Table of Contents

Dedication.....	ii
Table of Contents.....	iii
List of Figures.....	iv
List of Abbreviations.....	v
Acknowledgements.....	vi
Preface.....	xv
Foreword: Projects, A Love Story.....	xix
Chapter 1: An Erotohistoriography of Craft.....	1
Crafting Canons.....	1
Making Something from Nothing.....	13
“I Don’t Know You/Anna Mae”.....	23
“I Don’t Know You but We Touch the Same Stuff”.....	28
The Documentation of Queer Domesticity.....	35
Hacking the Maker Movement Aesthetic with Soft Circuitry.....	41
Chapter 2: Queer and Trans Feminist Craft Praxis.....	52
Fingering, Figuring: Handmade Methods.....	54
Queering Craft, Crafting Theory.....	63
Allyson Mitchell.....	64
Sheila Pepe.....	67
LJ Roberts.....	75
Chapter 3: Methods for Feminist Maker Cultures.....	80
DIY Knowledge Production and Critical Making.....	80
Queering the Digital with Soft Circuitry.....	96
“Making Queer Love: A Kit of Odds and Ends”.....	108
Chapter 4: The “Nation of Makers”: Racialized and Gendered Surveillance in and beyond the Maker Movement.....	133
The Maker Education of Ahmed Mohamed.....	133
A Trans Feminist Theory of Making.....	146
Chapter 5: Crafting Queerer Worlds.....	162
Don’t Be a Tool: Speculative Feminist Maker Movements.....	162
“Golden Showers”.....	170
Bibliography.....	180

List of Figures

Fig. 1: The front of “I Don’t Know You/Anna Mae.”	26
Fig. 2: “I don’t know you but we touch the same stuff.”	33
Fig. 3: Tilda on a quilt by Carol Rogers	36
Fig. 4: “I don’t know....”	38
Fig. 5: Conductive fabric button	43
Fig. 6: Pink traces	44
Fig. 7: White felt battery holder	47
Fig. 8: “#TransformDH”	101
Fig. 9: Sewable coin cell battery holders	110
Fig. 10: The LilyTiny microcontroller	110
Fig. 11: The “arts and crafts” section of Value Village, Adelphi, Maryland	114
Fig. 12: Wooden embroidery hoops, assorted sizes	120
Fig. 13: A drawer of cotton embroidery floss in assorted colors and weights	121
Fig. 14: Six strand cotton embroidery floss, assorted colors	121
Fig. 15: Unopened packages of seam binding and ricrac trim from Value Village	123
Fig. 16: Gold sequins by the yard	124
Fig. 17: “A Kit of Odds and Ends.” Photo by Reed Bonnet	130
Fig. 18: “A Kit of Odds and Ends” detail. Photo by Reed Bonnet	130
Fig. 19: Cross-stitched piss droplet on black Aida cloth	173
Fig. 20: “Golden Showers” illuminated by yellow sewable LEDs	173
Fig. 21: The back of the sewn circuit with battery holder	175

List of Abbreviations

BDSM: Bondage/Discipline, Dominance/Submission, Sadism and Masochism

CLGA: Canadian Lesbian and Gay Archives

DARPA: Defense Advanced Research Projects Agency

DIY: Do-It-Yourself

LED: Light Emitting Diode

STEAM: Science, Technology, Engineering, Art, and Mathematics

STEM: Science, Technology, Engineering, and Mathematics

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Tilda and my plants are the queer companion species that kept me alive; caring for them taught me how to care for myself when it seemed impossible. Reed

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Preface

Over and over again throughout the process of researching and writing this dissertation, I wished I were doing a Masters of the Fine Arts. I longed to create an object or an installation full of objects that could mostly speak for themselves, picking up where description and theory failed. My desire for a studio space instead of a desk in an office was, of course, a result of not only thinking too hard about career paths not taken, but also romanticizing artistic professions and ways of life even as I inhabited the privileged position of living a “life of the mind.” It is quite easy, when the boundaries of our vision are circumscribed by even the most interdisciplinary of disciplinary paradigms and values, to assume that the grass is greener on the other side—to think that artists, performers, scientists, engineers, computer programmers, anthropologists, and corporate businesspeople all must have it better than a graduate student in the humanities. But what each and every one of those experts in their own field knows is that no object speaks for itself, not even a novel, especially not a sculpture or a piece of technology. And so every time I began to feel existentially restless I just pretended that I was getting an MFA in Women’s Studies. With what *things*—in the sense of art objects as well as the artifacts of everyday life—could an MFA in Women’s Studies speak? With what tools and techniques would they craft an argument, a narrative, a world? What methodological practices would make up their habits of mind?

Liberated somewhat by this imaginative placebo, I proceeded to follow the steps of what had been my instinctive creative process as a child: start going through other people’s precious junk, whether in one’s own attic, at the thrift store, or by the

curbside, and emerge covered in dust and cobwebs, hands and pockets full of the materials for a story. Obviously, one's choice of attic, thrift store, or curb really matters, as these are not the same in all places and times; someone has already started making decisions about what to keep and what to throw away, curating what we will find there. I grew up surrounded by the remnants of rich white people's lives in the suburbs of Long Island, New York. There was a fair amount of the detritus of poor white people's lives as well, and much of it followed me around in haphazardly packed boxes from one rental home to the next, a reminder of what you leave behind and what you carry with you in the violence of class mobility.

I come from a long line of working class hoarders (we are still finding out just how long) who could not just let a used couch or dresser sit by the side of the road, going so far as to remove the cushions or the drawers so that no one would want it before coming back later on with a truck to haul it away. You just hoped it was in better shape than the furnishings you already had, none of which matched because it had all come from flea markets and garage sales. While my stepfather fixed other people's cars, plumbing, and roofs, I crawled around in sagging trailers and garages full of forsaken memories, fantasizing about what must be hidden in the junkyards where he got parts. While my mother went from florist jobs, to a produce stand of her own, to working at the grocery store, I babysat for people who seemed incredibly wealthy yet compulsively accumulated mountains of "antiques" with paths carved between them, through which I would play with kids not that much younger than myself. My maternal grandmother, in whose house I lived for the first years of my life, was always sanding and painting some new find on her porch, which my

grandfather, a tool and die maker, had built when I was a toddler. There are endless stories of the different ways my grandparents hustled to make enough money to rebuild their tiny two bedroom house (which had been full to bursting with six children) almost from scratch. These tales usually involve some sort of bodily injury, like the time my grandmother cut off the tip of her finger on a kick press making sheet metal curtain rods to sell to the hospital where she worked as a typist. I cannot say how many times I watched the women in my family attempt to make someone else happier or more comfortable, usually with very little.

I share these stories not because they are uncommon; everyone has a story of how they came to do whatever it is that they do, stories that emerge from the tangled nexus of race, class, gender, sexuality, ethnicity, age, ability, location, religion. My family assumed that I would become educated enough to not have to use machines or my hands to make a living, to not have to make my dwelling place a never-ending project, to not have to move when I couldn't pay the bills, to not have to pick up worn castoffs from the street, to not have my dinner come from a can or a Styrofoam cup, to not have to exist in a state of precariousness, either actual or imagined. But it was in musty crawlspaces full of craft materials my mother saved in hopes of eventually making things to sell and sweltering attics with boxes of forgotten macramé that I learned how to appreciate trash. At risk of idealizing a life that my family tried very hard to avoid, a life on whose edge we always seemed to be teetering, it was the nagging sense of never having enough that taught me about the abundance of the material world under capitalism, which is very good at making us feel that we are not enough. It is a tired cliché, one that I have the good fortune of living, that this is the

kind of abundance that comes not from the buying, consuming, having, or even the use of *things*, but from the social relationships that grow around our shared and diverging stories about them. Trash, and the people who live in trash, made me an archaeologist of broken and rusted tools with mysterious purposes, of the jars of unidentifiable things someone thought they might need one day, of the heaps of plastic bags full of stained clothes, of the Pennsylvania outbuildings overflowing with old newspaper and the scraps of whole lives. Trash conjures worlds.

There are stories to be told here of feminism's trash worlds, especially that queer trash even some feminists would like to put out on the curb. To those obsessed with narrow economic definitions of technological innovation, entrepreneurship, and creativity, queer feminist art must look like an overstuffed black plastic garbage bag whose opacity hides that which we would rather not see or smell. To rip open that bag and dump out its contents is to muck up happy illusions about progress and tidy fixes, to refuse to contain queer excess or the unpleasant truths feminists have a way of unearthing. But it is also to hope that at the bottom of the bag, there might be something useful—something we forgot about, like a stash of fabric that could still, if we used our imaginations, make something new.

Foreword: Projects, A Love Story

This dissertation is a formal experiment, like much of the queer and trans feminist artwork discussed in its pages. As such, it does not have a traditional introduction; what might be considered the “literature review” and the “methodology” sections are not where a typical academic reader would expect to find them. To keep confusion to productive levels, I offer this foreword as a roadmap to the key questions and themes of my research as well as to the structure of this document. In tracking do-it-yourself (DIY) knowledge through contemporary feminist artistic production and high-tech maker movements, I sought to examine how different yet overlapping communities of practice use the language and the processes associated with craft in order to make sense of their worlds.

By DIY knowledge, I do not just mean knowledge related to the acquisition of concrete skills that may be associated with craft, home improvement, hobbies, or any of the other activities that fall under the rubric of “do-it-yourself”; I also use this phrase to signal how the process of making new knowledge, and the process of teaching oneself or others, is a DIY endeavor in itself, not easily standardized or contained solely within educational institutions. By following DIY knowledge production, it became clear that queer and trans feminist artists use craft in order to create historiographical interventions in the mechanisms of canonization, a form of revision that they then use to reimagine what artistic and educational institutions might look like. I argue that the theories, methods, and conceptual tools that have been prototyped and iterated by generations of queer and trans feminists can be used to similarly refigure the maker movement, which purportedly seeks to democratize

technological knowledge and skills while transforming education, manufacturing, and war through “making”: a hybrid of art, craft, and technological fabrication that encompasses a vast array of construction techniques. Taking genealogies of feminist fiber craft into account asks participants in the maker movement to consider what exactly it is they are making, and how.

To help tell partial stories about how feminist maker movements have the potential to remake the world as we know it, the chapters are interspersed with crafted projects of my own creation. These projects offer an alternative reframing or a supplement to the forms of evidence highlighted in each chapter. They function as material metaphors for the affective labor of crafting canons, the queer knack for making vibrant social worlds out of junk, and the erotic possibilities of crafting. These projects were created between 2014 and 2016 using techniques such as embroidery, knitting, and machine sewing. Some incorporate components of electronic textiles like motors and light emitting diodes (LEDs). I presented these projects at academic conferences such as the DC Queer Studies conference *Queer Speculations* (2015) and *Queer Circuits* at the Graduate Center of the City University of New York (2016). A version of one of these projects, “Making Queer Love: A Kit of Odds and Ends,” was previously published online in *Hyperrhiz* 13: Kits, Plans, Schematics.¹ These were experimental prototypes in the sense that, while most craft-based techniques have some degree of predictability in their repetition and regularity, it is difficult to know with full certainty the outcome of combining specific materials, tools, and technologies; the creation of every object thus involves an element of

¹ Melissa Rogers, “Making Queer Love: A Kit of Odds and Ends,” *Hyperrhiz* 13: Kits, Plans, Schematics (Fall 2015). <http://hyperrhiz.io/hyperrhiz13/missives-of-love/queer-love.html>

surprise. This dissertation is partially about what it *feels* like to inhabit this kind of (not) knowing—to work from *within* craft processes instead of just analyzing their finished products. I pick up where Ann Cvetkovich’s discussion of craft in her most recent book, *Depression: A Public Feeling* (2012), leaves off: with learning to live with the uncertainty and doubt that is integral not only to crafting but also to queer feminist ways of being and world-making.²

Attempting to explore in more depth some of the affective states Cvetkovich describes, making things and documenting their construction became a relief from the anxiety that accompanies writing a dissertation, and helped to stave off the insidious effects of the negativity and cynicism that dominate academic discourse. Surrounding myself with objects that I crafted by hand, and giving some away to significant others, was a way of keeping myself company during the isolation often required by research and intensive thinking. Crafting replenished my energy after long and demoralizing bouts of drafting and revision, granting me permission to take a much-needed step back from writing while providing a materially productive outlet for stress that otherwise would have destroyed my health. In alternating and combining these different modalities, I was reminded again and again that craft actually made it possible for me to do the work of theory, providing more proof—if the work of the artist-theorists described in these pages wasn’t enough—that creativity in its many forms is a life-giving resource for queer and trans people, people of color, and poor people. For queer, trans, and anti-racist feminists, creative cultural production is a way of worlding: of putting what we need back into the world and regenerating communities that have been damaged and disintegrated by violence, hatred, trauma,

² Ann Cvetkovich, *Depression: A Public Feeling* (Durham: Duke University Press, 2012), 202.

fear, and neglect. Recovering, practicing, and reinventing ancient forms of cultural production such as fiber crafts are ways of honoring the intellectual and creative legacies that have shaped our lives and that, in many ways, have saved and healed us. These legacies, in all their complexity, need our care, gratitude, and affection if they are to continue to serve us in our daily work. The projects I discuss here are examples of small ways I try to do such repair and maintenance.

The first of these projects, “I Don’t Know You/Anna Mae,” follows on the heels of the first chapter and mobilizes a familiar companion from quotidian life, the pillow, to imagine new intimacies with ongoing craft legacies. Using vibration, a technological phenomenon that has facilitated a host of queer intimacies and transformed how people relate to their own and others’ bodies, “I Don’t Know You/Anna Mae” figures an erotic encounter with crafted artifacts in the form of a pillow that responds when hugged or touched. Constructed from scraps of found textiles embellished by a stranger, the huggable vibrating pillow encapsulates much of the “stuff” to be found throughout the rest of the dissertation—the feelings, methods, aesthetics, and materialities that animate my work and much of the queer and trans feminist artwork I explore. How might we piece together the incomplete fragments of feminist histories of craft and assemble something tangible, something to make our worlds a little softer?

The first chapter, “An Erotohistoriography of Craft,” picks up on this question in order to think about how feminist uses of fiber craft are written and rewritten in the present, starting with the feminist art movement of the 1970s. Artwork by Harmony Hammond and an essay by feminist art historian Lucy Lippard from the journal

Heresies serve as guides for how queer feminist craft is conceptualized today. Erotohistoriography, a method prototyped by queer theorist Elizabeth Freeman, is useful here for thinking about how queer feminists can relate to the history of fiber craft via touch, connection, and knowing through feeling. The second chapter, “Queer and Trans Feminist Craft Praxis,” turns to the work of contemporary queer and transgender artists who use feminist art historical legacies to craft new theories about embodiment, materiality, environmental destruction, labor, pedagogy, and police violence. These artists *queer theory* while also *queering craft*, such that “craft” and “theory” mutually transform one another. Their work shows that craft has always been a theoretical field for feminists, a key mode of feminist knowledge work. This chapter demonstrates that without a rigorous understanding of the intellectual labor that can be performed through craft, the maker movement misses out on a crucial opportunity to redefine the hierarchies of value that organize disciplinary knowledge.

The third chapter represents a slight shift in focus from contemporary artwork executed with fiber media, to forms of making that make it possible to rethink what counts as technology. “Methods for Feminist Maker Cultures,” contextualizes the maker movement as well as a number of responses to its educational mission. It also outlines soft circuitry as a queer method for crafting worlds out of the imperfect materials available to us. Such a method asks us to understand “digital technologies” through feminist genealogies and craft techniques. Following this chapter is a second project, “Making Queer Love: A Kit of Odds and Ends,” which combines some of the aesthetics and approaches of the maker movement with heavy doses of affection for the queerly theoretical crafters I have been highlighting thus far. “Making Queer

Love” assembles a kit of thrifted craft materials for distribution to the crafters on whom I crush, suggesting cheap DIY methods for making something out of nothing in the trash of queer social worlds.

“The ‘Nation of Makers’: Racialized and Gendered Surveillance in and beyond the Maker Movement” is prefaced with a cautionary tale about what happens when the ideals of a commercial movement butt up against the racist ideologies being put into practice in schools across the United States. The story of fourteen-year-old Ahmed Mohamed, who was arrested when he brought a harmless invention into school, reveals huge gaps in the discourse around the “Nation of Makers” that the U.S. claims to be. Paired with Ahmed’s case is the work of micha cárdenas, who is engaged in the crafting of speculative feminist maker movements through her theorization of the stitch as an algorithmic operand for connecting communities of women of color. Finally, “Crafting Queerer Worlds” showcases several recent projects by Hazel Meyer and Cait McKinney, who are prototyping tools and technologies for the preservation of queer and trans histories within and outside of institutions. Their work shows that queer and trans definitions of and uses for technology are very different than those at play in the popular maker movement, partially because this work is deeply rooted in feminist understandings of craft. I close with another small project of my own, “Golden Showers,” which uses cross stitch embroidery and soft circuitry to light up the erotic practices that turn us on in more ways than one.

It should be obvious by now that these creative experiments are intimately entangled with the details of my personal life; they cannot be pulled apart from the

queer domestic contexts in which they were produced, contexts in which I also did the bulk of my academic work. The often romanticized yet entirely ordinary labor of making art, the conjoined feminized labor of craft and of domesticity, the increasingly precarious pedagogical and administrative labor of teaching in the university as a graduate student and an adjunct, and the frequently unglamorous, habitual labor of loving and making love are all bound up together in my projects. In what follows are references to my partners, my cat, former housemates, the various rented homes in which I did my research and writing over the course of seven years, and my most recent day job at a museum, where a contingent of brilliant, tremendously supportive friends and coworkers kept me motivated to continue making things even when I did not quite know what they would be. In the copious notes, sketches, and journal entries, digital images, six-second Vine videos, tweets, and repeated tests of my methods, these people and places recur constantly, and were impossible to exclude from my accounts of my process. They are a testament to the collective nature of every creative act, and they became a part of the aesthetics of documentation that make the labor of craft and the labor of theory visible.

Fiber craft processes are difficult to write about, often defying straightforward description. Craft's purpose is showing, not telling, through finished results that more often than not erase the traces of one's labor. It is also difficult to document the practice of fiber craft in real time, as one's hands are occupied. I therefore opt for more descriptive detail rather than less, using visual media where expedient, and try not to assume familiarity with the terminology or techniques of specific crafts. Accounts like this will always be necessary as they offer rich information about the

relationship between the politics of making art and the material realities of the everyday lives of artists and makers in shifting historical contexts. Such information is crucial to the interrelated feminist projects of demystifying creativity; breaking down enduring mythologies of the lone heroic (masculine) artist; ensuring creative workers have access to a humane quality of life that includes affordable housing, healthcare, and a living wage without displacing whole neighborhoods through gentrification; and working toward a world in which art and creativity are available and accessible to all. Toward those ends, I suggest that we think about queer and trans feminist craft praxis as a soft circuit: a technological pathway or schematic for feeling our way toward newly habitable worlds and ways of being.

Chapter 1: An Erotohistoriography of Craft

Crafting Canons

“Most women’s lives are made up of fragments: left-overs, hand-me-downs, bits of selves, bits of stolen time.” —Harmony Hammond, as quoted in Auther³

“Memory is the seamstress, and a capricious one at that. Memory runs her needle in and out, up and down, hither and thither.” —Virginia Woolf, *Orlando*⁴

Feminist work on fiber craft and textiles is well established and widespread. A comprehensive art historical study of it would be a monumental undertaking, and is not my aim. Rather, I construct a patchwork of texts that collectively theorize the relationships between the practice of fiber crafts and the production of knowledge. With the pieces of such a patchwork spread out before us, we might see how fiber craft practices such as knitting, crochet, quilting, and embroidery have been methods for experimenting with and applying new forms of queer feminist knowledge, especially since the 1970s and 80s, when feminist art movements in the United States were thriving. We might also understand how the canon formations that resulted from such movements have shaped the futures of fiber craft. As Canadian curator and critic Nicole Burisch has suggested, craft and feminist art, like performance art and feminism, are so deeply interlaced that it is almost impossible not to speak of them in

³ Elissa Auther *String Felt Thread: The Hierarchy of Art and Craft in America* (Minneapolis: University of Minnesota Press, 2010), 144.

⁴ Virginia Woolf, *Orlando* (New York: Harcourt, Inc., 1973 [1928]), 78.

the same breath.⁵ She argues that the “current craft revival provides an important opportunity to think through how shifting perceptions and uses of craft over the past forty years are linked to the recent histories of feminist art and art organisations.”⁶ It is the retelling of these histories via contemporary craft, and what they make it possible to imagine, that I take up in the next chapter on current queer and trans theorizations of fiber. For now, I use Elizabeth Freeman’s concept of erotohistoriography to show how artists and art historians craft feminist canons in order to contextualize and sustain their own work. Freeman uses erotohistoriography to describe queer modes of relating to the past that are centered in affective ways of knowing. Beginning with Julia Bryan-Wilson’s scholarship on white lesbian artist Harmony Hammond, whose early work is being reexamined with the emergence of a queer studio craft movement, I consider the naming and elaboration of a theoretical entity called “queer craft” in the early 2000s. Bryan-Wilson’s work crystallizes how past and present recombine in contemporary queer craft practices. Lastly, I conduct a somewhat speculative reading of Lucy Lippard’s 1978 essay, “Making Something from Nothing (Toward a Definition of Women’s ‘Hobby Art’).” This early theorization of craft, gender, class, and domestic cultural production prefigures today’s maker movement by almost thirty years, allowing us to retroactively imagine a feminist context for, and language of, “making.”

⁵ Nicole Burisch, “Was it Macramé or was it Destiny? Wednesday Lupypciw’s LOOM MUSIC and Feminist Craft Legacies OR We Are Going To Talk About Judy Chicago Whether You Like It Or Not,” *nomorepotlucks* 35: Sources (September/October 2014). <http://nomorepotlucks.org/site/was-it-macrame-or-was-it-destiny-wednesday-lupypciws-loom-music-and-feminist-craft-legacies-or-we-are-going-to-talk-about-judy-chicago-whether-you-like-it-or-not-nicole-burisch/> Accessed 22 August 2016.

⁶ Ibid.

A queer feminist approach to craft theory attempts to dismantle the accepted canons and mechanisms of canonization in traditional art history, assembling new archives of cultural production. Queer and trans feminist artists, crafters, and theorists pursue cultural and political change from within and outside institutions such as museums and universities, using a variety of resources and materials. The popular maker movement has a longstanding, yet devalued, relationship with craft; by stitching together knowledge production and fiber craft, I hope to put the feminist genealogies of maker cultures on display. A theory of craft grounded in queer feminist writing and art enables us to think about how present-day maker movements are sites of transformation and activist intervention. Queer and trans feminist critiques of and inroads into the maker movement are vital if it is to be anything other than a bastion of white masculinity, sexism, and technocratic militarism. My work deepens an interdisciplinary understanding of craft as a fundamental aspect of material culture and human experience that reveals much about the organization of social value via race, class, gender, sexuality, ethnicity, and age, not to mention taste, education, and skill.

Elizabeth Freeman's erotohistoriography is a useful method for crafting queer feminist canons, offering a way to work through contested stories about social worlds past and present. In *Time Binds: Queer Temporalities, Queer Histories* (2010) Freeman describes erotohistoriography as "a mode of reparative criticism" that "honors the way queer relations complexly exceed the present, insisting that various queer social practices, especially those involving enjoyable bodily sensations, produce forms of time consciousness—even historical consciousness—that can

intervene into the material damage done in the name of development, civilization, and so on.”⁷ For Freeman, the experience of physical pleasure is a queer feminist way of relating to the past. She writes, “historicity itself might appear as a structure of *tactile* feeling, a mode of touch, even an erotic practice.”⁸ With an emphasis on sensing or feeling queer temporalities through touch, the body, and erotic energy, erotohistoriography is a compelling way of looking for the seams in fiber craft’s multiple, entwined histories, tracing their construction with the fingertips in order to notice how they were made.

Not incidentally, in Freeman’s discussion of this bodily encounter with history, the act of stitching emerges as part metaphor, part method for a specifically lesbian way of reading and writing the past. Closely reading several passages from Virginia Woolf’s classic *Orlando*, in which the narrator attempts to make sense of Orlando’s lengthy and multiply gendered life history, Freeman argues that in the novel, “the hand that plies the needle, the needle that is itself a kind of finger penetrating the holes in memory and manuscript, the nerve system that controls the pen and yet is wrapped around the fibers of our whole being, are *figures* for a more affective and embodied form of historical inquiry.”⁹ Fiber craft, as both a set of material practices and a practice of remembering, here becomes a way of externalizing what is inside the body (nerves and fibrous tissue, the threads of memory and imagination), of feeling or fingering history in the form of texts and leftover rags. According to Freeman, *Orlando* “pursues a kind of visceral encounter

⁷ Elizabeth Freeman, *Time Binds: Queer Temporalities, Queer Histories* (Durham: Duke University Press, 2010), 120.

⁸ Ibid.

⁹ Freeman, *Time Binds*, 110. Emphasis mine.

between past and present figured as a tactile meeting, as a finger that in stitching, both touches and is touched, and that in reading, pokes and caresses the holes in the archival text even as it sutures them.” Erotohistoriography, then, is a pleasurable as well as a radically vulnerable method that opens up historical texts and queer feminist bodies to permeability and mutual attachment. The stitch as surgical suture, a temporary device for shaping and healing bodies, comes to the fore in discussions of transgender uses of fiber craft techniques and aesthetics, as the work of Jeanne Vaccaro and micha cárdenas in chapters two and four will show.

Freeman’s archival figurings and fingerings, the “aesthetic of lesbian fingerplay” that enacts “a truly digital history,”¹⁰ prove especially apt for the project of queerly fashioning a patchwork of craft-based texts. The stitch is a metaphorical form of feminist historiographical repair, but it is also a method of material attachment that emphasizes ways of knowing and feeling based in touch. Fiber craft is intimately connected to the body through the hands, tools, and machines that produce textiles and the bodies that wear, use, feel, and look at them. Fiber craft practices can be deeply enjoyable on physical and cognitive levels as well as emotional ones, producing not just pride or satisfaction in what one has made but also sensations of relaxation, comfort, physical warmth, and yes, erotic pleasure.¹¹ This does not mean, however, that they do not sometimes result in pain: the prick of a needle or a pin, the rug burn-like effect of fibers rubbing repeatedly against dry skin, the aches and inflammation of repetitive stress injuries, arthritis, and eye strain, and of course, run-

¹⁰ Ibid.

¹¹ As I argue “Making Queer Love: A Kit of Odds and Ends,” practices of fiber craft are erotic in Audre Lorde’s use of the term. Audre Lorde, “Uses of the Erotic: The Erotic as Power,” *Sister Outsider: Essays and Speeches* (Berkeley: Crossing Press, 2007 [1984]), 53-59.

of-the-mill frustration and disappointment. Lastly, because fiber craft is so process-oriented, repetitious, and cumulative over time, and because it is often utilized to create enduring and tangible objects, it invites us to think about temporality through the creation of haptic connections to textures, techniques, and textiles that have withstood the test of time. Embroidered handkerchiefs, woven rugs, patchwork quilts, crocheted afghans, and knitted sweaters, for example, can all last longer than a human lifetime given the right conditions and reparative maintenance. They can therefore pass between generations in ways that sometimes circumvent heteronormative routes of familial transmission such as inheritance. For these reasons, erotohistoriography is well suited to the task of revisiting the canons and the artifacts of queer feminist craft.

The queer and trans feminist crafters whose art and writing I describe in the coming chapters are attuned to the erotics of crafting and to the ways craft practices open up surprising temporal modes. Piece by piece, these artists and theorists construct queer feminist art historical canons in order to situate their own work and to contribute to the collective project of knowledge production. They draw out the continuities, and the inevitable boundary work, in decades of thinking on craft so that queer feminist knowledge becomes something we can feel and touch—delicately patched together, contiguous if not whole. Crafting canons in this way produces pastpresents, which Katie King describes as “a species of naturecultures” that demonstrate “how the past and the present continually converge, collapse and co-invent each other.”¹² For King, pastpresents are the knotting together of multiple worlds and stories, a reorientation of space and time that is as sensory as a game of

¹² Katie King, “Pastpresents: Playing Cat’s Cradle with Donna Haraway.” <http://playingcatscradle.blogspot.com/2010/10/katie-king-womens-studies-university-of.html>

cat's cradle: relational, sometimes uncomfortable, and fun.¹³ Erotohistoriography is thus a method for feeling out the pastpresents, and futures past, of queer feminist craft theory; for Freeman, erotohistoriography “does not write the lost object into the present so much as encounter it already in the present, by treating the present itself as hybrid. And it uses the body as a tool to effect, figure, or perform that encounter.”¹⁴ To *feel* fiber craft's pieced-together pastpresents, to care for them and to continue to honor them through everyday use in artistic praxis, is a political project that makes livable worlds possible.

The loving as well as frustrating labor of crafting canons is an erotohistoriographical impulse that connects fiber craft practices to repeated acts of remembering and storytelling. Julia Bryan-Wilson has helped establish the art historical canon that provides a context for queer feminist craft as it is practiced today. Her 2009 essay “Queerly Made: Harmony Hammond's *Floorpieces*” offers a model analytic for reading how “queer” and “lesbian” might signify in artistic practices, suggesting a genealogy for queer craft that emerges from feminist art movements and lesbian feminism. Like the other art historical pieces I discuss in this chapter, Bryan-Wilson's work shows that is insufficient to merely point out how fiber craft makes visible the hierarchies of value that organize practices of cultural production; her deft examination of Hammond's *Floorpieces* untangles the strands of meaning braided by hand into the artist's materials, revealing how craft techniques

¹³ Cat's cradle is one of Donna Haraway's favorite figures for the back-and-forth relay of stories, knowledge, and patterns between companions. See, for example, *Staying with the Trouble: Making Kin in the Chthulucene* (2016).

¹⁴ Freeman, *Time Binds*, 95.

work back and forth across binary distinctions such that these become the *material* of the art itself.

Created in 1973, the same year Hammond came out publicly as a lesbian, the *Floorpieces* consist of tightly coiled and painted cloth strips cut from the ends of industrial bolts of fabric she scrounged from the dumpsters of the garment district of New York City. Bryan-Wilson suggests that the *Floorpieces* are rag rugs in drag,¹⁵ refusing the privileged vertical space of white gallery walls and calling attention to the “low” status of women’s household work (and women’s position in art history) by insistently taking up space on the floor.¹⁶ In “bringing together feminist politics, avant-garde abstraction, queer sensuality, and ‘middlebrow’ hobbyist crafting,”¹⁷ the *Floorpieces* have been triply marginalized by the standards of mainstream art history, which has largely ignored lesbian art, feminist uses of abstraction, and folk handicraft traditions.¹⁸ As Bryan-Wilson points out, however, lesbian feminist uses of craft “refuse to be swept under the rug.”¹⁹ Teasing out the multiple metaphors at work in these camp versions of rugs, she draws parallels between Hammond’s coded meanings and the use of slang in queer subcultures. She reads the *Floorpieces* as humorous puns on euphemisms for lesbian oral sex like “going down” and “rug munching” as well as feminine bodily processes that have been deemed shameful or disgusting, such as menstruation (being “on the rag”).²⁰ These hidden meanings might only be discerned by those “in the know,” which may be part of why the *Floorpieces*

¹⁵ Julia Bryan-Wilson, “Queerly Made: Harmony Hammond’s *Floorpieces*,” *The Journal of Modern Craft* 2.1 (March 2009): 59-80, 62.

¹⁶ Bryan-Wilson, “Queerly Made,” 67.

¹⁷ Bryan-Wilson, “Queerly Made,” 61.

¹⁸ Bryan-Wilson, “Queerly Made,” 68.

¹⁹ Bryan-Wilson, “Queerly Made,” 77.

²⁰ Bryan-Wilson, “Queerly Made,” 69.

have largely been understood in relationship to other artistic treatments of craft, materiality, and labor rather than in terms of queerness.

I focus on Hammond not to claim her as the singular originator or the foremother of queer feminist art, but rather to think about how the legacies of lesbian feminism have shaped the canons of queer craft that are currently in formation. She is an important namer of lesbian art history, establishing the theoretical apparatus for feminist art movements through her work on the editorial collective for the journal *Heresies* and as one of the cofounders of AIR gallery. Butch crochet artist Sheila Pepe cites Hammond's work in the genealogies she uses to situate her own craft-based interventions in the art world. Hammond also theorized stitching as a feminist act of connection and collective attachment, although she relied on a problematic universalism to do so, an issue to which I return in more detail in chapter four. Her 1971 piece, *Girdle*, was included in John Chaich's traveling exhibit "Queer Threads: Crafting Identity and Community" for its stay at the Maryland Institute College of Art in 2016, where Hammond gave a presentation on her work. She noted that with the exception of the deceased Allen Porter's untitled 1955 needlepoint depicting nude men reclining intimately, *Girdle* was the oldest piece in the show, acting as an abstract lesbian feminist precursor to the newer queer art on display. It is within the contexts of fiber-based exhibits like "Queer Threads" that a younger generation of queer and trans artists are encountering Hammond's work.

In addition to her art historical research on Hammond's early works, Bryan-Wilson clarifies what is at stake politically in the narration and description of craft's pastpresents in her short piece, "Eleven Propositions in Response to the Question:

‘What is Contemporary about Craft?’ ” Her propositions polemically contradict each other in a list that alternately celebrates and denounces contemporary craft practices, revealing the material and rhetorical tensions at play in the recent drive to theorize, historicize, and contextualize the crafts. Beginning with the proposition that craft is contemporary because it “saturates the landscape of recent current art; it has threaded itself into and onto any map of the international art world,”²¹ she immediately claims that craft is *not* contemporary but “outmoded; it is old-fashioned; it is kitsch; it is domestic. It is the residue of the homespun, the folksy, or the functional.... Hence it is largely irrelevant.”²² Craft’s inability to overcome its association with the past and with that which is old is part of what causes it to go unnoticed, open to claims that craft doesn’t matter despite its ubiquity. The anachronism of craft traditions, however, is exactly what is useful about craft: “Why should we insist upon craft as contemporary when its important and distinctive ontology is its very connection to the past, to the entire rich terrain of thrift and ingenuity, to knowledge production passed down through the hand, and skilled legacies?”²³ Bryan-Wilson’s use of craft as an historical and material method of knowledge production is what I want to emphasize here. She shows that craft is richly theoretical despite the fact that it is popularly depicted as decorative fluff, devoid of conceptual depth. Craft is itself a methodology for accumulating, transmitting, and altering knowledge. Because of this, she writes, craft “has been widely institutionalized” in art markets and academies,²⁴ its “influence on virtually every aspect of contemporary art is the worst kept secret in art

²¹ Julia Bryan-Wilson, “Eleven Propositions in Response to the Question: ‘What is Contemporary about Craft?’” *The Journal of Modern Craft* 6.1 (March 2013), 7-10, 8.

²² *Ibid.*

²³ *Ibid.*

²⁴ *Ibid.*

history, as art historians are beginning to realize the profound debt current practices owe to handmaking.”²⁵ I argue that this is a debt with which mainstream maker movements need to reckon as well.

Importantly for constructing feminist genealogies for maker movements, Bryan-Wilson implies that one of the reasons for craft’s recent rediscovery is that innovative feminist uses of craft in the 1970s changed what it could mean, effectively mainstreaming forms of craft knowledge and working to level distinctions between art and craft: “Because of the widespread absorption of feminist methods of working into the larger terrain of art since the late 1970s—including participation, process-based pieces that highlight unfinished or leftover remains of visible effort, and the performance of domestic work in the space of the institution to question the public/private divide—one could say that craft has *driven* contemporary art, has motored some of its most groundbreaking tendencies.”²⁶ She makes a critical historiographical revision that puts feminist art movements at the center of contemporary art as we know it today. Not just a blip on the periphery of the art world or a “dead” phenomenon, explicitly feminist artwork made it possible to imagine a host of uses and contexts for craft. Queer and trans artists are currently working within and on this legacy; indeed, the queerness of contemporary craft is Bryan-Wilson’s tenth proposition: “Craft’s queerness keys into interlocking discourses of pleasure, shame, disappointment, difficulty, exuberance, and community-building. Craft’s unruly libidinal energy is a bridge across the high/low

²⁵ Bryan-Wilson, “Eleven Propositions,” 9.

²⁶ *Ibid.* Emphasis in original.

divide.”²⁷ Ironically, as she and others point out, thanks to the work of feminist art movements craft has also “been embraced by straight men, because it has lost its stigma and is no longer ghettoized as feminized work.... Craft is now big, machinic, spectacular, macho, heroic.”²⁸ Men whose status in art markets allows them to appropriate and benefit from feminized fiber craft techniques are the subject of much debate in craft theory and criticism.²⁹ This topic surfaces in the dialogue between fiber artists LJ Roberts and Sheila Pepe, which I discuss in the next chapter on the recurring figures of queer and trans feminist craft evoked by Bryan-Wilson’s “nelly yarn bombers and wild cross-stitch faggotry and dykes who throw pots.”³⁰

The past presents that craft conjures are acutely felt in the contradictions of its contemporaneity, as the playful back-and-forth of “Eleven Propositions” shows. Craft enables tactile, in-person connections but it is also mediated by new digital technologies;³¹ craft is used by anticapitalist activists to agitate for the repair of broken labor and production systems, not just objects, but at the same time it is deeply embedded in the market, consumerism’s obsession with newness, and progress-oriented discourses of entrepreneurship.³² For Bryan-Wilson, “Craft polarizes and collapses theoretical positions about what making means today. Craft is

²⁷ Bryan-Wilson, “Eleven Propositions,” 10.

²⁸ Ibid.

²⁹ See, for example, Joseph McBrinn’s “‘Male Trouble’: Sewing, Amateurism and Gender” in *Sloppy Craft: Postdisciplinarity and the Crafts* (2015). In an interview with Jennie Klein for *Artpulse* magazine, LJ Roberts notes, “In a lot of ‘queer craft’ work I see a disturbing trend of fetishizing cisgendered men—straight and queer—who engage in textile practices and the privileging of a variety of masculinities, whether it be an acceptable and easy to swallow queerness or a reification of the macho.... It’s irksome that the fetishization of queer masculinities through textiles creates a sly misogyny” (52).

³⁰ Bryan-Wilson, “Eleven Propositions,” 10.

³¹ Ibid.

³² Bryan-Wilson, “Eleven Propositions,” 9. The work of many of the artists and crafters profiled in Betsy Greer’s 2014 book *Craftivism: The Art of Craft and Activism* exemplifies Bryan-Wilson’s point, making interventions in sweatshop labor, supply chains, and artisanal production.

contemporary because it is the pivot between art and commerce, between work and leisure, between the past and the future.”³³ A boundary object par excellence, like the concept “queer” itself, craft is at the heart of contestations over knowledge and materiality. How craft brings past presents into textured relief, in all their knotty complexity, is what makes it such a useful set of methods for queer and trans feminist artist-theorists whose work reconciles the experience of ongoing historical traumas with the collective desire for queerer worlds that don’t yet exist.

Making Something from Nothing

What might a queer feminist mythology for the maker movement look like, and how might those of us invested in the transformation of “maker culture”—and culture in general—begin to assemble the scraps and fragments of it? While feminist art movements were somewhat less concerned with the kinds of technological prowess that matter to some communities of practice in maker cultures today, early feminist work on craft is an untapped resource for thinking about the modes of community building, entrepreneurialism, and innovation (using the term in its most expansive sense) that women, queer and trans people, and people of color currently engage through discourses of “making.” The DIY and earlier arts and crafts movements are widely recognized as starting points for contemporary maker cultures, yet the role that feminist art and media played in elevating and popularizing a range of amateur and professional crafts, especially fiber crafts, is less readily acknowledged outside of a small network of feminist makerspaces and cultural

³³ Bryan-Wilson, “Eleven Propositions,” 10.

producers. Originally published in 1978 in the fourth issue of *Heresies*, the long-running feminist journal of art and politics, renowned art historian, critic, and activist Lucy Lippard's "Making Something from Nothing (Toward a Definition of Women's 'Hobby Art')" uses the language of making to describe domestic cultural practices that not only do not count as art, but also fall low on the hierarchy among crafts. Lippard suggests that "hobby art," the art of making something out of nothing or simply "the art of making,"³⁴ as she calls it, has been a domain of cultural production accessible to women precisely because it has been excluded from the art world, remaining relatively affordable as well as below critical notice.

"Women's Traditional Arts—The Politics of Aesthetics," the issue of *Heresies* in which "Making Something from Nothing" appears, features essays and interviews by well-known artists and writers such as Theresa de Lauretis, Linda Nochlin, Howardina Pindell, Miriam Schapiro, Hannah Wilke, Lynda Benglis, Faith Ringgold, and Joanna Russ, alongside many others from within and outside academic and art institutions. As anthropological as they are art historical, the contributions excavate hierarchies between fine art and folk art, the industrial and the domestic, the modern and the "primitive," and the functional and the decorative, discussing the making of pottery, baskets, food, ritual objects, jewelry, paintings, collage, sculpture, furniture, and textiles of all kinds by women across several centuries. The issue is truly global in scope, covering forms of cultural production practiced by ethnic groups from every continent, including the craft practices of indigenous peoples such as the Navajo, the Cheyenne, the Maori, and the Chilkats. This global emphasis

³⁴ Lucy Lippard, "Making Something from Nothing (Toward a Definition of Women's 'Hobby Art')," *The Pink Glass Swan: Selected Feminist Essays on Art* (New York: The New Press, 1995). 130.

results in part from the cultural ubiquity of craft historically and, I would argue, growing anxieties on the part of the editorial collective about which women their work could be said to represent, as seen in the issue's introduction and back matter. Still in their first two years of publishing, it is clear that the structure and collective decision-making process of the magazine were still being established.

In the introduction, for example, the editors describe how the unusually long nine-month production process for the issue was a back-and-forth of criticism and self-criticism marked by “an insider/outsider tension. On the one hand, there was an unspoken set of assumptions shared by some members of the group, vocabulary and gestures which grew out of a common history, a common consciousness. On the other, there was a fear that this set of assumptions implied a clique.”³⁵ Like the previous issue, “Lesbian Art and Artists,” the topic of “Women’s Traditional Arts” manifests a desire to supplement inaccurate art histories by searching for a uniquely “feminine aesthetics”; the introduction, however, demonstrates how such an endeavor is fraught with the politics of canonization—of inclusion and exclusion always operating through gender, race, sexuality, and class—as well as the internal conflict and negotiation endemic to new feminist publications and organizations.

Heresies' response to such challenges surfaces again in the back of the issue. Alongside previews for coming issues, the back matter includes a letter from the Combahee River Collective about “Lesbian Art and Artists,” criticizing its lack of contributions by feminists of color. The Collective writes, “We find it appalling...that a hundred years from now it will be possible for women to conclude that in 1977 there were no practicing Black and other Third World lesbian artists.... Feminist and

³⁵ “From the Editorial Group,” *Heresies* 1.4 (1978). 2.

lesbian politics and creativity are not the exclusive property of white women.”³⁶ In the published response, *Heresies* admits that they “had a similar problem with every issue. Most of the editors and contributors have been white women.”³⁷ They go on to invite a special issue on “Black and other Third World artists” to be published in 1979 and “edited by Third World women” but acknowledge that “it is HERESIES’ responsibility to continue to print work by and about minority women (including Third World women, lesbian women, etc.) in *each* issue to avoid tokenism.”³⁸ These questions surrounding “Lesbian Art and Artists” and “Women’s Traditional Arts,” questions about who is legible as a woman, as a lesbian, or as an artist, questions about the relationship of race, ethnicity, and culture to craft, usefully frame the project of queering craft theory taken up in the next chapter.

Read in the context of contestations over the politics of women’s artistic practices, Lippard’s “Making Something from Nothing” crystallizes a key moment in feminist art history and in longer trajectories of thinking on craft. Taking the title of her essay from a 1968 hobby book encouraging housewives to decorate their homes with objects made from cheap materials and reused consumer products, Lippard points to the emergence of print cultures for the circulation of DIY knowledge through texts on craft, and the stratification of the markets for such genres via class and gender. She writes, “The hobby books reflect the manner in which Good Taste is still unarguably set forth by the class system. Different books are clearly aimed at different tastes, aspirations, educational levels,”³⁹ as they offer suggestions for

³⁶ Combahee River Collective, “Dear Lesbian Issue Collective,” *Heresies* 1.4 (1978). 129.

³⁷ *Heresies*, “Dear Combahee River Collective,” *Heresies* 1.4 (1978). 129.

³⁸ *Ibid.* Emphasis in original.

³⁹ Lippard, “Making Something,” 131.

projects and materials that are meant for women with varying amounts of free time and disposable income to spend on crafting. Yet, race is not explicitly part of her analysis of taste; instead, middle and upper class housewives and suburban professionals are stand-ins for an unmarked white femininity that suffers from the “creative restlessness”⁴⁰ of domestic isolation and the “boredom”⁴¹ of excess leisure time. While she offers the examples of the borrowing of stylistic elements from Mexican and Asian crafts to ornament presumably white homes⁴² and the exhibition of Navajo weavings in fine art museums, taken out of context as “inspirations” for famous abstract artists,⁴³ as part of the mechanism through which distinctions between high and low are made, these are not fully explored as integral to the production of the kinds of white feminine domesticity Lippard is examining. Rather, the interviews and personal perspectives in the remainder of the issue tease out the complexities of craft’s racialized, gendered, and classed legacies, from Howardina Pindell’s handwritten reflection on how the familial practice of traditional African crafts such as basket weaving were supplanted by the “Anglo-American crafts” of knitting and crochet,⁴⁴ to the conversation between a Russian Jewish grandmother and the West Indian live-in housekeeper who sews with her,⁴⁵ to the short entry on the indoctrination of religious values and appropriate femininity into Venezuelan girls via needlework.⁴⁶ Lippard’s essay is thus productively read through and against these

⁴⁰ Lippard, “Making Something,” 133.

⁴¹ Lippard, “Making Something,” 135.

⁴² Lippard, “Making Something,” 131.

⁴³ Lippard, “Making Something,” 135.

⁴⁴ Howardina Pindell, “Afro-Carolinian ‘Gullah’ Baskets,” *Heresies* 1.4 (1978). 22.

⁴⁵ Judith Henry and Dee Shapiro, “Sarah Mandell and Enid Aljoe,” *Heresies* 1.4 (1978). 76.

⁴⁶ Luchita Hurtado, “Luchita Hurtado,” *Heresies* 1.4 (1978). 83.

first-person accounts of the blurriness between decoration and utility, leisure and productivity, pleasure and necessity.

Lippard's attention to the hierarchies *among* crafts as well as those between art and craft will be useful for thinking about how different types of creative knowledge are valued, or not, within contemporary maker movements. Why are some forms of creativity—namely, those skills that are seen as highly specialized or technical and that involve a large investment of resources—routinely depicted as inherently more useful, marketable, or interesting than areas of knowledge originating from hand-making, repetition and patterning, and use of natural materials? Furthermore, how are attitudes around social class, cosmopolitanism and urbanity, and gender- and race-specific kinds of making being reproduced via the maker movement's updated versions of hobby activities? That is, how is it that different forms of making come to be seen as more acceptable, appropriate, or enjoyable for some people instead of others? With their emphasis on interior decorating and home improvement, Lippard argues, hobby books give women the permission to make by encouraging them to keep their creativity confined within the home, providing them “an outlet for these drives in an art that is not considered ‘art,’ an art that there is some excuse for making, an art that costs little or nothing and performs an ostensibly useful function in the bargain—the art of making something out of nothing.”⁴⁷ It is therefore domestic crafts' lack of pretension to high art and their distance from commercial art markets that make them approachable for women. As Lippard shows, this is a mixed blessing, as it sets aside hobby art as a protected arena for women's creativity yet leaves the category of “fine art” intact. In addition, hobby art appeals

⁴⁷ Lippard, “Making Something,” 134.

“both to housewifely thrift and to the American spirit of free enterprise—a potential means of making a fast buck.”⁴⁸ As it functions today, the discourse of “making” achieves a similar effect, allowing ordinary people to avoid the elitism of the art world’s galleries, museums, and fairs while viewing themselves as entrepreneurs or “creatives” capable of “upcycling” trash into new, more expensive products. “Making,” like hobby art, creates a third term somewhere between art and craft that is nevertheless not immune from the hierarchies of value that divide them, despite its claims to capture the best of both.

Not entirely scornful of hobby books, Lippard usefully views the “shared or published pattern” and “[s]uggestions in ‘ladies’ and handiwork magazines”⁴⁹ as contributing to a system of women’s collective knowledge production that establishes, and bends, the parameters of artistic innovation. She also notes how feminism was beginning to be commodified as part of popular culture, such that women with leisure time were making some fiber crafts fashionable “on the apron strings of feminism and fad”⁵⁰ and that the “cute” and the overtly decorative were becoming more acceptable as art forms.⁵¹ These linkages between popular feminism, DIY movements, and consumerism grow even deeper with the advent of Riot Grrrl in the early 90s and other forms of “third wave” cultural production that purported to be anti-capitalist while shamelessly mining consumer culture. The kinds of crafting genres that Lippard discusses will inform the work of a younger generation of feminist and queer artists, as evident in Elissa Auther’s writing on Josh Faught, who

⁴⁸ Lippard, “Making Something,” 137.

⁴⁹ Lippard, “Making Something,” 134.

⁵⁰ Lippard, “Making Something,” 135.

⁵¹ Lippard, “Making Something,” 136.

juxtaposes an archive of craft books by the prolific author Dona Z. Meilach with collections of ephemera related to AIDS activism and BDSM communities.⁵² Such genres are precursors to the explicitly feminist and sometimes pseudo-feminist DIY guides of the 80s, 90s, and early 2000s, like *BUST Magazine* cofounder Debbie Stoller's popular *Stitch 'n Bitch* series, which have exposed a generation of crafters (including myself) to techniques that historically they would have learned from family members, not from books. What Lippard called hobby art has shifted slightly but is still recognizable as online sites such as Etsy and Pinterest, and brick-and-mortar spaces for crafting have created platforms for women to learn from one another and share or sell their designs and products; *BUST* even hosts a "Craftacular," a semi-annual "Indie Craft Fair for Makers" that takes place at Maker Faire, the maker movement's most visible and widely publicized event.⁵³ To celebrate the potential of maker movements yet fail to mention feminist art historical work that was (and remains) deeply invested in the social, political, and economic conditions out of which women's cultural production emerges would therefore be an egregious oversight.

Ending her essay on an optimistic note, Lippard hopes that feminist artists will make common cause with the "amateurs" whose only creative outlet may be hobby art,⁵⁴ a dream that has to some extent been realized in the work of Aubrey Longley-

⁵² Elissa Auther, "'He is survived by his longtime companion': Feeling in the Work of Josh Faught," *Art Practical* 6.3: "Dimensions: Expanded Measures of Textiles." 26 February 2015. <http://www.artpractical.com/feature/he-is-survived-by-his-longtime-companion-feeling-in-the-work-of-josh-faught/> Accessed 27 February 2015.

⁵³ "About Us - Maker Culture and Craft Fairs | BUST Craftacular." <http://bust.com/new-york/about-us.html> Accessed 2 September 2016.

⁵⁴ Lippard, "Making Something," 138.

Cook, who hosts community cross-stitch workshops and collective crafting projects,⁵⁵ as well as of Margaret and Christine Wertheim, whose *Crochet Coral Reef* has included the work of thousands of amateur crafters in exhibitions at major museums around the world. Provocatively punning on her title once more, Lippard writes, “It seems all too likely that only in the feminist art world will there be a chance for the ‘fine’ arts, the ‘minor’ arts, ‘crafts,’ and hobby circuits to meet and to develop an *art of making* with a new and revitalized communicative function. It won’t happen if the feminist art world continues to be absorbed the patriarchal art world.”⁵⁶ Lippard wants us “to see *all* the arts of making as equal products of a creative impulse that is as socially determined as it is personally necessary,” to “no longer to make nothings into somethings, but to transform and give meaning to all things. In this utopian realm, Good Taste will not be standardized in museums, but will vary from place to place, from home to home.”⁵⁷ While the idealistic vision of an art of making, as Lippard puts it, would appear on the surface to have been realized in the maker movement, maker cultures still have much to learn from feminism. Policing Good Taste stubbornly remains the purview of museums, of course, as well as that of various communities of practice on the internet and in physical makerspaces. Now that museums are attempting to historicize and preserve maker movements via exhibits on physical computing technologies and the addition of permanent and semi-permanent spaces where visitors can use 3D printers and scanners alongside other

⁵⁵ Longley-Cook’s work and that of the participants in his 2013 *RuPaul Cross Stitch Animation Workshop* have been featured in John Chaich and Todd Oldham’s *Queer Threads: Crafting Identity and Community* (2017) and the eponymous exhibit it accompanies.

⁵⁶ Lippard, “Making Something,” 138. Emphasis in original.

⁵⁷ *Ibid.* Emphasis in original.

high-tech gadgets, feminist reconceptualizations of value in relationship to art and craft are just as relevant as they ever were.

“I Don’t Know You/Anna Mae”

“When it becomes possible to appreciate a sewn object like a quilt (even though it was created for utilitarian purposes) because it employs thirty stitches to the inch, and uses color which by all standards is rich and evocative, contains silhouetted forms which are skillfully drawn and connects perfectly measured geometrical units of fabric, then it will be clear that woman’s art invites a methodology of its own.”
—“Femmage,” *Heresies* 68

“I Don’t Know You/Anna Mae” started with my inability to let go of a handmade object created by someone that I don’t—and will never—know. At some indeterminate point in the past Anna Mae Greene from Kersey, a small town in central Pennsylvania, started but never finished embroidering and sewing together pieces of a quilt that would one day end up in a donation of fabric to the makerspace in the Children’s Museum of Pittsburgh, where as of this writing I work as a teaching artist. The quilt pieces comprise a large white cotton hexagon, on which Anna Mae embroidered her name and town in script using the stem stitch and pink floss, and a six-pointed star constructed from diamonds of printed yellow cotton that surround a smaller, central pink hexagon (Fig. 1). The white hexagon and the star were attached by hand and then apparently ironed in preparation for addition to a quilt, the slightly frayed edges of the fabric creased down in places; together they are about thirteen inches across. Saddened by the thought of letting this unfinished, and frankly, stained and imperfect, handicraft get destroyed, I rescued the results of Anna Mae’s painstaking labor with the intention of exploring my connection to her, or lack thereof, via touch. Incorporating her work into my own craft project required me to become intimately familiar with it in order to understand how it was made.

One of my main goals was to keep Anna Mae's fragments intact, modifying it as little as possible so that her handiwork would still remain somewhat distinct from my own. Because of its odd shape and size, turning it into one side of a pillow seemed the best way to preserve its integrity while putting it on display in an interactive way. Hanging it on a wall the way finished embroidered artworks are often displayed, or sewing it into a decorative quilt that was made to be looked at rather than used, would have been inappropriate given that I wanted people to feel and touch a piece of artwork created by women. By sewing the fragment into a pillow, the piece would become physically accessible to a wider group of people than might have originally seen it. It could also still be mistaken for an everyday household object rather than a rarefied work of art, and would be held or brought close to people's bodies, as was probably intended of the original quilt.

Somewhere between home decor and bedding, pillows are designed to be luxurious as well as functional; they should *look* and *feel* inviting, providing support and a comfortable place to rest. We perform some of our most intimate and vulnerable quotidian acts with (or on) pillows: sleeping, cuddling, having sex, being sick, easing our aching joints, feeling depressed, taking out our anger and frustration. Well-loved pillows can become quite disgusting as their prolonged proximity to bodies, human and otherwise, exposes them to dirt, hair, skin cells, bodily fluids, smoke, food and drink, and pest infestations. They are therefore leaky objects—quite literally so when the stuffing pokes through their seams—and they bear evidence of their social lives in the form of stains, weird smells, threadbare spots, and eventually the inability to hold their shape. We destroy them through daily use and sometimes,

because they've done so much for us, we have trouble getting rid of them. Pillows cushion us from our daily failures and anxieties, physically supporting our bodies in ways that are often more dependable and less judgmental than the emotional support of some of our human companions.

How long had the pieces of Anna Mae's quilt sat in someone's basement or attic before their creator, or one of her family members, finally decided to let them go, stuffing them into one of several large black trash bags with an abundance of quilter's fabrics that were missing big chunks? Knowing how many half-finished projects have accumulated in my own and other crafters' storage spaces, I'm accustomed to having to decide what to keep and what to donate, take apart, or throw away. Sorting through old crafts and materials every time I move or reorganize has almost inured me to the combination of indifference, guilt, and bemusement that comes with facing dreams I was unable to realize for whatever reason...*almost*. I can never bring myself to consign these projects to the trash, but I can't donate them either, having seen what happens to them once thrift store employees sort and price them. They sit on a shelf forever because few are willing or able to take up where someone left off; they are pulled apart in a few minutes so the materials can be reused, or someone who has no emotional connection to them eventually throws them away. I would like to say that it is easier just to hold onto things, except I know there is significant mental anguish in choosing to remain attached.



Fig. 1: The front of “I Don’t Know You/Anna Mae.” Cotton diamonds and hand embroidery, machine sewed onto a pillow.

Rather than view Anna Mae’s incomplete patchwork as evidence of her failure to create something worthy of being part of a finished project, I see her handiwork as a sign of her improvisational approach to craft, a trace of not only her technical skill but also her personality, perseverance, and resourcefulness. Beyond that, there is very little I can know about her from this handmade object alone. Anna Mae Greene may not even be the person who created the quilt, but perhaps the person for whom it was intended; I only assume she made it because quilts are sometimes “signed” by their creators using embroidery or a handmade fabric label. In lieu of specific information about the context in which she crafted, I was faced with the limits of my own knowledge about craft and had to rely on a haptic epistemology that enabled me to know about her project in part via touch and feel. By allowing myself to be guided by someone else’s partially completed creative vision, as well as by my own vague ideas about who Anna Mae was, I entered into a speculative relationship

with an unknown crafter, forced to confront the impossibility of becoming as intimate with her and her work as I would have liked. A collaboration across time and space between an uncommunicative, possibly deceased stranger and a presumptuous materials fetishist with a compulsive need for new projects, my relationship with Anna Mae Greene is a queer one, defined by ambivalent affects and feelings whose edges are fuzzy.

In what follows I attend to the materiality of fiber craft through the construction of a pillow using the techniques of embroidery and appliqué. Documenting the project also resulted in the documentation of my own domestic spaces and the forms of queer companionship that shaped and were shaped by them. The aesthetics of documentation practiced by queer and trans feminist crafters and activists will be a recurring topic in chapters to come. In addition to putting craft processes on display so that others can learn from them, such documentation also tells us about ways of crafting more hospitable worlds, of which queering domesticity is just one small part. The story of “I Don’t Know You/Anna Mae” opens up the methodological questions explored in the remainder of the dissertation. With what methods and materials could we undertake the work of crafting something whose shape has yet to be determined? We are tasked with constructing livable worlds, making them work with imperfect fragments. I have already discussed how Elizabeth Freeman’s erotohistoriography can be a method for assembling the usable pieces of canons past; “I Don’t Know You/Anna Mae” enacts an erotohistoriographical encounter with the figure of Anna Mae Green, using soft circuitry to mediate our relationships with fiber craft’s pastpresents.

“I Don’t Know You but We Touch the Same Stuff”

I begin with a thick description of Anna Mae’s work as well as the techniques I used to construct a three dimensional pillow out of it. “Thick description” takes on new meaning in regard to fiber crafts such as embroidery, in which the thickness of the lines created by stitches are determined by the number of strands of embroidery floss the crafter uses. I attempt to capture the textural dimensionality of Anna Mae’s embroidery in digital photography as well as in words, but ultimately only touching it and inspecting it closely enables us to use all our senses to understand the materiality of crafted objects like this one. Fiber craft techniques give us a way of thinking about the materiality of connection and attachment, which are not only real, physical modes of building the worlds in which we live, but also metaphorical concepts that help us understand the erotic labor of being in social relationships with people, nonhuman animals, and things. Quilting and patchwork, for example, are ways of attaching scrap fabric from other projects together to turn what would become waste into something beautiful: a way of showing off creativity, resourcefulness, and skill to others in the form of gifts, decor, and functional objects. Hence my contribution to the project, the side of the pillow with the embroidered words, “I Don’t Know You but We Touch the Same Stuff,” meditated on the actual *stuff* of intimate connection through craft. What is it that we are touching when we touch a thing crafted by someone else’s hands? What is the substance of a social connection, even a tenuous or mostly imagined one, when a crafted object mediates it? Turning a quilt-that-never-was into a pillow made a material connection possible, creating a form that could be hugged.

The embroidery on Anna Mae's quilted pieces is ever so slightly unfinished, with one flourish at the top of the capital 'G' outlined in pencil (Fig. 1). More faded pencil marks hover around the capital 'P' in the abbreviated "Pa.", where the letter was originally supposed to be. Touching her textured needlework, I think I understand these details. Stem stitch is worked left to right and, if the fabric is in an embroidery hoop, the work is turned while the embroiderer sews in order to maintain the evenness of their stitches. The embellishments in cursive lettering are tricky, however, and sometimes more easily completed once the rest of the letter has already been stitched, as in the case of 'G.' Embroiderers also frequently improvise when their design comes out differently than planned, or needs to be reconsidered; unfinished projects bear the marks of their production when pencil, chalk, or fabric markers haven't been washed away. In addition to being incomplete, the embroidery is marred by a small rust-colored stain that washes over "Pa." Is this why the pieces weren't included in the quilt, or did the discoloration happen later, when the pieces had already been stashed away and forgotten? Despite what Anna Mae herself may have considered imperfections—assuming, that is, that she was as critical of her work as I am of my own—I cannot help but appreciate the perfectly executed French knot she used for a period, her tightly curved and regular stitches, the time that went into cutting out each of the yellow diamonds and sewing them to the hexagons while leaving the exact amount of seam allowance. Examining the pieces for clues to how they were made, I notice that a corner of one of the diamonds was created from a scrap of matching fabric and sewn on, its immaculate angles allowing it to blend in

with the others. I admire and envy quilters' ability to impose symmetry on irregular remnants, finding a use for every last fragment that their craft inevitably produces.

To make the other side of the pillow, I traced the conjoined star and hexagon onto a sheet of newsprint to create a template. I then cut this shape out of dark blue cotton fabric with a riotous floral print in multiple shades of pink. There would be no matching the mustard yellow, red and black diamond-printed fabric out of which the six-pointed star was pieced together—colors that struck me as strange, even a little ugly, to pair with the pink embroidery floss. Rather than attempt to perfectly emulate Anna Mae's unique aesthetic, I instead highlighted the rosy hexagon and embroidery floss using the floral print. If there is a color that is unabashedly femme, even stereotypically so, it is pink. Busy printed fabrics, especially faux animal prints and colorful florals, have similarly functioned as queer femme style signifiers across gender, race, and class. These are markers of femininity that to a straight viewer may seem neutral or even meaningless, but, when performatively worn in queer contexts and combined with other stylized elements of dress such as footwear, hair, makeup, and accessories, can take on an array of subtly gendered, ethnic, and classed meanings for those who know how to read them. Florals are thus a vibrant and ambiguous form of visibility in disguise, a fashion element that sometimes enables queer femme women to pass as straight while signaling flamboyance and flashy dandyism in queer spaces. For me, using this fabric was a nod toward over the top, high femme aesthetics that I admire but for the most part do not strive to attain in my own daily gender presentation.⁵⁸ Expressing love, care, and affection for all things

⁵⁸ There are, of course, a huge range of gendered nuances within femme and longstanding discussion in queer communities about the meanings, uses, and subcategories of femme. Joan Nestle's 1992 *The*

femme is necessary and worthwhile because femmes of all genders, body sizes, and abilities, and especially trans femmes of color, are still the most vulnerable members of queer communities, and still take on a disproportionate amount of emotional labor and community care-taking. Creating artwork that honors the fierceness, the beauty, and the resilience that femmes embody is one small way to show appreciation for the work that they do.

Before I put together the pillow itself, I embroidered the phrase, “I Don’t Know You but We Touch the Same Stuff,” on the reverse side (Fig. 2), which was the most time-consuming aspect of the process. Instead of embroidering directly onto the blue and pink floral fabric, where the lettering could easily get lost in the print, I used the back stitch to create block letters in light pink floss on soft gray canvas. Once the embroidery was finished, I cut out each individual word of the phrase with pinking shears—scissors with interlocking zigzag blades that cut across the weave of a fabric so as to prevent fraying. Pinking shears create a row of small triangles along the border of fabric which is often assumed to be purely decorative now that pinking shears have been adapted to paper craft and scrapbooking. Cutting out the phrase allowed me to arrange and center each word on the fabric, deemphasizing imperfections and slight irregularities in the embroidery itself. This technique, in which a cutout fabric shape is attached to another shape or a background, sometimes to form an image, is called appliqué.

Then, with a sewing machine, I used a thick, triple zigzag stitch in pink thread to secure the words to the back of the pillow. Using the social media app Vine, I

Persistent Desire is still a classic text for thinking about the range of femme identifications and presentations.

documented this part of the process, which took place after hours at my workplace where I had access to a fully functional sewing machine. My coworker and friend, Katie Koffler, kept me company during the stressful process of sewing the pillow together on the machine, acting as a sounding board for ideas as well as a cheerleader during my most ambitious sewing machine project to date. Katie provided the support that made it possible for me to believe that the project was not only worth finishing, but also that I was capable of finishing it. A seamstress herself, she was also the person to push my skills on the sewing machine to another level the previous summer, deepening my technical knowledge and opening up other realms of fiber craft practice to me. Because of the popularity of maker movements, makerspaces have moved into institutions like museums, libraries, and universities, making resources such as materials and hands-on help from facilitators like Katie more accessible. Feminists work in and visit such spaces, and often, as in my case, benefit from institutional power in the form of availability of tools, materials, and knowledgeable people. Regardless of the maker movement's disregard for the kinds of fiber craft knowledge that predominantly women practice, women are often in makerspaces, schools, and homes doing the emotional labor of helping people finish their craft projects.



Fig. 2: "I don't know you but we touch the same stuff." Hand embroidered lettering, machine stitched on floral cotton.

I knew the zigzag stitch would not match the jagged edges of the cutouts perfectly; as intended, the staggered stitches created a raised, fluffy outline around the words as they pierced the gray fabric, further setting them apart from the floral background. The more the pillow is hugged or touched, the more the tiny threads around the edges of the words will fray down to the stitches. This does not so much destroy the work as create a gently used, careworn look, giving it the feel of a much-loved piece of patchwork. The effects of the thick, machine-made stitches alongside my idiosyncratic hand embroidery help to demonstrate that texture is as visual as it is tangible, especially in fiber art, whose dimensionality is a crucial element of its meaning. In artwork that is made to be interactive, pleasing or interesting visual textures can invite participants to touch and physically explore a piece, inviting them to linger over key details in ways that are impossible in a museum or gallery.

The creation of “I Don’t Know You/Anna Mae” is therefore, somewhat selfishly, a direct result of seeing fiber art in institutional contexts and being unable to touch it in ways that I would textiles in my own or others’ homes. Having seen LJ Roberts’ 2011 piece *The Queer Houses of Brooklyn and the Three Towns of Boswyck, Breukelen and Midwout in the 41st Year of the Stonewall Era* in the “Queer Threads” exhibit at both the Leslie Lohman Museum of Gay and Lesbian Art and the Maryland Institute College of Art, for example, I was tempted by the piece’s thick, knitted and quilted surface to lie down on it and cuddle its squishy textures, as the artist themselves has been said to do.⁵⁹ I was frustrated by my inability to do so, although the piece nods at other forms of interactivity and immersion in its scale, for example, which dwarfs the human body by reaching into the viewer’s personal space, and through its incorporation of ephemera in the form of dozens of one-inch pins with individual drawings of each of the queer “houses” whose locations are marked on the knitted map of Brooklyn. While viewers are encouraged to take the pins from the foot of the sculpture (I have several of them), the experience of collecting ephemera or “merch,” as items like pins and patches are known in punk and zine scenes, is significantly different than the experience of lounging on a comfortable quilt or cushion, hugging a pillow, or cuddling a handmade thing. Getting cuddly with textiles can happen in one’s own home or even a number of public places, but usually not in a gallery monitored by a vigilant attendant. The next section therefore turns to the process of documenting crafting in my home, where the most time-consuming aspects of the project were completed.

⁵⁹ At “Queer Threads Unraveled,” a roundtable discussion hosted alongside the exhibit at MICA in February of 2016, Jeanne Vaccaro shared the story of how LJ Roberts fell asleep on the massive knitted sculpture while in their studio during an artist residency.

The Documentation of Queer Domesticity

I can caress Anna Mae's stitches and experience the material trace of what amounts to several hours or more of her hands' accumulated labor—the paths outlined first by her imagination and her eyes, then by her fingertips, her pencil, and the point of her needle; the twist of strands taut against woven cotton, the ends of the floss fluffy after their expert knots. I can feel the frayed and fragile fabric, semi stiff from being ironed long ago but limp and worn in other places, as though it is slowly giving up. I gingerly pick it up by the edges and support its imperceptible weight with outspread fingers. There are no loose stitches, no snarls; everything is neat, intentional, except where the discoloration and unfinished lettering betray the crafter's careful plans for her project. The fragment seems to float, as though torn from the quilt that may or not exist, its bright colors and bold geometric motifs getting lost in the busy floral patterns of the quilt made by my paternal grandmother. My cat sometimes rests her gentle and dangerous paws on Anna Mae's embroidery, daring me to trust her (Fig. 3). Cats and textiles are what Donna Haraway refers to as companion species: significant others with whom we think and live, whose histories are inextricably bound up in human evolution and culture.⁶⁰ Cats, and the crafts we practice in their watchful presence, keep us company as we make queer femme domestic lives.

⁶⁰ Haraway, Donna. *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (Chicago: Prickly Paradigm Press, 2003).



Fig. 3: Tilda on a quilt by Carol Rogers.

I frequently lay out my craft projects on the bed in the spare room that doubles as my office. Sometimes this helps me see my progress and plan my next move. Sometimes, there is nowhere else to put this *stuff*: sewing kit, notebook, giant sheets of newsprint, graph paper, embroidery hoops of all sizes stuck in the clear plastic zip-up bags that you buy bed sheets in, haphazardly folded and stacked pieces of fabric of impractical dimensions, yarn, floss, pattern books and magazines, bobbins and spools, batteries, any number of small containers from matchboxes to an empty Whitman's sampler box. I will absently finger everything if I'm distracted from writing or if I just need to be soothed by touching something, sorting it, straightening the piles, organizing needles, consolidating and gradually throwing away bits of junk and tangled thread. I roll up and unroll embroidery projects, keeping them safe from fading and dust in a denim sleeve I made for the purpose, reminding myself that

they're still here, waiting for me to work on them. The objects speak to one another, their jumbled juxtapositions suggesting new possibilities. Sometimes I need something that is buried in the back of the closet and I pull everything out to get to it, which is usually when I remember exactly what I have—all the yarn stowed in a big plastic tub, the accumulated sewing notions of multiple generations stashed in a cigar box, the quilted bag (made by the same grandmother) that's holding my knitting needles and those of my domestic partner's maternal grandmother, which are rolled up in her homemade, striped fabric needle case embroidered with her initials. It is comforting knowing this stuff is there, that it is not lost to time—discarded by relatives who did not know what it was, who had no use for it, or who were worried about their family members' tendency to hoard.

The domestic contexts from which my craft practices emerge give them meaning, just as they did for Anna Mae, despite my limited ability to know the specificities of hers. Where and when did she sew? Did she do her quilting with others, or on her own? She clearly was not stuck at a stationary sewing machine, as her handwork attests; whether or not she would have liked to be is another question. “Hexies,” quilters' nickname for making quilts using patterns based on hexagons, are relatively portable and can be connected to each other a few at a time, anywhere, like many “pieced” or patchwork quilts and crocheted afghans constructed from granny squares;⁶¹ this is an advantage for quilters without a lot of time or space to craft. Similarly, artists such as LJ Roberts choose embroidery because it can be a portable,

⁶¹ Thanks to the moderator of my panel at the 2016 Midwest Science and Technology Studies Graduate Student workshop, Nicole Nelson, for giving me the name for quilt patterns based on hexagons and talking to me about quilting.

compact, and cumulative process easily resumed where one left off.⁶² I embroidered most of “I Don’t Know You but We Touch the Same Stuff,” the phrase on the reverse side of the pillow, while sitting in my living room in the evenings while one of my partners watched TV beside me on the couch. While I was working on the embroidery, the strip of gray cotton fabric (also salvaged from the fabric bin at my job) could easily be rolled up and put in a purse or tote if I needed to bring it elsewhere.



Fig. 4: “I don’t know...” Hand embroidery on gray cotton, pictured on the ottoman in my living room.

As in other of my projects described below, “I Don’t Know You/Anna Mae Greene” produced an aesthetics of documentation that put the domestic setting in which it was made on display. In the creation and documentation of my projects, the living room, office cum guest room, and, occasionally, the bedroom are thus a complex apparatus that is as engaged in producing crafts as my hands and my imagination. Taking pictures of crafting in progress on the ottoman or the guest bed

⁶² Jennie Klein, “Redefining Crafts: A Conversation with L.J. Roberts,” *Artpulse* 15.4 (2013): 52-55.

(a mattress and box spring left behind by a former housemate, supported by a headboard my mother gave me to preserve it from destruction in her crammed garage) is, more often than not, merely convenient as these are the places where I am working. But they are also what I consider to be the most beautiful and pleasant spots in my home, the ones most free of dust and clutter, the ones of which I am most proud. These are the places I most want to show off to the world, but they do not necessarily provide an accurate picture of the upbringing that made me who I am or that tempered my uses of craft knowledge. Did Anna Mae Greene have such places? Did she, could she, own a house? Was her craft a respite from working, domestic chores, childrearing—a point of pride, a reminder that not all things of value earn a profit or support us fiscally? Was it yet another task to be completed, another thing her family needed or expected from her, just another part of her daily routine? Was it her connection to tradition, a past she inherited or claimed? Given that Kersey is one of many small villages in Pennsylvania that survived on milling and coal, located just north of Dagus Mines, a company town on the 36-foot wide seam of coal known as the Kittaning seam, it seems unlikely that Anna Mae was a wealthy housewife with little to do, crafting for “fun.”

Regardless, this idea of fun is a convenient projection onto crafters of the past. The unfinished embroidery in Figure 4, spelling out “I Don’t Know” in backstitched lettering, is a reminder that despite what little information I have about Anna Mae Greene, I will never be able to access her experiences with or feelings about her craft, or the environments and the network of other people who helped to produce its specific forms, all of which no doubt have less in common with my circumstances

than I think. It is easy to romanticize her and to assume that her motivations for doing embroidery or quilting are, if not the same as mine or those of the queer and trans feminist crafters that I explore in the coming chapters, then at the very least recognizable from my vantage point in the present. How did she understand her race and ethnicity, neither of which can be guessed from her stitches alone? Did she identify as a feminist? Was she queer and if so, in what ways?

This desire to relate to unknown crafters—to claim them for my own purposes, however driven by good intentions I think those purposes might be—is troubled by the refrain, “I Don’t Know You but We Touch the Same Stuff,” which inevitably became etched into my memory during repetitive acts of stitching it in light pink cotton floss. Imagined as a direct address meant not just for Anna Mae but also to the innumerable and often anonymous crafters past, present, and future, the phrase is intended to interrupt any false sense of certainty on the part of myself or the reader that we know exactly why or how anyone practices a particular form of cultural production. A disavowal that is still cautiously optimistic (“I don’t know you *but*”), it suggests that the only thing that might connect myself and someone like Anna Mae is the materiality of craft—the world of things (“we touch the same stuff”). Here “stuff” evokes the materials used in fiber crafts, specifically textiles used for making clothes and furnishings; it also refers to the synthetic stuffing with which I filled the pillow made with Anna Mae’s and my embroidered fabric. I touch the same stuff, the same fabric and thread that Anna Mae held in her hands. Anyone who hugs the pillow also touches what we have made, hugging the stuffing that provides our crafted shapes

with form, dimensionality, and substance. In a sense they are hugging a space, by no means an empty one, created out of the “stuff” of our collective labor.

Hacking the Maker Movement Aesthetic with Soft Circuitry

In combination with fabrication techniques and technologies popularized by the maker movement, the relative ease of taking and sharing pictures and video has made the aesthetics of documentation that I described in the previous section possible. I am interested in how queer and trans feminists might hack, modify, and reanimate these aesthetics in crafting maker movements that more comfortably fit their needs and interests. Here I describe and document the process of constructing a soft circuit: a functional pathway for electricity made out of conductive fiber materials. Soft circuitry, often in the form of electronic textiles (or e-textiles), is one of the means by which maker educators frequently attempt to interest girls and women in computer programming and engineering. Soft circuitry, however, could also be conceptualized and used as a queer method, an argument that I make in Chapter 3, “Methods for Feminist Maker Cultures.” How can the making of soft circuits, incorporating what we have learned from the legacies of feminist fiber craft described in the first chapter, enable queer approaches to technology? In the case of the huggable pillow, queerly using the technological phenomenon of vibration animated an otherwise passive object, bringing the past presents with which I was working to the fore. The huggable pillow is a tool for experiencing intimacy with queer feminist media and technology.

Hugging “I Don’t Know You/Anna Mae” is a gesture of intimacy that brings the participant into contact with fiber craft, literally smushing together the products of

different generations of craft in the process. The pillow has to be hugged or touched in order to activate; when it has a motor inside, muffled by fabric and stuffing, its vibration is difficult to hear or see, quieter and less powerful than that of a cell phone. This means that in order to fully experience the work, the hugger has to expose themselves to the gesture: to a public or private performance of intimacy with the craft of at least one unknown woman, to the sometimes surprising act of taking comfort in something—the sensation of giving in, perhaps reluctantly, to softness. The vibrating motor might draw the hugger deeper into an embrace, or it might startle and repel them. After all, pillows are not supposed to move or purr, but to respond to our touch with passivity—to *give*. How does it feel to be touched back? To be surprised by the agency and power of an ordinary object that we may underestimate or overlook? To *give in* to touching and being touched?

The 5V motor inside the pillow is one of the sewable LilyPad Arduino components designed by Leah Buechley, whose work I discuss in Chapter 3, and is powered by two 3V coin cell batteries (connected to each other in series so that their voltage is combined) in a simple circuit composed of conductive thread and fabric. In order to activate the motor when the pillow is hugged, I needed to create a button with a large enough surface area that it would easily compress on contact with the pillow's sides, but flat enough that its presence would not be detectable to the hugger. To do so I created a soft button by sewing a piece of conductive fabric to each of two felt shapes. Then, I cut holes in another piece of felt and sandwiched it between the two layers of conductive fabric (Fig. 5). The felt insulates the conductive fabric until the layers are squeezed together; the holes in the felt allow the pieces of conductive

fabric to touch when squeezed, closing the circuit and allowing electricity to flow to the motor. All of these layers are sewn together with regular thread; conductive thread sewn to snaps on the outside of the felt connects each side of the button to two traces or leads, which carry the current to each of the circuit's components. The button sits inside the pillow, underneath the pink hexagon at the center of the yellow star.



Fig. 5: The top (right) and bottom (left) of a felt and conductive fabric button with a layer of blue perforated felt in between.

The traces are machine knit in pink embroidery floss (Fig. 6) using a hand crank-operated tool called the EmbellishKnit, which quickly produces lengths of knitted cord for use in craft projects. Crank knitters like these have become popular with crafters and craftivists for making long cords and tubes in bulk; LJ Roberts, for

example, describes collecting novelty machine knitters because they are amateurish, easy to use, and cute in addition to being fun.⁶³ Using a sewing needle, I threaded conductive thread through the hollow center of the knitted traces; the embroidery floss keeps the thread insulated from other electronic components to keep the project from short circuiting, which can create heat that is dangerous to fiber projects, drain the batteries, and otherwise prevent projects from working as intended. With the conductive thread inside the traces, I used it to sew snaps to both ends of each trace so that they could easily be removed from each component, allowing me to fix or modify the circuit if necessary.



Fig. 6: Pink traces knit on the EmbellishKnit with embroidery floss, with conductive thread inside.

⁶³ Roberts describes finding a toy knitting machine online: “it was hot pink and sparkly and I thought it was the gayest, most flaming thing ever...I love the toy knitting machines and how they work, and I don’t see my use of them as ironic, but rather...an extension of my personality and compulsivity. As a person that is genderqueer, they seem to be a perfect blend of queer femininity and masculinity in a weird little device” (Klein 54).

The in-progress traces are depicted on the small self-healing green mat on the desk in my office/workspace (Fig. 6)—an aesthetic that mirrors online documentation of projects from *Make Magazine* as well as crafting blogs and videos—with my embroidery scissors, a spool of conductive thread, and the alligator clips I used to test out the circuitry. Unlike some of the images of my work in other areas of my home that are clearly cozy domestic spaces, these pictures are intentionally staged to emphasize specific tools and materials, with better lighting and fewer background distractions. The measurements and angle vectors on the mat provide a sense of scale while also drawing the eye to how the composition of such images is not natural or accidental. The slightly canted rather than straight-on mat, the scissors pointing to the outside of the frame, and the corner of the bed’s box spring peeking into the edge of the image show that I am still learning how to frame and edit photos of my process; perfection of the pictures themselves was less important to me than putting on display the experience of documenting a process as an amateur.

Choosing to document the circuitry in this way, while the embroidery and quilt pieces were photographed more casually and usually against other pieces of fabric and furniture in atmospheric lighting, plays up the technical aspects of e-textiles by adopting the conventions of mainstream maker culture. The alligator clips, cutting mat, and electronic components have become stereotypical signifiers of what is recognizable as “making,” connoting my proficiency with the standards and expectations of a particular community of practice that presents documentation knowing that its audience might want to replicate or learn from these projects. Such documentation is one of the mainstays of the maker movement’s claim to an “open

access” DIY ethic, which makes it appear that anyone has the freedom and the ability to complete a project by following a simple and easy set of steps, while often obfuscating the material reality of how costly tools, supplies, and access to technical education (and the space to exercise it) actually are. By mobilizing the maker aesthetic in service of a queer feminist project that attempts to reimagine intimacy with objects and technologies, it becomes yet another material with which to craft the world.

In addition to the knitted traces and felt button, I sewed a white felt battery holder for the two coin cell batteries that would provide a compact solution to the problem of connecting them in series in order to generate enough voltage to power the 5V motor.⁶⁴ Pictured in Figure 7, the battery holder consists of two one and a half inch pouches stacked on top of each other, with conductive thread connections stitched both on the outside pieces of felt as well as on the piece of felt that is inside, between the batteries. Later, I sewed a small felt cover for the battery holder to insulate the exposed conductive thread.

⁶⁴ When batteries are connected in series, a negative terminal of one battery is connected to the positive terminal of the other, as in a flashlight whose batteries are loaded end to end. This combines the voltage of the batteries so that two 3V batteries become 6V. When batteries are connected in parallel, all of the positive terminals are connected to one another and then to whatever they are powering; same with the negative terminals. This adds together the capacity of the batteries, or the amount of time the batteries will work. Complex electronics use a combination of batteries connected in series and parallel to achieve appropriate voltage and capacity. I learned all of this from online tutorials while prototyping soft circuits.



Fig. 7: White felt battery holder with a “male” snap to connect it to the traces, pictured with the 5V LilyPad vibrating motor.

A snap is sewn with conductive thread to a tab on each side of the holder, where the traces will be connected. To make it easier to tell at a glance how power is traveling through the circuit, I sewed the “male” snap to the “positive” side of the battery holder, whose trace would lead to the positive terminal on the vibrating motor. I used the “female” snap on the other side, whose trace leads first to the button and then to the negative terminal on the motor. The corresponding snaps on the traces allowed me to quickly put the circuit back together again once taken apart. If the batteries are properly oriented within the holder, it is impossible to put the circuit together incorrectly because the snaps won’t work.

While assembling this circuit I could not escape the irony of using the gendered binaries embedded within the design of these twin technologies—interlocking snaps that we use in our clothes and accessories on the one hand, and “male-female”/“positive-negative” electronic connections on the other—as the materials for a project animated by queer desires and affects. Despite the collective

desire for e-textiles to integrate skill sets that have been artificially divided into “masculine” and “feminine,” as I discuss in the coming chapters, these binaries are reasserted at the level of individual components and form the building blocks of the hierarchies of value that work to separate sewing and electronics into opposing cultural domains.

By juxtaposing and combining materials from sewing and electronics, using soft circuitry as a queer method makes it clear how these binaries undergird one another in the design of the most basic everyday technologies. The bumpy protuberance of the “male” snap is an analog to the metal nipple on the “positive” terminal on a battery; the “female” snap, like the “female” port on a computer, is by design a receptive hole, an absence meant to be filled, one half of a pair in need of a “mate.” By extension the apparent nothingness or lack implied by this gendered binary supports an abstractly racialized one as well, as the “negative” terminal on a component such as the vibrating motor depicted above is, by default, marked by a black wire. Negative: nothing, blackness, femaleness. The racial and gendered binaries at play here are not new, nor am I the first to remark on how they manifest in our daily uses of technology at multiple scales. It was not my goal to completely dismantle these dualistic logics or somehow redesign the components. Rather, I sought to discover the queer potentials of using these materials in a project that attempts to draw attention to and undermine the value systems that consign queer feminist artwork, and queer feminist social worlds, to the literal and figurative trash. In the next chapter, I show how queer crafters explicitly draw attention to how these

binaries make up the materialities of social difference, arguing that craft allows us to play with and transform them.

The creation of a huggable vibrating pillow was motivated by my need to honor and enact queer feminist craft legacies and to show affection for the art historical labor, as well as the surviving material culture artifacts, that make them accessible to us in the present. During the construction of “I Don’t Know You/Anna Mae,” it often seemed that I was working with similar conceptual material and some of the same media—the same *stuff*—as crafters in feminist art movements. This felt both appropriate, as the contexts for the practice of craft and for the making of queer feminist art are constantly changing, as well as, sometimes, trite and stereotypical. Fighting against the nagging sense that I was just rehashing themes that had already been settled by better, more established, more engaged and passionate artists, I had to keep reminding myself that many of the political issues with which decades-old queer feminist art grapples have not been resolved, but have taken on different forms. They require new feelings, new modes of response.

Working on such a project forced me to repeatedly confront how I had internalized not only unreasonably high, elitist academic and art world standards of “success” and “greatness,” but also the recurring wish, frequently implied or explicitly reiterated in mainstream art circles, that women would stop making art about their worlds or their experience. Behind the assertion that feminist art, and by extension feminism itself, is dead, over, or irrelevant is a desire to somehow “get past” the issues to which it continues to draw attention, to leave them behind. To return to feminist art forms such as fiber craft is to continue to love their legacies in

spite of their imperfections and limitations—to still be committed to their radical transformation in the present. To know such legacies intimately and to attempt to repair them is also to confront the gesture of power inherent in the desire to save and to fix. Repair requires ongoing material and affective labor, and it does not always make things whole again. Some things cannot be repaired but need to be remade. Chapter 2, “Queer and Trans Feminist Craft Praxis,” is about how contemporary queer and trans artists are using craft practices in the remaking of feminist art movements; the remaining chapters are about how those selfsame craft practices can help to reimagine the forms of present-day maker movements.

“I Don’t Know You/Anna Mae” debuted publicly at the Midwest Science and Technology Studies Graduate Student Workshop in September 2016, where I invited a room of approximately fifteen academics and activists to hug what Anna Mae and I had made before giving a presentation about its construction. I introduced the pillow as a person, as the title of the piece implies, saying, “This is Anna Mae Greene. I don’t know her and neither do you.” I demonstrated the hug and then handed the pillow to the nearest person. It was clear that at first no one believed I was serious about getting a bunch of scholars to press this oddly shaped, absurdly feminine pillow to their bodies. Why would they want to touch a stained and, frankly, weird object? A couple of people in the audience passed the pillow on after giving it an obligatory glance, much as undergraduate students pass along a book their professor has brought in but that they are not really interested in engaging, until I intervened. “No, I really mean it. Give her a hug.” When the next person tentatively hugged the pillow his eyes widened and he laughed in surprise, pressing it harder into his chest to be sure he felt

what he thought he was feeling. As Anna Mae moved around the room a ripple of startled “oh’s” and “whoa’s” followed her. Eyebrows rose, necks arching up and back, incredulous, as the next person reached out for the stuffed shape, curious about the unspoken effect that was being experienced. A couple people even took selfies with Anna Mae and posted them to Twitter, circulating her craft to a larger audience than would have seen it, or touched it, had it remained in a plastic garbage bag full of fabric in a musty basement. Afterwards, the moderator of the panel and I had a brief conversation about quilting, which she practices. She remarked that she never thought she’d be talking about sewing at an STS conference. We have only Anna Mae, and the queer feminist crafters who taught me to value her unfinished project, to thank for the opportunity to do so.

Chapter 2: Queer and Trans Feminist Craft Praxis

“Craft Theory? Yup, there’s no going back now.” —Sheila Pepe, “The Margin You Feel May Not Be Real”

Studio crafter Sheila Pepe describes the moment when she ceased to feel lonely in the art world, finding “first the D.I.Y.ers, and then all at once, young feminists, queers, and craft theoreticians.”⁶⁵ For Pepe, the naming of a body of work putatively known as “craft theory” came as a welcome recognition that her artwork is embedded in multiple histories—that it is as conceptual as it is material—and that to neglect the social and cultural conditions of its production when considering form and technique would be to ignore what makes craft political. It is no coincidence that Pepe describes discovering and being discovered “all at once” by a new generation of feminists, queers, and scholars of craft, suggesting that these communities of practice are to some degree coextensive rather than working in isolation.

What is it that makes craft, and its practitioners, so interesting for queer feminists as well as those generally preoccupied by the creation of “theory”? Concurrently, how is it that “craft theory” came to be known as such, with its own contingent of artist educators, author curators, and activist archivists all contributing to hybrid fields of knowledge and formal play? And if, as Pepe says, “there’s no going back now,” what kinds of future worlds might craft theorists collectively imagine for art, knowledge, and activism? In this chapter, I argue that *craft is a form*

⁶⁵ Pepe, Sheila, “The Margin You Feel May Not Be Real.” *The Brooklyn Rail*. 2 April 2014. <http://www.brooklynrail.org/2014/04/criticspage/the-margin-you-feel-may-not-be-real> Accessed 3 April 2014.

of theory, and theory is a form of craft. My emphasis on the relationship between form and theory here is not merely metaphorical, especially given Pepe's concern with how aesthetic forms come into being in a dialectic with material and social life. I am referring to form quite literally, such that "craft" and "theory" are material and aesthetic permutations of one another. By excavating the relationships between craft and theory, this chapter lays the groundwork for my larger claim that art is a generative site of queer feminist knowledge production and social change. Queer and trans feminist artists mobilize craft theories in urgent manifestations of political and pedagogical praxis that address gendered and racialized inequities in the art world, intergenerational conflict within movements, police brutality, disability, the ongoing AIDS crisis, and the challenges and pleasures of institution building.

The queerly theoretical texts by artists, crafters, and activists that I examine in this chapter pay homage to feminist artworks and art historical writings of the 1970s and 80s. The challenges that feminist artists and art historians launched against the hierarchies of value structuring artistic canons, historiographical revisions that relied on fiber craft's ability to subvert and rearrange binaries, are being rearticulated in the work of contemporary queer and trans artists and scholars in the first decades of the twenty-first century. I first turn to a discussion of the materiality and embodied labor of stitching in queer theorist Jeanne Vaccaro's work on transgender art and affect, as well as her writing on the *Crochet Coral Reef*, an ecofeminist project merging fiber craft, biology, and mathematical knowledge. The brainchild of the magical-sounding Institute for Figuring, the *Crochet Coral Reef* is a vibrant, queer figure for craft as theory, as one of its vocal supporters, Donna Haraway, points out. Theories of queer

craft come into their own in the artistic and political praxis of contemporary artists Allyson Mitchell, Sheila Pepe, and LJ Roberts, each of whom use craft techniques to elaborate possible queer and trans feminist futures.

Fingering, Figuring: Handmade Methods

Most recently, curator and performance studies theorist Jeanne Vaccaro has offered the handmade as both a practice for crafting trans identity and as a methodology for transgender studies, examining how artists use craft materials and techniques to explore the affects and bodily feelings associated with transition. She argues that the language and the processes of handicraft productively scramble the dualisms of inside and outside, surface and depth, and pre- and post- that dominate understandings of transgender embodiment, while also unsettling medical narratives that are pathologizing. For Vaccaro, “The handmade configures utopic relations between bodies and objects, materializing alternative modes of affective economies and networks of relationality.”⁶⁶ She posits felt, an unpredictable “anti-fabric” made by interlocking and entangling natural fibers such as wool through agitation,⁶⁷ as a material metaphor for the embodied feelings of gender transition, as well as a figure for the kinds of affective and performative labor that shapes all gendered bodies.

Thinking through felt adds dimensionality to discourses around transgender modes of being and becoming, making room for trans subjectivities beyond the

⁶⁶ Jeanne Vaccaro, “Felt Matters,” *Women & Performance: a journal of feminist theory* 20.3: *The Transbiological Body* (November 2010): 253-266, 257.

⁶⁷ Vaccaro, “Felt Matters,” 254.

hegemonic binary model of gender.⁶⁸ Because making and shaping felt is a repetitive, labor- and time-intensive process, the end results of which are less predictable or orderly than fabric produced through other fiber crafts such as weaving, it is especially good for thinking about what Donna Haraway calls “naturecultures”—the coproduction of the lively and the artificial⁶⁹—and for imagining the “relation between matter and feeling within experience.”⁷⁰ Like many of the queer artists and crafters I discuss in this chapter, Vaccaro embraces the historical associations between fiber craft and “women’s work,” arguing that craft provides an analytic for gendered labor. Her project “engages art as an alternate form of theory to create new modes of language. This is an exploratory gesture that cultivates, rather than dismisses, the potential of ‘women’s work,’ configured as feminist labor and collectivity.”⁷¹ By revaluing domains of women’s work, a strategy long deployed by feminists to write women back into historical accounts of both labor and the making of art, and by suggesting that trans identities, art, and politics are sites in which it is practiced, Vaccaro stitches together trans studies and the “second wave” feminisms that are too often oversimplified and stereotyped as being hostile to transgender people. Such a move is crucial for the retelling of conjoined queer feminist and transgender histories in an effort to enact coalitional politics in the present. Furthermore, by conceptualizing art as a *form* of theoretical labor that is embodied

⁶⁸ Ibid.

⁶⁹ Donna Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century.” *Simians, Cyborgs and Women: The Reinvention of Nature* (New York: Routledge, 1991): 149-181.

⁷⁰ Vaccaro, “Felt Matters,” 253.

⁷¹ Vaccaro, “Felt Matters,” 255.

and handcrafted, not just linguistic, she takes craft seriously as a field of queer and trans feminist knowledge production in itself.

Building on this premise, Vaccaro elaborates handicraft as theory, methodology, and pedagogy in her essay “Feelings and Fractals: Woolly Ecologies of Transgender Matter,” which connects the massive distributed crafting project, the *Crochet Coral Reef*, to the materiality of transgender life. Begun by the Institute for Figuring (IFF), a Los Angeles-based nonprofit founded in 2003 by twin sisters Margaret and Christine Wertheim, over 8,000 participants have contributed crocheted “corals” to be exhibited at museums and galleries around the world in order to raise awareness about the destruction of coral reefs due to pollution and global warming. Not only has the *Crochet Coral Reef* “allowed the entry of housewives and prisoners, as well as scientists, mathematicians and skilled crafters, into some of the most prestigious venues on Earth,”⁷² it has also engaged, via craft, enormous numbers of people in the collective project of reimagining the conditions for sustaining multispecies flourishing on our planet. Haraway describes the project as an “SF worlding” in her foreword to the collection of essays and images on the crocheted reefs, writing, “[t]he *Crochet Coral Reef* is palpable, polymorphous, terrifying and inspiring stitchery done with every sort of fiber and strand, looped by thousands of people in dozens of nations, who come together to stitch care, beauty and responsibility in play tanks.”⁷³ By stitching together aesthetics, craft practices, biology, mathematics, physics, engineering, computer science, and ecofeminism, the IFF and

⁷² Margaret Wertheim and Christine Wertheim, “Introduction: Iterate, Deviate, Elaborate,” *Crochet Coral Reef*, ed. Margaret Wertheim (Los Angeles: The Institute for Figuring, 2015), 23.

⁷³ Donna Haraway, “Sym-chthonic Tentacular Worldings: An SF Story for the Crochet Coral Reef,” foreword in *Crochet Coral Reef* (Los Angeles: The Institute for Figuring, 2015), 11.

its collaborators subvert the hierarchies of value that organize disciplinary knowledge, demonstrating that to do so is also to work carefully in the service of justice that is not narrowly anthropocentric. For Vaccaro, this constitutes a “woolly pedagogy”⁷⁴ that “bridges public art education and activism to build connections between the domestic and ecological and inspire transformative politics.”⁷⁵

Vaccaro’s approach to the *Crochet Coral Reef* puts processes of transgender becoming into conversation with environmental toxicity, the proliferation and creative reuse of plastic waste as well as the concepts of material and bodily plasticity, and the everyday affective and physical labor of the handmade in fiber craft. Usefully, she does not reduce trans art and politics to work that is explicitly or exclusively “about” transgender topics or that is created only by people who identify as transgender; it would be a mistake to read the vibrant, multimedia *Crochet Coral Reef* for its subject matter alone, as though its colorful excess could be contained by one or two aesthetic categories or by a surface understanding of artistic “content.” Vaccaro strategically avoids defining trans art by the identities of its makers, a move echoed in other theorizations of craft by queer and trans artists; rather, she wants to “create and demand dense and elastic transgender politics as open, bright, and turbulent as the hyperbolic dimension and a coral seascape.”⁷⁶ The connection between transgender politics and craft, however, “is more than just an allegory. Sensory and sensual, craft is a praxis primed to illuminate queer bodies and

⁷⁴ Jeanne Vaccaro, “Feelings and Fractals: Woolly Ecologies of Transgender Matter,” *GLQ: A Journal of Lesbian and Gay Studies* 21: 2-3 (2015): 273-293, 281.

⁷⁵ Vaccaro, “Feelings and Fractals,” 281.

⁷⁶ Vaccaro, “Feelings and Fractals,” 280.

politics.”⁷⁷ Drawing on the work of LJ Roberts who, as I explore below, claims queer theory as a model for craft’s emerging theoretical apparatus, Vaccaro argues that queer and trans studies need to make use of craft’s methodologies as well.⁷⁸

Her emphasis on method and its relationship to pedagogical and political praxis is part of what is so compelling about Vaccaro’s work; it is instrumental for understanding queer and trans feminist knowledge as crafted: actively produced through the making of art. She writes, “insofar as it seeks to be an intervention of method, ...the handmade is not an alternative reading practice. A different epistemology is at work in the figuration of transgender as crafted, one that puts to the side the textual to animate textural modes of labor, process, collectivity, duration, and pattern.”⁷⁹ As a method, “hand making is a mode of knowing and doing objects and bodies. The handmade is an operating system or guide, a fleshy science to untangle ordinary shapes and feelings of embodied life.”⁸⁰ The IFF and the *Crochet Coral Reef*, with its myriad materials and makers, are companion species with which Vaccaro thinks about transgender mattering. Margaret and Christine Wertheim, a science writer and a poet/performance artist, respectively, share Vaccaro’s orientation toward hand making as methodological in their many publications about the project. Christine Wertheim, for example, writes that in crafting, “activities often theorized as mutually exclusive are performed simultaneously: reading and doing, thinking and making, learning about a structure while materially embodying it.”⁸¹

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Vaccaro, “Feelings and Fractals,” 288.

⁸⁰ Vaccaro, “Feelings and Fractals,” 276.

⁸¹ Christine Wertheim, “Matter and Form,” *Crochet Coral Reef*, ed. Margaret Wertheim (Los Angeles: The Institute for Figuring, 2015), 90.

The Wertheims work to dismantle Cartesian divisions between body and mind in addition to the boundaries between scientific and artistic knowledge, demonstrating how participants in the *Crochet Coral Reef* practice “a kind of material play, constructing organically with their hands while drawing on a library of algorithms they come to know in their fingers as well as in their brains. Such *digital intelligence* mediates a process of figuring in which knowledge resides in both body and mind.”⁸² Like Freeman’s “digital history,” in which fingers, figures, and fibers interpenetrate in the act of stitching, the Wertheims’ digital intelligence values embodied or felt ways of knowing. The labor of crafting practices is affective *and* algorithmic, physically repetitive *and* theoretical. Crochet stitches loop these realities together, giving material form to knowledge held by muscle memory as well as the conscious mind. As Vaccaro writes, in the woolly pedagogy of the IFF, “Figuring—a process of calculating, shaping, patterning, and forming things and ideas—is a pedagogical method and a hopeful bridge between intellect and physicality.”⁸³ While I will return, in my final chapter, to the Wertheims’ tantalizing use of the term “digital” to describe processes based in the fingers and the hands, I wrap up this section on Vaccaro’s handmade methods with Donna Haraway’s string figures for speculative fabulation in order to think about craft as a figure for queer and trans feminisms.

Haraway has been thinking with figures, string and otherwise, for a long time. In 1994 she proposed the game of cat’s cradle as a series of string figures for knotting together the discourses of antiracist feminism, science studies, and cultural studies: a

⁸² Margaret and Christine Wertheim, “Introduction: Iterate, Deviate, Elaborate,” 21. Emphasis in original.

⁸³ Vaccaro, “Feelings and Fractals,” 278-279.

way “to reconfigure what counts as knowledge”⁸⁴ by relaying stories, metaphors, and tropes in patterns of mutual response. String figures recur in her 2011 acceptance speech for the Science Fiction Research Association’s Pilgrim Award, “SF: Science Fiction, Speculative Fabulation, String Figures, So Far,” in which speculative feminisms, science fiction, and scientific facts are companions in worlding, which Katie King calls “a practice of displaying as well as crafting worlds, of sharing as well as enjoying expertise, of noticing tiny details of connection and similarity amid the tweaks and frissons of alternative shadings across many intertextualities of association, history, genre, care.”⁸⁵ Haraway’s latest book, *Staying with the Trouble: Making Kin in the Chthulucene* (2016), uses SF rife with string figures to tell complex stories about living and dying ethically on Terra, where global warming, overpopulation, and ceaseless resource extraction differently threaten all earthly species, not just humans, and differentially impact humans across lines of race, gender, class, ability, nationality, empire, and location.

The *Crochet Coral Reef* and the intellectual and aesthetic labors of its human collaborators are just one among many of these stories in a web that gathers up terraforming “critters,” Haraway’s nickname for lively actors, human or not, becoming-with each other in sympoiesis.⁸⁶ Here “SF is a method of tracing, of following a thread in the dark,” where “the string figure is not the tracking, but rather the actual thing, the pattern and assembly that solicits response.... [S]tring figuring is

⁸⁴ Donna Haraway, “A Game of Cat’s Cradle: Science Studies, Feminist Theory, Cultural Studies,” *Configurations* 2.1 (Winter 1994), 62.

⁸⁵ Katie King, “A Naturalcultural Collection of Affections: Transdisciplinary Stories of Transmedia Ecologies Learning,” *Scholar & Feminist Online* 10.3 (Summer 2012): Feminist Media Theory: Iterations of Social Difference, 2.

⁸⁶ Haraway, *Staying with the Trouble*, 169n1.

passing on and receiving, making and unmaking, picking up threads and dropping them. SF is practice and process.”⁸⁷ This “triple sense of figuring”⁸⁸—of tracing, patterning, and co-creating—is an amalgamation of method, metaphor, and matter whose utility for disentangling the densely knotted worlds of queer and trans feminist craft (not to mention for doing the work of crafting queerer worlds) cannot be underestimated. As practice and process, SF is a craft for queer feminist worlding; as practice and process, fiber craft is a string figure for the making of queer feminist theory. Like the game cat’s cradle, fiber craft also results in *actual things*: craft produces real objects that, despite being cut off the loom or cast off knitting needles, are still not finished. They are *not done* doing work in the material world with their human and nonhuman creators and users, and the material world is not done doing work on them as they are passed between and among humans and their nonhuman kin.

For Haraway, *na’atl’o’*—a Navajo version of string games or “continuous weaving” practices that tell stories about the constellations—“are *thinking* as well as *making* practices, pedagogical practices and cosmological performances.”⁸⁹ As storytelling practices of the Diné (the Navajo people), string figures are patterns for restoring *hózhó* or “right relations of the world.” Navajo weaving “manifests the meaningful lived connections for sustaining kinship, behavior, relational action—for *hózhó*—for humans and nonhumans.”⁹⁰ She writes, “The geometric patterns of repetition and invention in weaving are performances of Diné stories and knowledge;

⁸⁷ Haraway, *Staying with the Trouble*, 3.

⁸⁸ *Ibid.*

⁸⁹ Haraway, *Staying with the Trouble*, 14. Emphasis in original.

⁹⁰ Haraway, *Staying with the Trouble*, 90.

the patterns propose and embody world-making and world-sustaining relations.”⁹¹ String figures enable Haraway to tell the story of Navajo-Churro sheep, companion species in Diné worlding and key to their economic survival. The sheep were exterminated by first the U.S. military in the forced removal of the Navajo from their lands in the 1860s, then by Department of Agriculture scientists in the 1930s when erosion and overgrazing increased due to the demand for Navajo women’s weavings, which were purchased in trading posts by the pound “as if they were low-value raw wool.”⁹² The sheep population is slowly being restored in collaboration with scientists and environmental justice activists, and they continue to sustain Navajo herders and weavers as participants in this multispecies game of cat’s cradle. String figure stories, in continuous weaving and the *Crochet Coral Reef*, entangle us in patterns of ethical response to ecological imbalance, the ongoing traumas of settler colonialism, and the racialized and gendered values of cultural production in capitalist imperialism and patriarchy. These stories—yarns that Haraway and Vaccaro spin—are part of the same web, composed of a fibrous materiality; they make up what Vaccaro might call a “woolly ecology” in which the boundaries of human and nonhuman are furry, felted together.

For now, I put the *Crochet Coral Reef* and stories about Navajo weaving practices on a stitch holder, a tool used to reserve a number of stitches in a knitting project, so that I might investigate the writings of queer and trans feminist crafters. I will return to the Wertheims’ reimagination of the digital in the next chapter, where I propose queering digital technologies as a way to conceptualize feminist maker

⁹¹ Ibid.

⁹² Haraway, *Staying with the Trouble*, 92.

movements. The work of Vaccaro and Haraway enables us to gather up queer and trans feminist craft practices and writing, feeling with our fingers the densely knotted nodes of connection in the deeply theoretical artistic praxis they are engaged in prototyping.

Queering Craft, Crafting Theory

Thus far I have been piecing a patchwork of fiber craft's queer and trans feminist pastpresents. By assembling some of the fraying fragments of 1970s feminist art herstory and juxtaposing them with contemporary yet intergenerational queer and trans thinking on craft, the intricate patterns of decades of feminist knowledge production emerge more clearly. The presence and repetition of such patterns, however, does not mean queer and trans feminist craft is one continuous, seamless fabric or text; hence weaving is not the operative metaphor here. There are gaps and holes in this body of knowledge, unfinished pieces, worn out and threadbare spots. In the present we are left with the work of repair, and though it may be a labor of love, we would be remiss to assume such love is uncomplicated or easy. The remnants that are now our materials may actually appear quite ugly and stained upon closer inspection, the products of times, places, and sensibilities far removed from our own, largely inaccessible but for the deteriorating snippets at our fingertips. It is up to us to arrange and rearrange, to formulate a design with which we can live, though imperfect and not entirely of our choosing. Working with what is available, new possibilities surface. Carefully drawing together these fragile remainders with the rhythmic pull of needle and thread, we make histories touch; pastpresents are layered

and contiguous. No part of them has escaped our fingers, and we, too, have become attached. In this way we might find ourselves holding onto an object that lasts us just a little bit longer.

The artists whose writing and interviews I examine in this section do the erotohistoriographical labor of crafting the canons that can sustain their own legacies and that can push us to imagine different possible futures for fiber craft. Queer and trans feminist pastpresents are palpable in the embroidery, knitting, crochet, and needlepoint these studio crafters practice. The widespread exhibition and publication of these artists, the collection of their work by major institutions such as the Smithsonian, and their ongoing references to and dialogue with one another demonstrate that in many ways they comprise part of a new canon that is still in formation. This canon is shaped in part by queer theory's active critical involvement in art and performance, which has resulted in dynamic collaborative relationships and ongoing conversations between artists and the theorists documenting and interpreting their work. I trace a small piece of this evolving network in this section in order to synthesize how queer and trans crafters approach race, gender, sexuality, and other kinds of difference through fiber craft praxis that connects theory, method, and pedagogy.

Allyson Mitchell

Allyson Mitchell has become well known in feminist and queer circles for her combinations of art, activism, and theory as well as through extensive coverage of her practice by Elizabeth Freeman and Ann Cvetkovich, the latter of whom has put

Mitchell's work in conversation with Sheila Pepe's through her discussion of fiber craft in *Depression: A Public Feeling* (2012) as well as by conducting oral histories with both artists.⁹³ A self-proclaimed Riot Grrrl who came of age in the early nineties, Mitchell is self-taught and uses a wide range of media including video, found textiles and ephemera, and sculpture in order to explore gender, lesbianism, and fat embodiment. In addition to her day job as professor of Gender, Sexuality, and Women's Studies at York University, she has run the Feminist Art Gallery (FAG) out of her home in Toronto with her partner, video and performance artist Deirdre Logue, since 2010. Her practice represents the incursion of DIY practices and aesthetics into the fine art world, yet she is open about the contradictions and pleasures that arise from attempting to establish spaces for queer feminist cultural production with one foot in and one foot out of institutions. Indeed, the privileges and the resources that come along with working for institutions in some capacity is often what enables DIY projects to remain viable for as long as they do.

Much has already been written about Mitchell's "deep lez" aesthetic, a reimagining of second wave lesbian feminisms through artistic praxis to forge a new, trans-inclusive, "radical dyke politics."⁹⁴ Like a crafter who hoards materials, deep lez refuses to let go of feminist forms of identification that are supposedly dead or over, seeing the potential in what has been passed over for sexier, edgier versions of politics. Freeman uses Mitchell's dimensional latch-hook depictions and massive poured concrete, faux fur sculptures of lady sasquatch as an example of temporal

⁹³ Ann Cvetkovich, "The Craft of Conversation: Oral History and Lesbian Feminist Art Practice," *Oral History in the Visual Arts*, eds. Matthew Parkington and Linda Sandino (New York: Bloomsbury, 2013): 125-134.

⁹⁴ Allyson Mitchell, "Deep Lez," *Queer*, ed. David J. Getsy, Documents of Contemporary Art (London: Whitechapel Gallery and Cambridge: The MIT Press, 2016): 181-183.

drag: the backward pull of history on contemporary feminist identities, movements, and forms of cultural production.⁹⁵ As Freeman writes, “Mitchell’s work opens up a tactile relationship to a collective past, one not simply performative or citational but physical and even erotic.”⁹⁶ The concept of temporal drag has since been used by Elissa Auther to describe queer crafter Josh Faught’s combinations of weaving, sewing, crochet, and DIY ephemera to assemble archives of everyday life in the AIDS epidemic.⁹⁷ In both of these artists’ work, the simultaneously accumulative and piecemeal labor of domestic handicraft, the attraction to what has been cast aside and to what remains, signify queerly historical relationships to time and demonstrate how fiber craft might act as a kind of temporal drag on art itself.

Ann Cvetkovich has similarly used Mitchell’s work to think about queer feminist ways of being in the world that can ameliorate what she calls political depression, the sense that traditional forms of activism and politics are no longer sustainable and do not make us “feel better” about our participation in them. She turns to queer feminist craft traditions in order to think through practices of everyday life that can be sustaining in the midst of the continual failure of mainstream politics to adequately address economic, racial, gendered, and sexual injustices. As Cvetkovich argues, “Engaged in a deep dialogue with women’s culture through forms of practice that perform thinking by doing, crafting self-consciously questions what constitutes feminism and what constitutes the political.”⁹⁸

⁹⁵ Freeman, *Time Binds* 93. Freeman calls temporal drag “a counter-genealogical practice of archiving culture’s throwaway objects, including the outmoded masculinities and femininities from which usable pasts may be extracted” (xxiii).

⁹⁶ Freeman, *Time Binds*, 93.

⁹⁷ Auther, “‘He is survived.’”

⁹⁸ Cvetkovich, *Depression*, 167-168.

Sheila Pepe

As I have already noted, lesbian artist Sheila Pepe is an active shaper of the field she calls “craft theory” in the epigraph with which I opened. Among the contemporary artists I discuss in this section, she is the most established in the art world, with numerous solo and group exhibitions at a variety of venues including international art fairs. She is vocal not only about the relationship between her lesbian separatist feminism and her art, but also about the political nature of art education and her teaching and administrative roles. Writing about what it means to work in the office of the Dean of the School of Art & Design at the elite New York arts academy, the Pratt Institute, while maintaining a studio practice, Pepe documents her movement among these multiple positions in a number of short essays for such publications as *M/E/A/N/I/N/G Online*, *The Brooklyn Rail*, and *Art Journal Open*. A critic in her own right, she extensively reviews the work of both her contemporaries in the art world and the scholarship of art historians. In doing so she consistently employs a generous citational practice that names the feminist and queer artists whose work impacts her own, patching together an intricate history of friendship and collaboration that gives the lie to neat divisions of feminist art-making and activism into disparate “waves.” Because I have already described some of Pepe’s work elsewhere, and because she garners much attention from queer feminist theorists and art critics, I focus here on her writing about fiber craft and her approach to theorizing hierarchies of value between “art” and “craft.” For Pepe, hierarchies and their attendant binaries offer conceptual material that can be worked and reworked; they need not be flattened or

overcome. This mode of engagement with cultural meanings, enacted through what Pepe calls *facture* (the making or production of works of art), is one significant example of how craft can be used as praxis for daily life.

Ann Cvetkovich's work on Pepe's large-scale crochet installations is useful for contextualizing fiber craft as a political tool in fine art worlds. Describing how Pepe uses ordinary materials such as industrial rubber bands, nautical rope, yarn, and shoelaces to transform gallery and museum spaces, Cvetkovich argues that Pepe's sculptural and spatial "drawings" bring the intimacy of domesticity and of the physical spaces within women's bodies to the modernist architecture of art institutions, while infusing minimalism and abstraction with lesbian feminist humor in pithily titled pieces that depict the vulva, labia, and clitoris. Cvetkovich also focuses on Pepe's participatory work, in which visitors are encouraged to unravel the crocheted installations in order to craft their own projects while chatting on sofas around a table, or lounge in crocheted environments. She writes, "Pepe refuses divisions within feminism and the art world, and she is also unapologetic about claiming an identity as an artist without feeling obliged to be an activist or critical of the gallery system to count as politically engaged."⁹⁹ While Cvetkovich is concerned primarily with Pepe's gallery talks and presentations about her process, I am more interested in Pepe's published writings about the politics and the practice of craft as they relate to queer feminist identities and projects. Read alongside Pepe's public speaking about her work, which takes place at prestigious conferences such as that of the College Art Association as well as on YouTube, her writing contributes to feminist theorizing about canons, canonization, and the dominant structures of

⁹⁹ Cvetkovich, *Depression*, 183.

knowledge that organize our everyday experiences of the world. Her work explicitly links artistic production, feminist knowledge politics, and queer aesthetics.

It is clear that Pepe's thinking about art history's gaps and erasures is deeply entangled in her pedagogy, which surfaces throughout her publications as a key part of her practice. Pedagogy is implicit in the title of her 2011 review for *Art Journal Open*, "Craft Class," which surveys several recent books that have been heralded as initiating a new wave of scholarship on craft: Elissa Auther's *String Felt Thread* (2009), discussed above, and Glenn Adamson's *The Craft Reader* (2009) and *Thinking through Craft* (2007). Pepe traces the connection between these publications, the explosion of the use of craft by contemporary artists, and feminist artwork and scholarship of the 70s and 80s, such as that of Roszika Parker, providing a genealogy that anchors present-day craft practice in the material, formal, and conceptual concerns that the feminist art movement made it possible to examine. At the same time, she shows how the struggle to articulate an identity for craft within the art world has resulted in the reification of the art/craft divide, in which craft must be seen as supplemental to (and therefore constitutive of), somehow separate from, or subordinate to fine art. In order to move beyond this impasse and get to richer fields of inquiry, "a theoretical architecture about 'making things'" that puts craft in a wider historical context is necessary, one which she sees as under construction in Adamson's widely recognized work.¹⁰⁰ Situating the insights of these publications within historical shifts in which Pepe herself participated, "Craft Class" is an example of Pepe's pedagogical practice, schooling us on the relationship between what

¹⁰⁰ Pepe, "Craft Class," *Art Journal Open*, 4 September 2011. <http://artjournal.collegeart.org/?p=2137> Accessed 9 September 2015.

happens in artists' studios and the making of art history. As she writes, "Although artists may preserve ideas in the course of making their work, codifying history still remains the sole province of art historians. Through this scholarship, we gain a collective understanding and knowledge of the artists whose groundbreaking work set the precedents for what has followed in contemporary art."¹⁰¹ Taking on the role of teacher and theoretician, if not the art historian, Pepe does what many feminist artists have had to do in order to show historical precedent for their own work: demonstrate the existence and the importance of feminist artistic traditions and advocate that they be taken seriously as canonical in their own right. Doing so involves including their work in art education, recognizing them as producers of knowledge, and counting them as technical innovators.

Pepe articulates this strategy in her 2007 essay for *M/E/A/N/I/N/G Online #4*, whose "Feminist Forum" called on artists to answer a provocation about women artists of the 70s, asking, "If you have come of age since the 1970s, what works by women artists of that time or of your generation have been influential for you? What are you doing in your own work that you feel relates to the Feminist Art Movement?"¹⁰² The issue's introduction by Susan Bee and Mira Schor contextualizes it as a response to major exhibitions and events hosted by the Feminist Art Project to commemorate the 35th anniversaries of landmarks in the feminist art movement. Describing how her fellow emerging women artists publicly connected their work to famous men for legitimacy, Pepe argues that making her predecessors in the feminist

¹⁰¹ Ibid.

¹⁰² Susan Bee and Mira Schor, "Feminist Art: A Reassessment, Introduction," *M/E/A/N/I/N/G Online #4: Feminist Forum* (2007). <http://writing.upenn.edu/pepc/meaning/04/forum.html> Accessed 6 November 2015.

art movement visible is still a useful form of politics: “Some years ago I understood that the next best frontier for me as a feminist artist was to embrace the women who came before me, the ones who gave precedent to my work... since 2000, I have taken care to concentrate on the portion of my work that amplifies a connection to overtly recognizable Feminist tropes, in an effort to sustain an intergenerational bridge.”¹⁰³ Among Eva Hesse, Judy Chicago, Nancy Spero, and Lynda Benglis, Pepe names her grandmother, Theresa Nigro, and her mother Josephine, who taught her to crochet, and after whom one of her abstract crochet installations is named. Pepe inscribes Josephine into art history, validating the forms of cultural production and teaching that her mother practiced as intellectual labor. She writes,

When I was growing up in suburban New Jersey in the 1970s, am sure [sic] that Josephine had no intention to produce a Butch Lesbian Feminist Artist who, among other things, crochets. But that is no reason to denounce her or hide her in the closet. Like many of us, and our professional art mothers, she was a special link in our historical continuum, a woman who contributed to our collective advance.¹⁰⁴

Including her mother in her artistic and political lineage, Pepe refuses to reproduce conventional art historical narratives, which so often make the labor of women, especially mothers, invisible. She calls attention to how teaching and learning across generations is a political act that is bound up in the production of collective knowledge.

Intergenerational knowledge production is a recurring theme in Pepe’s writings and interviews. In “Honor Our Wrinkles: Fiber, Women, Dykes, and Queers,” an extended conversation between the older butch artist and the younger LJ

¹⁰³ Pepe, “Sheila Pepe,” *M/E/A/N/I/N/G Online* #4: Feminist Forum (2007). <http://writing.upenn.edu/pepc/meaning/04/forum.html#pepe> Accessed 6 November 2015.

¹⁰⁴ Ibid.

Roberts, who describes themselves as “gender-non-conforming and as trans and a dyke,”¹⁰⁵ Pepe refers to Roberts’ 2007 thesis on queer craft theory, which I discuss in more detail below. Summarizing Roberts’ argument that queer theory offers a template for a theory of craft, and their genealogy for queer theory, which names AIDS activism, feminist movements, and the academic discipline of women’s studies as its origins, Pepe comments on how a queer theory of fiber craft speaks to her own practice: “my decision to use crochet in 1998 (rather than any other craft form) was that it was a valued yet marginalized form that honored my biological and feminist mothers while it winked to those who knew me and my mustache, as a mashing of gender signs and behaviors. I’ve come to call it queer in order to speak to another generation.”¹⁰⁶ Pepe’s strategic use of “queer” as an intergenerational boundary object that encapsulates these gendered mash-ups appears in the earlier essay “Craft Class,” in which she describes a young “generation of artists—butch sissy-men and sissy butch-women” using fiber both earnestly and ironically.¹⁰⁷ This usage also illuminates the titles of some of her pieces, in which colorful, larger-than-life crocheted vulvas are named *Mr. Slit* (2005) and *Greybeard* (2008), scrambling the gendered taxonomies attached to queer bodies.

As the conversation between Pepe and Roberts reveals, this use of the term “queer” does not eclipse the specificities of lesbian feminism or the lived experiences of women and trans people, but rather incorporates a whole field of differences in identification, embodiment, and sexual desire. These kinds of social difference, as

¹⁰⁵ Pepe and Roberts, “Honor Our Wrinkles.”

¹⁰⁶ Ibid.

¹⁰⁷ Pepe, “Craft Class.”

well as differences in materials, production methods, and tools, are in fact central to the work of teaching craft, as Roberts points out:

I think a textile pedagogy, in which a foundational aspect is how to see and analyze the concept of difference, is key to finding something deeper. There has got to be a move toward applying multifaceted interdisciplinary approaches to textiles that makes the experiences of making, viewing, and consuming them multidimensional and not cliché or exotic. I don't want to label everything as queer—the labeling defeats the purpose, and you end up with a calcifying effect.¹⁰⁸

In this intergenerational conversation, Pepe and Roberts elaborate a pedagogy of fiber craft that offers a way of exploring the differences between, and the limitations of, the categories “women, dykes, and queers.”

Elsewhere, Roberts has argued that “the feminist act of intergenerational skill sharing” is “an act of love,”¹⁰⁹ a statement that positions craft not as a tool for inculcating in women appropriate feminine behavior or housewifely duty, but rather as a form of relational connection, pleasure, and creative exchange that is not channeled into heteronormative relationships. Pepe and Roberts model this kind of generosity and care in their dialogue, in which Pepe claims that she “maintain[s] a public identity as lesbian, feminist, and textile user as a way to persistently point to the political otherness of people and taste.... I'm working against purity and for equal access.”¹¹⁰ Pepe uses craft to challenge social distinctions around “good taste” that not only maintain a hierarchy of value between art and craft, but also perpetuate social othering. Building from this, Roberts argues, “the political project of queer

¹⁰⁸ Pepe and Roberts, “Honor Our Wrinkles.”

¹⁰⁹ LJ Roberts, “Craft, Queerness, and Guerilla Tactics: An Extended Maker's Statement,” *In the Loop: Knitting Now*, ed. Jessica Hemmings (London: Black Dog Publishing, 2010), 113.

¹¹⁰ Sheila Pepe and LJ Roberts, “Honor our Wrinkles: Fiber, Women, Dykes, and Queers.” *Art Practical*, 6.3: “Dimensions: Expanded Measures of Textiles,” 26 February 2015. <http://www.artpractical.com/feature/honor-our-wrinkles-fiber-women-dykes-and-queers/> Accessed 27 February 2015.

craft needs to embrace a trans-feminist politics, one coming from a transnational feminist perspective. It would center the work of women, trans people, people of color, or people from locations other than the United States as a foundational and critical political position.”¹¹¹

For Pepe and Roberts, craft can provide a counterpoint to the multiple kinds of violence and erasure enacted by normative life. They demonstrate that elaborating a theoretical, pedagogical, and political agenda through craft has high stakes for groups of people who are marginalized from the powerful institutions that legitimize and preserve cultural memory, including museums and universities, which consolidate what “counts” as art historical knowledge. Their work makes clear that the practice of craft is one way that queer and trans feminists have held onto and communicated their histories in spite of cultural erasure and state sanctioned death. Mobilizing craft as a queer project, however, requires a tactical understanding of the margins as spaces of both possibility and constraint; indeed, as Pepe argues, “One could say that within the context of art, craft may be queer but only if the latter is understood as a static self-sustaining location, invested in and empowered by its marginality. To this end, there must be an inherent disinterest in becoming part of the larger whole. As a personal quest, this sounds good, but as a political one, it doesn’t: few people have the luxury of—or interest in—living and/or working in a static state of marginality.”¹¹² Having outlined Pepe’s investments in queering craft, in the following section I delve deeper into LJ Roberts’ writing on craft’s queer futures vis-à-vis the artistic institutions with the power to foster or stifle them.

¹¹¹ Ibid.

¹¹² Ibid.

LJ Roberts

In multiple publications, Roberts self-consciously situates their craft practice in relationship to feminism, queer activism and theory, and the work of established and emerging artists with whom Roberts is in dialogue. Like Pepe and Mitchell, Roberts uses their position in the art world as a platform for queer feminist politics, especially as it addresses (or fails to address) trans inclusion and visibility. Roberts makes queering craft a political project, naming queer theory as one framework on which to model the theorization of craft as artists, museums, and universities attempt to legitimize the study, preservation, and exhibition of various craft traditions. For Roberts, this project emerges out of a moment in the early 2000s when prominent institutions were publicly rehashing the hierarchies organizing art, craft, and design, resulting in the removal of the word “craft” from the names of both the Museum of Arts and Design (formerly the American Craft Museum) and the California College of the Arts (formerly the California College of Arts and Crafts), where Roberts earned their MFA in textiles. Roberts’ response to these name changes, which symbolically banished craft rather than deal with the term’s baggage, was to reinsert craft into the discourse by attaching a bright orange, knitted “& Crafts” onto the literal face of the CCA where the word had been removed, and to argue for the reclamation and reevaluation of craft in their 2007 MFA thesis, republished as “Put Your Thing Down, Flip It, and Reverse It: Reimagining Craft Identities Using Tactics of Queer Theory” for the anthology *Extra/Ordinary: Craft and Contemporary Art* (2011). In many ways, Roberts’ craft-based writing (as well as, in the case of “& Crafts,” their text-

based craft) and their public conversations with their peers and predecessors in queer artistic communities, make Roberts' oeuvre representative of the kind of queer and trans feminist knowledge production taking place at the confluences of art scenes, activist movements, and maker cultures.

Answering art critics' calls for a body of "critical craft theory" capable of both "address[ing] craft's relationship to the larger arena of visual and material culture" while also "challeng[ing] the stereotypes that position craft at the bottom of the aesthetic and conceptual food chain,"¹¹³ Roberts identifies three tactics that queers and other non-normative populations have used to assert their agency within hierarchical power structures: reclamation, reappropriation, and disidentification. Drawing on the work of José Muñoz, whose influential concept of disidentification names some of the ways that minoritized individuals, specifically queers of color, perform stereotyped identities "with a difference"¹¹⁴ in order to neutralize their hegemonic power, Roberts asserts that craft must reclaim and subvert its own marginalized position in much the same way that queer theory has. Roberts writes, "Through the dismantling and reconfiguration of its own stereotypes, craft is positioned as a potent agent to challenge the very systems that create and proliferate stereotypes to maintain hierarchies of visual and material culture."¹¹⁵ Importantly, for Roberts acknowledging the ways that craft has been stereotyped "means tracing a

¹¹³ LJ Roberts, "Put Your Thing Down, Flip It, and Reverse It: Reimagining Craft Identities Using Tactics of Queer Theory," *Extra/Ordinary: Craft and Contemporary Art*, ed. Maria Elena Buszek (Durham: Duke University Press, 2011), 244.

¹¹⁴ In his 1999 book *Disidentifications: Queers of Color and the Performance of Politics*, Muñoz explains, "Disidentification is about recycling and rethinking encoded meaning. The process of disidentification scrambles and reconstructs the encoded message of a cultural text in a fashion that both exposes the encoded message's universalizing and exclusionary machinations and recircuits its workings to account for, include, and empower minority identities and identifications" (31).

¹¹⁵ Roberts, "Put Your Thing Down," 248.

history in which specific ways of making—tagged with the word *craft*—have been deemed as less valuable than other forms of labor, thought, materiality, and context.”¹¹⁶ As Roberts points out, craft’s histories are inseparable from both capitalist production and from the specific gendered, racial, ethnic, and class demographics of the people who have practiced it, two facts that are easily ignored as the mainstream art world largely fails to recognize its role in what Roberts calls “hypercapiatlist” markets as well as its own racism and sexism.

Roberts not only *queers craft* by demonstrating how contemporary fiber artists over-perform and disidentify with the stereotypical associations of femininity, domesticity, and amateurishness attached to craft, but also less explicitly *queers theory* by showing how craft practices are deeply conceptual. They connect craft to both labor and thought, drawing attention to craft as its own set of intellectual traditions and debates rather than merely a collection of techniques for producing objects. To start from the assumption that craft is theoretical is to redefine what may count as “theory” and, consequently, who may count as a theorist. Using craft to queer theory requires us to think about theory as something beautifully imagined and designed, lovingly handmade, and eminently useful in our everyday lives; in this perspective, theory is not something that can be confined to the pages of a book or the spaces of university classrooms. Craft enlivens theory just as queer theory, in Roberts’ essay, breathes new life into craft.

It is significant that Roberts does not limit their discussion of craft only to self-identified artists, but describes “makers” of all kinds, gesturing to craft practitioners who may not have had the privilege of attaining status in the art world

¹¹⁶ Ibid.

through access to studio space or gallery representation. These makers, such as Liz Collins of Knitting Nation, who uses an army of knitting machines to publicly perform the labor of craft in relationship to a number of political issues, resist simple categorizations of their work and inhabit hybrid spaces between or on the fringes of artistic disciplines. Indeed, the language of “making” pervades Roberts’ piece: “Much of craft is about making. By not declaring a fixed identity for craft, it could always be *in the making*. If craft were constantly in formation, it could resist being stereotyped and could include many different types of makers.”¹¹⁷ This rhetorical move is replicated in the title of Roberts’ “Craft, Queerness, and Guerilla Tactics: An Extended Maker’s Statement,” which appears in *In the Loop: Knitting Now*, and uses the phrase “maker’s statement” instead of the more familiar “artist’s statement.” I am interested in the use of the term “maker” here as signaling some of the limitations of the identities of “artist” and “crafter,” which connote different levels of cultural capital and technical skill and come loaded with implications for choice of media. The use of “maker” as an identification in the art world is evidence of the degree of traction the self-proclaimed “maker movement” has gained in the popular imaginary. Although there is no mention of the maker movement per se in any of Roberts’ publications, “maker” sidesteps the binary of artist vs. crafter, enabling Roberts to show that the people who practice craft exist in a multiplicity of communities rather than an insular, highly elite, art world. While I return to the terminology of the maker movement in next chapter, suffice it to say that Roberts’ usage of “maker” and “making” allows us to imagine that there is significantly more room for material,

¹¹⁷ Roberts, “Put Your Thing Down,” 257.

formal, and conceptual play in the hierarchies separating art and craft than would first appear.

In piecing the artwork and writing of queer and trans feminist artists, my method to this point has been akin to crazy quilting, a patchwork technique in which highly irregular scraps are sewn together, their seams embellished with colorful embroidery stitches that visually and texturally emphasize, rather than hide, the places where the pieces meet. As its name implies, crazy quilting is not logical or planned; the work grows organically, its beginning and end points impossible to determine. Nothing is wasted, and the embroidery demonstrates to the viewer just how much of the maker's effort and time goes into ensuring that even the smallest and weirdest of leftovers can be utilized, that they have a place within the whole. I have suggested that an art historiographical position that accounts for the ways that women, people of color, and queers “make something out of nothing”—that is, how oppressed people resourcefully *make do* and *make it work* with that which others have consigned to the trash heaps of normative worlds—can help make the labor of these groups visible and recognizable within the rubric of “making,” thereby challenging the dominance of some forms of creativity (and the people with whom they are associated) over others in maker cultures. Outfitted with a sewing kit for stitching together pastpresents, I now move further away from feminist art history and closer to the maker movement to see how we might feel for alternatives, remaking our damaged worlds. This will require the prototyping of new modes of queer, trans, and anti-racist feminist knowledge.

Chapter 3: Methods for Feminist Maker Cultures

DIY Knowledge Production and Critical Making

The art and writing of the feminist crafters and art historians mapped in the previous chapters would seem to exist in a separate world from the one I am about to describe. Despite Lippard's desire for an inclusive art of making and Pepe's discovery of a home amongst do-it-yourself fiber artists, feminist theorizations of craft have hardly been recognized as such in the mainstream maker movement, which is dominated by corporations such as Maker Media and its publications, and which continues to use fiber-based crafts as a tokenizing way of including women in its branding. I contextualize this "movement" with a review of the literature around diversity and inclusion in making and Science, Technology, Engineering, Art, and Mathematics (STEAM) education, which often excludes humanities approaches to technology and to the complexities of identity, structural oppression, and difference. It is perhaps unsurprising that the maker movement has been militarized through funding streams that promote the development of weaponized technologies and the cultivation of profitable, sometimes deadly forms of knowledge in young minds. The racialized and gendered contradictions inherent in the relationship between militarized maker culture, surveillance, and state-sanctioned policing become all too apparent in the next chapter's discussion of Ahmed Mohamed, whose experience of Islamophobic racism at school worked to exclude him not just from the identity of "maker" but also from the national body, as well as the work of micha cárdenas, who

prototypes technological applications and community-based solutions to keep trans people of color safe from violence. For now, however, the methodologies of critical making, which has emerged parallel to commercialized maker movements in academic communities of practice, and soft circuitry, an intervention that I suggest might subvert the dominant discourse around electronic textiles, both function as points of departure for imagining and creating feminist maker cultures. Such methodologies make it possible to hold long genealogies of DIY knowledge production in focus while also increasing the accessibility of the high- and low-tech innovations for which the maker movement has claimed authorship. By doing so, we might open up our understandings of who can be a maker of knowledge.

Since 2004, the online and print publishing platform Maker Media has credited itself with launching the “official” maker movement through its magazine, *Make*, and its flagship event, Maker Faire,¹¹⁸ which annually draws hundreds of thousands of people to its expos in major cities around the world. This movement claims to have effected a revolutionary transformation of DIY production practices via increasingly affordable (yet still often prohibitively expensive) technologies for digital fabrication such as 3D printers and scanners, Computer Numerical Control (CNC) machines, laser cutters, and microcontrollers, as well as a growing infrastructure in the form of a network of maker- and hackerspaces based in local communities and educational institutions. Yet, as many have repeatedly pointed out, “making” is less a social movement than a brand designed to sell products, especially high-tech tools and highly specific materials, and more importantly, to peddle the idea

¹¹⁸ Maker Media was created in 2012 by Dale Dougherty, former executive of O’Reilly Media, after *Make* magazine and Maker Faire were founded in 2004 and 2005, respectively. See <http://www.oreilly.com/about/>.

that participation in these elite forms of technoculture through consumption leads to freedom, the authentic expression of creativity, and increased civic engagement that will presumably occur by sharing what one has made. As Daniela Rosner and Jonathan Bean have argued, for example, “being a maker means being a buyer of tools,”¹¹⁹ despite the fact that “Makers see themselves not as consumers, but producers. They are learning the technical and conceptual competencies required to contribute to the surrounding world.”¹²⁰ Similarly, Lauren Britton’s series of blog posts, “Making and the maker movement: a democratizing force or an example of cultural reproduction?” offers a detailed breakdown of how the language of the maker movement has been taken up, pointing out the tensions between Maker Media’s goals as a corporation and what its discourse is expected to do socially and culturally. She writes that Maker Media “has different goals and is driven by different motivations than a social movement. A company’s goal, at a foundational level, is to generate profit. Social movements on the other hand aim to challenge authority and push for social change.”¹²¹ At risk of overstating the obvious, what both of these pieces implicitly suggest is that the company’s self-description as a social and technological movement is indeed central to their branding strategy, meant to make money by convincing consumers that they are participating in something that can change the world for the better, while conveniently eliding the harmful effects of technological fetishism, and capitalism more broadly, on people and their environments.

¹¹⁹ Daniela Rosner and Jonathan Bean, “Making: Movement or Brand?” *Interactions* (January-February 2014), 27.

¹²⁰ Ibid.

¹²¹ Lauren Britton, “Power, Access, Status: The Discourse of Race, Gender, and Class in the Maker Movement.” Technology & Social Change Group, University of Washington Information School. 18 March 2015. <http://tascha.uw.edu/2015/03/power-access-status-the-discourse-of-race-gender-and-class-in-the-maker-movement/> Accessed 2 January 2017.

Critics of this commercialized version of the maker movement, including former proponents of it, have noted how its rhetoric of technological determinism is easily incorporated into the U.S.'s nationalist narratives of progress through innovation, entrepreneurship, and global supremacy in the form of both competitive manufacturing and military dominance. Former President Obama called the U.S. a "Nation of Makers" in June of 2014 at the first White House Maker Faire, launching a number of initiatives to encourage making across sectors, especially education. Notably, Mitch Altman, engineer and cofounder of San Francisco's Noisebridge, one of the first hackerspaces in the U.S., has been vocal about withdrawing his support from Maker Faire after *Make* applied for and was selected to be part of the MENTOR (Manufacturing Experimentation and Outreach) program of DARPA, the Defense Advanced Research Projects Agency, which granted *Make* \$10 million, renewable annually, to create makerspaces and related curricular materials in up to a thousand participating high schools.¹²² Altman writes,

The DARPA grant's stated purpose is to increase the number of high quality engineers available. The stated reason this is necessary: the US education system is not adequate to provide them.... Myself, I'd rather see educational opportunities created for people by organizations that exist to better peoples' lives (rather than by the military).¹²³

Altman critiques militarism and its relationship to education, arguing that DARPA and the U.S. military does not exist purely for the purposes of defense but to benefit

¹²² Mitch Altman, "Do Funding Sources Matter? Why I Chose to Stop Helping at Maker Faire After They Received Military Funding (For a Good Cause)." *Critical Making: Make*, Garnet Hertz, ed. (2012). 3. See also Altman, "Hacking at the Crossroad: US Military Funding of Hackerspaces," *Journal of Peer Production* 2 (July 2012): Bio/Hardware Hacking. <http://peerproduction.net/issues/issue-2/>

¹²³ Altman, "Do Funding Sources Matter?" 4-7.

military contractors.¹²⁴ While he points out the shortcomings of educational systems globally, naming the focus on standardized testing as one example, he stops short of analyzing how national hopes for the maker movement's impact on learning align with the privatization of educational funding under neoliberalism, which admittedly is not his goal.

Altman's short essay, and the response by his former collaborator Dale Dougherty, founder of *Make* magazine and Executive Chairman of Maker Media,¹²⁵ was published in Garnet Hertz's book-length zine project, *Critical Making* (2012). Borrowing its title from the term utilized by Matt Ratto to describe the combination of critical thinking and material play in the creation of physical objects,¹²⁶ *Critical Making* responds to the maker movement's depoliticized stance toward technology and DIY making with interviews, essays, and projects by artists and academics, many of which have since been republished elsewhere.¹²⁷ Unlike in industrial or commercial prototyping, for Ratto the prototypes developed through critical making are not ends in themselves, but rather

achieve value through the act of shared construction, joint conversation, and reflection. Therefore, while critical making organizes itself around the making of material objects, devices themselves are not the ultimate goal. Instead, through the sharing of results and an ongoing critical analysis of materials, designs, constraints, and outcomes, participants in critical making exercises

¹²⁴ Altman, "Do Funding Sources Matter?" 4.

¹²⁵ Dougherty's response, "Makerspaces in Education and DARPA," was originally published online in *Make* and defends the use of DARPA funds in Maker Media's Makerspace program, stating that DARPA is not "placing any claim on student work" and justifying Maker Media's involvement with the agency by arguing that "DARPA has relationships with lots of organizations including many top universities." *Make*: <http://makezine.com/2012/04/04/makerspaces-in-education-and-darpa/> 4 April 2012.

¹²⁶ Matt Ratto, "Critical Making: Conceptual and Material Studies in Technology and Social Life," *The Information Society* 27 (2011): 252-260. 253.

¹²⁷ Hertz published the "Conversations" section of *Critical Making* with a new introduction as Conversations in *Critical Making*, CTheory Books: Blueshift Series, 2015. <http://www.ctheory.net/articles.aspx?id=760>

together perform a practice-based engagement with pragmatic and theoretical issues.¹²⁸

The practical and speculative experiments of the artist-theorists whom I discuss in this chapter embody the spirit of Ratto's definition of critical making; they result in actual objects, but more importantly they enact a process of critical, creative, and collaborative knowledge production whose aim is social justice.

Elaborating on Ratto's methodology, the descriptions and images of projects included in the *Critical Making* zine highlight the sometimes unanticipated results of the design process, the failures of as well as the latent potentials inherent in the prototypes, and the subversive aesthetics of small activist interventions into everyday life on localized levels. Many of these projects are described by their makers as impractical, useless, irrational, or speculative; in doing so some of the queerer aspects of these technological hacks, both analog and digital, come to the fore. The zine includes, for example, a schematic for Kristen Stubbs' "The Hammer," a strap-in silicone dildo with an Arduino microcontroller and LEDs that that can change color and brightness when squeezed by the muscles in the vagina or anus.¹²⁹ Stubbs writes of the project, which is also featured on her website, "The Hammer is an exercise in technological empowerment for sexuality and pleasure. How do we enable people to build and modify objects around them so they can have the kinds of experiences they want to have?"¹³⁰ While the reader must supply or possess all of the materials, programming knowledge, and the skills for casting silicone molds in order to complete the project, the publication of the schematic, diagram, and instructions make

¹²⁸ Ratto, "Critical Making," 253.

¹²⁹ Kristen Stubbs, "The Hammer: A Do-It-Yourself Muscle-Controlled Light-Up Dildo," in *Critical Making: Projects*, Garnet Hertz, ed. 2012. 35-36.

¹³⁰ Stubbs, "The Hammer," 36.

the erotic possibilities of such a customizable invention imaginable and desirable. Stubbs' seemingly simple question about enabling people to design their own objects and experiences opens up radically different worlds that, while not free from capitalist consumption, allow for the exploration of sexual and creative agency in technological domains.

Stubbs' project is not overtly critical of the sex toy industry or of the production and consumption of electronics, embracing instead sex positivity and playful feminist humor. On the other hand, one of Hertz's own contributions to the print version of the zine, which comes in an envelope of paper goodies, takes pleasure in the negativity of the "critical" in critical making. His vinyl sticker, "Made: Technology on Affluent Leisure Time," is an uncanny replica of a *Make* magazine cover, featuring a white father-son duo launching a rocket under the headline, "Join the Arduino Revolution" with a smaller subheading, "But avoid civil disobedience."¹³¹ The other copy on the sticker not-so-subtly and jauntily pokes fun at the demographics of *Make* magazine readers and the kinds of projects that they are supposed to enjoy, proclaiming in characteristically *Make* sans serif fonts, "The Most Useless Machine! Page 94," "Open Source Secret Revealed: Everybody Just Buys the Kit!" "101 DIY Gadgets for White Males," "How to Use a MakerBot to Make a Three Cent Piece o' Plastic," and "Make this DARPA Rocket/3 Hours, Start to Launch!" In the lower left corner where *Make* magazine covers usually feature the name of O'Reilly Media, the company that publishes it and that created Maker Media, the sticker says "O'Really," expressing sarcastic doubt about the claim that

¹³¹ Garnet Hertz, "Made: Technology on Affluent Leisure Time," (sticker) in *Critical Making*, Garnet Hertz, ed.

the rocket will take three hours to build, directly above it. Frankly, this is the kind of doubt I experience every time I see an issue of *Make*, with its bold claims on how easy it is to CNC rout, 3D print, or purchase all the parts one could need for a project; the sticker hails me as a participant in and a critic of maker culture, making me laugh with its spot-on mimicry. The shift in title from “make” to “made” draws on *Make* magazine’s presumption of a wealthy, white, masculine reader with disposable income and time for technological hobby culture, punning on the vernacular phrase that someone “has it made,” as in, they never have to struggle because their wealth makes everything so easy. It is difficult to imagine a more hilarious or densely semiotic sendup than such a sticker, which manages to reference the most well-known maker movement tropes: the supposed simplicity of 3D printing, over-designed and relatively frivolous gadgetry, and the ease of buying a kit rather than doing the research to reverse engineer or replicate a project whose code or hardware specifications may be freely available online through open sourcing.

The *Critical Making* zine emerges from strands of thinking and practice that sometimes intersect with, and sometimes run counter to, the mainstream maker movement. Alongside and often enfolding other speculative design practices and paradigms, critical making could be thought of as an academic maker movement of its own, as it is being adopted by interdisciplinary juggernauts such as the digital humanities, which have begun to exercise substantial academic capital in universities in the past decade. The kinds of political, theoretical, and experimentally materialist approaches encompassed by critical making are crucial for thinking about how to do making in both formal and informal educational settings in ways that do not simply

make learners into good consumers of high-tech devices. Artist-theorist Natalie Jeremijenko has made this critique of teaching robotics through Lego, arguing that rather than exposing students to engineering fundamentals, Lego robotics leagues and Lego Mindstorm products “[turn] you into a Lego consumer.... It teaches you how to consume Lego.... There’s a way in which the maker movement or this kind of hands-on education or this emergence of thinking of things has been co-opted and taken by this larger corporate interest and...very conservative pedagogical agenda.”¹³² While I disagree slightly with her wholesale rejection of the usefulness of Lego as a teaching tool, and want to hold open a space for educational practices that can question and disassemble the very objects and materials with which we teach, her criticism of corporate influence in education is a serious one, especially when the discourse of a “Nation of Makers” has so explicitly conjoined the economic value of electronics manufacturing, the maker movement, and STEM (or STEAM) such that maker education is promoted as the cutting edge of pedagogical practice.

For example, Maker Media founded its nonprofit organization, the Maker Education Initiative, or Maker Ed, in 2012 as a response to former President Obama’s 2009 “Educate to Innovate” campaign,¹³³ which has raised over \$1 billion to support all levels of STEM education specifically targeting under-represented and low-income youth, African Americans, Latinos, and women and girls.¹³⁴ Maker Ed sums up their vision with the phrase “Every Child a Maker,” which dovetails on the

¹³² Natalie Jeremijenko and Garnet Hertz, “Engineering Anti-Techno-Fetishism” in *Conversations in Critical Making*, Garnet Hertz, ed. 29-30.

¹³³ MakerEd.org, “About Us: History,” <https://makered.org/about-us/history/> ND.

¹³⁴ “FACT SHEET: President Obama Announces Over \$240 Million in New STEM Commitments at the 2015 White House Science Fair.” The White House, Office of the Press Secretary. 23 March 2015. <https://obamawhitehouse.archives.gov/the-press-office/2015/03/23/fact-sheet-president-obama-announces-over-240-million-new-stem-commitmen> Accessed 7 January 2016.

“Nation of Makers” language: “We envision every young person having equitable access to engaging learning experiences that collectively develop their skills, knowledge, and ways of thinking, and that recognize and value their ability to experience and influence their world,” and makes it their mission to provide resources and support for educators “to create engaging, inclusive, and motivating learning experiences through maker-centered education...particularly those [educators] in underserved communities.”¹³⁵ The Maker Ed website repeatedly stresses their focus on “underserved communities,” without explicitly naming who or where they are, as well as their commitment to access, equity, inclusivity, diversity, and community empowerment. While at face value these are important and laudable goals, it is unclear exactly how they will be accomplished in practice; the operating assumption is that making practices are automatically empowering or inclusive by virtue of being DIY.

In fact, as Britton points out in her blog post “Power, Access, and Status: The Discourse of Race, Gender, and Class in the Maker Movement,” the rhetoric of “openness” and “inclusivity” that the maker movement promotes “tends to ignore social inequalities that impede access and participation, where privilege, oppression, and domination over some groups of people are not acknowledged.”¹³⁶ She writes, “Maker Media does have a number of initiatives working to make ‘Making’ more accessible; however, as a company, they drive these initiatives in a different way than a social movement would. The conflation of the two leads to a complicated situation with disagreement over the role a company, who claims to lead the ‘movement’,

¹³⁵ MakerEd.org, “About Us: Who We Are,” <https://makered.org/about-us/who-we-are/> ND.

¹³⁶ Britton, “Power, Access, and Status.”

should play in creating social change and how this is achieved.”¹³⁷ While Maker Ed claims to value educational access and equity, aiming to create a younger generation of makers in part to counter the maker movement’s reputation as being for wealthy and well-educated middle-aged men,¹³⁸ the underrepresentation of women and people of color in STEM fields more broadly is obviously a much larger systemic issue than any one organization can handle; there is no shortage of nonprofit, philanthropic, and academic organizations attempting to remedy this.

Britton critiques the popular national narrative that STEM fields are in crisis and that there are a shortage of people to fill STEM-related jobs, tracing the history of government funding for STEM education in order to show that such fields are discursively mobilized so that they appear to secure the economic future of the U.S. through technological innovation and specific forms of entrepreneurship.¹³⁹ As she demonstrates, one attempt to shift the discourse around STEM, which values scientific and technical thinking to the detriment of other forms of knowledge based in humanities disciplines, has been the addition of art to the acronym to make STEAM, a term originating in 2008 with John Maeda, who was then the president of the Rhode Island School of Design.¹⁴⁰ Ultimately, in this combination of art and science, creativity ceases to be a public good in itself, but becomes instrumental only insofar as it can contribute economic value. In such a formulation, art is value added

¹³⁷ Ibid.

¹³⁸ Maker Media’s surveys of *Make* magazine readership and attendees of Maker Faire in 2012 list the median household income as between \$106,000 and \$130,000, with over 80% of makers having graduated college. 81% of *Make* magazine readers are men, while 70% of Maker Faire attendees were men. The median age is in the mid 40s. See <http://makermedia.com/press/>.

¹³⁹ Lauren Britton, “STEM, DASTEM, and STEAM in Making: Debating America’s Economic Future in the 21st Century.” Technology and Social Change Group, University of Washington Information School. 3 September 2014. <http://tascha.uw.edu/2014/09/stem-dastem-and-steam-in-making-debating-america-economic-future-in-the-21st-century/> Accessed 2 January 2017.

¹⁴⁰ Ibid.

onto fields that are already overvalued, not a set of knowledges with specific methodologies and histories of their own. Unsurprisingly, Britton observes, “Using ‘making’ and the maker movement as a medium for STEM or STEAM education places value on certain types of making,”¹⁴¹ namely types of making that are highly technical, expensive, and masculinized in their orientations around particular products, devices, and forms of knowledge. Women, people of color, and, increasingly, queer and trans people are being actively recruited to STEM fields without the substantial structural changes that make it possible for them to thrive and succeed in such educational and professional environments. How can we explicitly value the gendered, racial, and culturally and ethnically specific kinds of knowledge and art that matter to them, such that these forms of cultural production become integral to everyone’s education? Maker cultures are one arena where this kind of reevaluation can be practiced, as the work of educator Nettrice Gaskins, discussed below, shows.

Race and class frequently take a back seat to gender in discussions of the maker movement and STEAM education, with these categories rarely, if ever, analyzed together. Gendered difference in maker cultures is almost always signaled through the coded language of craft, a prime example being the short-lived publication of *Craft* magazine through Maker Media, intended to appeal to women and children with an emphasis on fiber arts, home decor, and comparatively easy and inexpensive projects that were nevertheless based around the consumption of products like arts and crafts supplies. As Bean and Rosner and Britton separately note, *Craft* was canceled in 2009 only a few years after it was released, despite

¹⁴¹ Ibid.

assertions by Dougherty that “craft and crafters will continue to be an important part of the program for Maker Faire. We have always regarded crafters as we do makers, a creative vanguard who are remaking the world in ways that are especially vital today.”¹⁴² The upshot of this is that *Craft* was not as appealing to *Make*’s audience as the original publication, that the products sold by crafters at Maker Faire were more valuable than the kinds of knowledge that crafters exercise, and that ultimately, as Britton points out, “crafters” and “makers” are two separate groups. Leah Buechley, who developed the LilyPad Arduino, a sewable microcontroller based off the Arduino open-source hardware platform, has openly critiqued *Make* magazine’s lack of depictions of gender and racial diversity in their representations and coverage of makers. With the LilyPad Arduino, she aims to interest more women and girls in engineering and computer science through traditionally feminine crafts such as sewing, and has published and lectured extensively on how to teach with such tools so that they appeal to broader audiences of amateurs, including children.

Buechley’s approach has been critiqued, however, as embracing nostalgic and stereotypical understandings of femininity that emphasize that which is aesthetically pleasing, soft, and cuddly. For example, in her 2014 book, *Garments of Paradise: Wearable Discourse in the Digital Age*, Susan Elizabeth Ryan calls out the community websites for sharing projects using the LilyPad, arguing that they are “not overtly politicized” and exist to sell products.¹⁴³ She writes that of the textile-based projects featured on such sites, “only a percentage involve actual garments, while the rest verge on infantilizing their constituents with wired-up handbags or hats, or

¹⁴² Dougherty as quoted in Britton, “Power, Access, and Status.”

¹⁴³ Ryan, *Garments of Paradise*, 218.

stuffed animals to which functionality of some kind has been added.”¹⁴⁴ Moreover, Ryan does not seem to see the value in hacking clothes that already exist, implying that such practices don’t utilize design knowledge but instead create more consumers, writing that these are “simply schemes for wiring up industrially produced sportswear.”¹⁴⁵

While it is important to keep in mind both Ryan’s broader critiques of the consumerist milieu in which devices like the LilyPad Arduino are marketed and sold, and her observation that the immaterial labor of craft often goes ignored in the creation of these projects, it would be reductive to deny that projects that may be seen as stereotypically feminine *do* have appeal to people who may feel alienated from the masculinized fields of engineering and computer science. Ryan loses sight of how, in couching her innovation on the Arduino design in craft-based and feminine terms, Buechley makes a set of technological skills and knowledge newly approachable for people who otherwise never would have considered attempting such projects. It is imperative to balance criticism of capitalist consumption with the fact that there are multiple entry points into learning and making, and that these are shaped indelibly by gender, race, class, and sexuality as well as age and ability. Regardless of Ryan’s criticisms, an image of the LilyPad is still used on the hardcover copy of her book, demonstrating that it is impossible to discuss wearable technology and electronic textiles without grappling with Buechley’s contributions to these fields of practice.

One immensely useful and refreshing response to the relative paucity of nuanced conversations about race, class, and gender within the mainstream Maker

¹⁴⁴ Ryan, *Garments of Paradise*, 220.

¹⁴⁵ *Ibid.*

Movement is that of Nettrice Gaskins, a digital artist, avid blogger, and educator who directs the STEAM Lab at Boston Arts Academy. Her 2014 dissertation, “Techno-Vernacular Creativity, Innovation and Learning in Underrepresented Ethnic Communities of Practice,” uses the term techno-vernacular creativity to describe how learners in indigenous, African and Latino diasporic ethnic groups use strategies such as reappropriation, improvisation, and conceptual remixing in practices of artistic and technological production.¹⁴⁶ Gaskins draws attention to innovations whose widespread influence has historically been ignored or minimized because their creators are not wealthy white entrepreneurs, such as the design of lowrider hydraulics by Chicanos and the invention of the cross-fader out of junkyard parts by the renowned DJ Grandmaster Flash.¹⁴⁷ As she writes, “These inventions build upon, counter, or expand mainstream definitions of technology, through the practical application of knowledge, learning and the production of vernacular art and crafts from underrepresented ethnic communities.” It is this redefinition of technology, which is similarly engaged in the work of artists such as micha cárdenas, discussed below, that has the potential to transform maker movements and STEAM education in general. Gaskins “explores the vernacular/lingua franca associated with artists and practitioners who use every day, common or cultural artifacts as technology, broadly defined, to create innovations such as improvisational quilts, graffiti, music, dance, games and software.”¹⁴⁸ She developed her framework for engaging underrepresented learners through culturally situated design over the course of four workshops in 2013 and 2014 with middle school students and STEAM experts, one of which was

¹⁴⁶ Gaskins, “Techno-vernacular Creativity,” PhD diss., Georgia Institute of Technology (2014), 2-3.

¹⁴⁷ Gaskins, “Techno-vernacular Creativity,” 3-4.

¹⁴⁸ Gaskins, “Techno-vernacular Creativity,” 22.

sponsored by the National Science Foundation. Importantly, the framework of techno-vernacular creativity thinks about how learners exercise agency in technological and artistic domains, rather than assuming they are passive consumers of devices, products, or education. Gaskins has provided a unique and compelling model that builds on a long history of theorizing about everyday forms of oppositional creative cultural production in black arts movements and women of color feminisms, demonstrating that art and technology are not solely the property of STEAM narratives, but are tools for survival.

Finally, a small but growing literature about makerspaces and hackerspaces run by feminists, queers, and people of color draws attention to the politics of gender, race, class, and sexuality in contemporary maker cultures. This body of work provides insights into everyday forms of political praxis, demonstrating a range of approaches to making that are committed to or animated by social justice. Most relevant for my purposes is Sarah Fox, Rachel Rose Ulgado, and Daniela K. Rosner's "Feminist Hackerspaces: Hacking Culture, Not Devices," whose authors interviewed the organizers of feminist hackerspaces on the west coast of the United States. They argue that hacking is "a technological imaginary, a set of deeply held ideas and norms subject to failures and partial readings."¹⁴⁹ By not defining "hacking" purely in terms of dismantling and modifying technological devices, the authors and their participants show how it is embedded in the labor of craft as well as in the shaping of feminist

¹⁴⁹ Sarah Fox, Rachel Rose Ulgado, and Daniela K. Rosner, "Feminist Hackerspaces: Hacking Culture, *Not Devices*," Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work and Social Computing, 56–68. Vancouver, B. C., March 14–18, 2015. <http://dl.acm.org/citation.cfm?id=2675133.2675223> Accessed 30 July 2015, 1.

identities.¹⁵⁰ This is a welcome approach, with clear affinities with the methodology of critical making described above, in which “hacking practice becomes less about the resulting products...than the cultural shifts they engender.”¹⁵¹ Such a model of hacking, and making more broadly, is particularly useful for examining the values and assumptions built into the technologies we use as well as the cultures that produced them. Furthermore, a 2016 special issue of the online Journal of Peer Production, “Feminism and (Un)Hacking,” offers an in-depth survey of contemporary feminist engagements with hacking and making; other issues of the journal have similarly examined “Bio/Hardware Hacking” and “Shared Machine Shops,” both of which contain critical feminist genealogies for maker movements. Such genealogies are crucial for imagining and prototyping explicitly queer and trans feminist alternatives to the maker movement, as do the artists in the following chapters. Next, I return to a discussion of soft circuitry as a queer method of cultural production that draws on the aesthetics of maker culture while rethinking what the digital could mean.

Queering the Digital with Soft Circuitry

How does affective labor bring worlds into being? How do care and attention make things happen? These questions are not just about the kinds of material and emotional work that go into practices of cultural production such as those encompassed by fiber craft; they are also about cultivating queer ways of being in the world. Queer feminist craft praxis can illuminate the skills and forms of attention that

¹⁵⁰ Fox et al., “Feminist Hackerspaces,” 6-7.

¹⁵¹ Fox et al., “Feminist Hackerspaces,” 12.

might help us practice modes of relating to one another that do not replicate heteronormativity, reproductive futurity, and monogamous coupledness. Soft circuitry is one form of such praxis, a speculative materialist method that produces objects as well as ways of knowing in which thinking and feeling are necessarily conjoined. Experimental and artistic research methods like soft circuitry and, more broadly, critical making, combine craft, wearable digital media, and physical computing, opening up rich methodological avenues for queer feminist science and technology studies and digital humanities. As demonstrated in previous chapters, craft-based processes are useful for thinking about embodiment, temporality, and epistemology, drawing our attention to queerly gendered, historical, multimodal forms of knowledge. I extend this thinking through and with craft-centered modes of making in order to prototype methods for queer feminist speculative materialism.

As described above, soft circuits, sewn circuits, or electronic textiles (e-textiles for short) are circuits made from flexible materials such as conductive fabric and thread, and sewable components like switches, sensors, and programmable micro controllers. Soft circuits combine the power of electricity with the functional aesthetics of textiles, using conductive and non-conductive materials as well as everyday objects—beads, buckles, snaps, ephemera that may or may not be related to crafts—in the creation of garments and other bespoke items that blink, make noise, change color or temperature, and gather information from the surrounding environment, including the wearer or user. In the previous section, I discussed how e-textiles are frequently lauded as a way to get women, children, and other non-experts interested in computer programming and engineering through crafting activities with

which they are assumed to be already familiar—in other words, as a way to “diversify” maker movements. They are also being researched by athletics companies and the military, which seek to augment human beings with the ability to recharge batteries, transmit data, and maintain ideal body temperatures, making them more efficient competitors and killing machines. As I will show in the final chapters, the art, teaching, and activism of micha cárdenas, Hazel Meyer, and Cait McKinney directly challenge these rampantly profit-generating, militaristic applications of e-textiles and wearables, which further weaponize and surveil bodies, treating them as resources to be consumed and as tools for generating data in the rapid production of technologies and commodities that “innovation” and “disruption” entail.

The transdisciplinary work of these artist-theorists prompts the development of new methods and modes of description for emergent forms of creative praxis. The language of soft circuitry, borrowed and abstracted from the context of mainstream maker movements, suggests a useful vocabulary for the queer and trans projects of speculative feminist materialisms. Here, I use soft circuitry as both a *metaphor* for the work of the queer feminist craft praxis that I am still prototyping, as well as a *method* for making real objects. The phrase “soft circuitry” itself implies a deviation from the norm—in this case, the regular circuits we use every day, whose pathways are etched onto stiff circuit boards with soldered components, or whose wiring is hidden inside structures and things. “Soft circuitry” connotes femininity, fluff, frivolity: a queering of the masculinist values encoded in the “hard” sciences and black-boxed within our technological devices. It offers a place from which to critique these values as they circulate within mainstream maker cultures—a soft, pillowy, inviting space not unlike

one of Sheila Pepe or Allyson Mitchell's large-scale crochet installations or environments.

But soft circuitry as method also pushes us to go further than critique, asking us to craft something new—something that need not be useful, or even beautiful, to do real work, to *make something happen*. A deeply materialist, speculative, queer feminist craft praxis thus combines critique and creative production, enabling us to figure out how our worlds work as well as how they might be unmade and reassembled. As praxis for shaping queerer worlds, craft requires us to inhabit entanglements of sensual pleasure and cognitive confusion—of trusting our muscle memory while confronting our own inability to know for sure how a project will turn out. Craft, like queerness, habituates us in haptic, intuitive, embodied ways of knowing while also keeping us attuned to failure. Crafters and queers know that failure is a way of life and a lovemaking practice. Crafters and queers are practiced at failing—their social worlds, hardly recognizable as such, cohere around their unravelings: their amateur, sloppy ways of *making do* or *making it work* with whatever is at hand. Queer crafters are bricoleurs extraordinaire, building dwelling places and finding kin in the castoff trash of other people's worlds. In this way, queer craft is *social media*: it is attached to and circulates in social life, in the proliferative cultural meanings of our various identities and our differences. It is a strange, hybrid companion species for our worldings. Queer craft is always already digital—at our fingertips, in the palms of our hands, present in the busy and gentle work of our wrists and our fists.

Soft circuitry can help us reimagine and ethically act upon the conjoined histories of craft and digital technologies. Despite being pitted against one another in simplistic binary pairings of Low vs. High Tech, Feminine vs. Masculine, Pre-modern (or “Primitive”) vs. Modern/Postmodern, Material vs. Immaterial, Real vs. Virtual, fiber craft-based processes and digital ones have much in common, as many crafters who also use programming languages have pointed out. The Jacquard loom’s punch cards, for example, are one of the most storied early computing technologies, linking ancient fiber crafts such as weaving to the digital devices we use today. Christine Wertheim, whose collaborative *Crochet Coral Reef* was an example of the figuring work of craft in the first chapter, traces the history of the digital from the fingers or *digits*, to the emergence of classical numerals, to contemporary binary computation. In her essay, “Matter and Form,” she argues that there has been a “mental erasure about [the digital’s] roots in the human body. Enfolded within this transformation is both an amnesia and a wider story of conceptual blindness that continues to limit our understanding and appreciation of traditions generally seen as ‘feminine.’”¹⁵² This erasure of craft practices through their Western coding as feminine is what makes the high-tech version of “the digital” highly valued, even fetishized.

Wertheim goes on to show how “digital crafts” such as knitting, crochet, weaving, lacemaking, and others rely on iteration, algorithms, and written or visual code, elements usually associated with the high-tech but which compose the patterns that make up crafted objects: “by playing through the code, the crafter brings an

¹⁵² Wertheim 90.

object into being.”¹⁵³ Fiber crafts materially encode information in their media and structure— *they matter*, as in, they transform the materiality of information. How might what we *value* about craft and technology—what *matters*—change when we understand them to produce one another, rather than being diametrically opposed?

Wertheim’s essay counters the popular assumption that feminine handicrafts are mindless simply because they are repetitive or may be derived from instructions, that they are frivolous because their aesthetics might be categorized as “decorative,” a classification that has been used to dismiss women’s creativity as not serious, substantial, or conceptually rigorous. More importantly, her use of the phrase “digital technology” to describe crochet and other feminized fiber crafts leaves room for a rather queer reading of the digital, ironically defamiliarizing it by reminding us of its forgotten origins in the body, while asserting that technologies are multiple, dynamic, and cultural rather than only computational. Like Elizabeth Freeman’s use of the phrase “digital history” to describe lesbian readings of historical texts, Wertheim’s insistence on these terms is not mere associative punning or wordplay, but a speculative feminist reclamation and revaluation strategy. By drawing connections between crochet, biology, mathematics, physics, and computer science, Wertheim and her collaborators subvert the hierarchies of value that keep these domains separate.

Wertheim joins a number of theorists across disciplines and, indeed, across worlds in the project of queering technologies, whether that might mean queer uses of existing digital devices and systems, technological inventions created by and intended for queer communities, or the fundamental redefinition and destabilization of what is meant by the category “technology” itself. Elegantly synthesizing a body of work at

¹⁵³ Ibid.

the overlapping edges of digital humanities, media and cultural studies, and queer theory, critical race theorist Kara Keeling has proposed the idea of a queer operating system, or Queer OS, that has been taken up by a cohort of artist-theorists such as micha cárdenas and Zach Blas, whose “work points to ways of embracing *queer* and *gender* as technologies” just as scholars of new media, like Wendy Hui Kyong Chun, posit race as a social technology.¹⁵⁴ In Keeling’s formulation, the projects that might comprise a Queer OS understand “race, gender, class, citizenship, and ability...to be mutually constitutive with sexuality and with media and information technologies, thereby making it impossible to think any of them in isolation.”¹⁵⁵ Moreover, working through and against technologies of mediation, Queer OS “insists upon forging and facilitating uncommon, irrational, imaginative, and/or unpredictable relationships between and among what currently are perceptible as living beings and the environment in the interest of creating value(s) that facilitate just relations.”¹⁵⁶ These “irrational” and “imaginative” encounters between humans and objects that might not be living, but that are still full of agency, are precisely what soft circuitry helps us to *figure*—to bring into being through material transformations. If Queer OS is an assemblage of technologies that allows us to queerly organize and interface with material and social worlds, then I propose soft circuitry as part of the apparatus that powers it. These are nested metaphors that enable us to think about the methodological as well as real, material tools for creating queerer worlds.

¹⁵⁴ Keeling, Kara, “Queer OS,” *Cinema Journal* 53.2 (Winter 2014), 156.

¹⁵⁵ Keeling, “Queer OS,” 153.

¹⁵⁶ Keeling, “Queer OS,” 154.



Fig. 8: “#TransformDH,” cross stitch embroidery with LED for the 2015 #TransformDH conference at the University of Maryland. Photo credit Reed Bonnet.

As a method, soft circuitry revels in queer bodily pleasures and sensations, which are rarely predictable and need not occur only with other humans. These kinds of feelings extend to objects and materials of all kinds, and might take the form of queer ways of relating to ephemera, including collecting or scavenging by various means, arranging and rearranging items, and combining them in unexpected juxtapositions. Using affect to feel one’s way toward particular objects and materials opens up a haptic epistemology centered in touch and emotion, one that does not necessarily privilege conscious thought above compulsions, unexplainable and possibly perverse urges, or creative instincts that just *feel* right. Attending to such feelings also provokes questions about queer materiality and queer things. Under what conditions can an object be said to be queer? If we can queer objects, contextualizing them in ways that temporarily defamiliarize them or make them seem strange, can objects in turn queer us? Together, Jane Bennett’s conceptualization of vibrant matter, Scott Herring’s theorization of material deviance, and Mel Chen’s

rethinking of hierarchies of animacy help us reimagine the social lives of objects, viewing all things as lively, agential, and interconnected.¹⁵⁷ This body of work exposes human exceptionalism as a fiction and unpacks the ideological assumptions that make matter, *matter*. The purpose of such scholarship is not to value or idealize “things” over or at the expense of human life, but rather to examine how normative systems for organizing “life” and “non life” undergird the kinds of matter that is worthy of notice or care, and how such attention and care are unevenly distributed amongst different kinds of people, nonhuman animals, and things. I contribute to this strand of queer materialism by thinking speculatively about how technologically mediated objects and people might queerly encounter one another through the erotics of craft praxis, using the methods of soft circuitry to transform material and social realities.

Each of the projects described at various points in this dissertation posits the queering of digital technologies in related but slightly different ways. “I Don’t Know You/Anna Mae” used a simple circuit consisting of a felt switch, two coin cell batteries, and a sewable vibrating motor to animate our interaction with found textiles and embroidery, relying on the “digital” touch of the fingers and the closeness of bodily hugs to figure new modes of response to craft’s pastpresents. The sewable components designed by Leah Buechley, while popularized by maker movement marketing that relies on the educational power of these tools to sell electronics, work in combination with older digital technologies like sewing and knitting to enable a queer intimacy across time and space. “Making Queer Love: A Kit of Odds and

¹⁵⁷ See Bennett, *Vibrant Matter: A Political Ecology of Things* (2010); Herring, *The Hoarders: Material Deviance in Modern American Culture* (2014); and Chen, *Animacies: Biopolitics, Racial Mattering, and Queer Affect* (2012).

Ends,” the project I describe next, delves more deeply into the queer intimacies of fiber craft by exploring the erotic potentials of used materials, using the leftover affects accumulated by discarded sewing ephemera to craft affiliations based on affection, solidarity, and love. Rather than assume “love” is a universal or transhistorical concept whose meaning is given, “A Kit of Odds and Ends” starts from the premise that our connections are constructed from the imperfect materials at hand—that love must be actively *made* with careful gestures in order to queer it for political purposes.

Although “A Kit of Odds and Ends” does not include any of the electronic components typically associated with e-textiles, it provides some of the materials for the creation of a metaphorical soft circuit in the form of the public circulation of craft knowledge, artwork, and everyday objects. Soft circuitry provokes curiosity and attention in a way that our seamless, black-boxed technological devices often shut down or close off. “Golden Showers,” the final project I describe, tries to ask, “How does that work?” about a curiously perverse set of acts using cross-stitch, a popular queer feminist medium for exploring sexuality and humor. The proliferation of provocative queer feminist cross-stitch on platforms such as Etsy and Pinterest demonstrates the boundless versatility of embroidery when it comes to depictions of bodies, sexual practices, and queer and trans cultures and aesthetic politics. With electronic textiles, these craft techniques can be “turn-ons” in literal and figurative ways. They allow the user to light up their projects, making them vibrate, buzz, or change color and temperature, but they also “turn on” viewers and makers in ways that are erotic and, sometimes, sexual. Taken together, these projects demonstrate soft

circuitry's speculative methodological potential to not only queer the digital, but also to rethink the agential power of objects and materials in queer feminist cultural production.

By including a selection of projects to accompany more traditional chapters, it is my hope that this dissertation functions as a portfolio of multimodal work that is less about the end products of artistic practice than about the process of crafting itself. Portfolios and similar forms of documentation and display, long a staple of evaluation in the arts, are increasingly becoming the norm for assessment in the shift toward maker education. In August of 2013, for example, MIT added a “maker portfolio” supplement to their applications process, allowing applicants to use photography and video to document an extracurricular project that highlights their technical skills. The White House Office of Science and Technology Policy has recommended the MIT maker portfolio as a standard for college admissions, although data is already emerging around the relative paucity of women who submit a maker portfolio.¹⁵⁸ Similarly, the Maker Education Initiative and the Open Portfolio Project have hosted multiple workshops on how to create, facilitate, and evaluate student portfolios, establishing expectations for educators around the formatting, size, acceptable contents, and quality of portfolios of making. These kinds of documentation purportedly allow students and makers in general to showcase skills that may not be adequately accounted for in standardized tests, letters of recommendation, or other written materials. While such skills are important to value pedagogically, asking students to produce cookie-cutter portfolios does little to unsettle aesthetic hierarchies

¹⁵⁸ Chris Peterson and Hal Ableson, “Gender Imbalance in MIT Admissions Maker Portfolios,” *MIT Faculty Newsletter* 28.2 (November/December 2015). http://web.mit.edu/fnl/volume/282/peterson_abelson.html Accessed 9 December 2016.

based in vague elitist notions of “rigor” and “excellence,” or to significantly expand the groups of people recognizable as “makers.” I have therefore investigated, through practice, forms of DIY documentation and exegesis that might be useful for curating a humanities maker portfolio in general, and more specifically, to the proliferation of projects that explicitly perform queer feminist values and aesthetics.

Soft circuitry is a material pathway for rerouting, hacking, or bending existing social connections,¹⁵⁹ offering yet another way to make meaning out of the flows of power and resistance that etch the contours of our lives. The use of electronic components such as LEDs, buzzers, and switches with commonplace fiber craft materials offers ways of lighting up, feeling, and turning on modes of consciousness that might otherwise remain inaccessible to us. Soft circuitry could teach us to stitch new worlds, repair the social fabric that we compose, and troubleshoot what isn’t working as we repeatedly bump up against the ongoing failures of political systems and ideologies to be what we need. Through queer craft praxis we might become attached to each other and to the fraught histories that are our conditions of possibility. Queer and trans feminist maker cultures are still in the making, and they are ours to craft.

¹⁵⁹ Circuit bending is the practice of modifying or altering the paths of circuitry in relatively simple electronic devices such as musical children’s toys to create new sounds or unintended effects. Involving soldering, reverse engineering, and material exploration and experimentation, it is a form of hacking that has a relatively low skill threshold and is therefore becoming a popular form of maker education.

Making Queer Love: A Kit of Odds and Ends

In autumn of 2014, I was preparing for the American Studies Association conference in Los Angeles. The theme, “The Fun and the Fury: New Dialectics of Pleasure and Pain in the Post-American Century,” encapsulated both the heady pleasures of scholarly performances of critical theory and the world-building capacities of its often painful negativity. A cohort of queer and trans utopians, anti-racist feminist killjoys, and transformative digital humanists would be my companions and co-presenters over three jet-lagged days in which overlapping disciplinary communities attempted publicly to make sense of the untimely deaths of José Muñoz and Stuart Hall, while unsuccessfully dividing their attentions between the dramatic participation of queer feminist porn stars in the conference and the lingering controversy over the ASA’s boycott of Israeli academic institutions. More than six months prior to the conference, I had begun co-organizing a panel with my colleague, friend, and fellow zinester, Jenna Brager, who invited two emerging artists and friends of hers, the multimedia performance artist dee wndsm and photographer Elle Pérez, to join us in the creation of an ephemeral, experimental archive of queer and trans feminist cultural production. In virtual, distributed fashion, we collectively crafted an exhibit of our respective creative processes, coming together at the conference to discuss the fun and the frustration of our own particular combinations of artistic praxis and theory.

For my part of the presentation, I created “Turn-On: A Prototypical Queer Theory Apparatus,” a shadowbox whose hand-knit buttons and cables, when activated

by the viewer, lit up colorful LEDs in different patterns that were controlled by a preprogrammed LilyTiny Arduino microprocessor. Since dismantled and scrapped for parts, “Turn-On” resulted from my curiosity about the possibilities of queering what I saw as the industrial prototyping and fabrication process. My modest goal was to self-reflectively engage design practices in a hands-on way, making something that technically worked while testing the claims, encountered again and again in my research, that the maker movement had low barriers to entry, that anyone could learn how to do physical computing, and that learning through “making” was more fun than the activities associated with traditional education. Using research funds, I ordered a LilyPad Design Kit online, which cost about \$75 and contained large embroidery needles, three spools of conductive thread, a sheet of conductive fabric, several strips of sewable LEDs, battery holders with on/off switches for coin cell batteries (Fig. 9), and the sewable LilyTiny: the coin-sized microcontroller programmed to make LEDs blink in random, heartbeat, and fading patterns (Fig. 10).



Fig. 9: Sewable coin cell battery holders for the LilyPad Arduino platform, attached to crocheted acrylic doilies from the Value Village thrift store. The doilies rest upon hand-knitted reverse stockinette fabric created by the author as part of “Turn-On: A Prototypical Queer Theory Apparatus.”



Fig. 10: The LilyTiny microcontroller on a swatch of hand-knitted stockinette fabric created by the author. Each of the sewable terminals make LEDs blink in designated patterns when attached via conductive thread.

All of these components came in a sleek purple cardboard case, lightly embossed with the LilyPad brand's looping, effeminate script and floral design, which closed with a magnet for easy transportation. Such kits are, of course, designed to make the user feel that they have everything they need to get started on a project even if they have no previous experience with the necessary skills, a marketing ideology into which I knowingly bought. I decided to play to my strengths and teach myself circuitry through sewing. Within a couple short weeks, using scrap fabric, I worked through each of the online tutorials associated with the kit, reading between the lines for everything they weren't explicitly telling me. The step-by-step tutorial photos often featured the hands of light-skinned women with immaculately groomed and polished fingernails, the slender fingers sometimes adorned with engagement rings that, though relatively understated, still seemed glaring to me, laden with assumptions about the race, class, gender, and sexuality of the intended users of the pictured products. Through the tutorials and deeper reading I relearned my high school-level understanding of circuits, and began doing my own tests of the power necessary to illuminate multiple colored LEDs.¹⁶⁰ From my experience making this "prototypical queer theory apparatus" emerged a project that was only slightly more substantive but no less speculative: the online publication and secondhand craft kit, "Making Queer Love: A Kit of Odds and Ends." The first part of this chapter is the story of how a collection of ephemeral and insignificant nothings can amount to something approximating a world.

¹⁶⁰ Different colors of LEDs require different amounts of voltage to illuminate them to the desired brightness. White and blue LEDs, for example, require much more power than red and yellow LEDs.

In the months before “The Fun and the Fury” I obsessively made drawings of the many half-formed ideas that seemed to have been released by the nearly simultaneous completion of my dissertation proposal in the spring and my participation in the first makerspace hosted by the Cultural Studies Association. Between the critical adoption of the maker movement by practitioners of digital humanities in higher education, and the loud and excited rejoinders by academic feminists that not only had our work always been creative but also that it had been digital before the digital was cool, it was as though I had suddenly been granted permission to *make things* and not just write. Of course, I had been making things all along: the still unfinished sleeveless purple vest I tried to knit over winter break my first year of graduate school, a chunky cotton bath mat I made for my housemate, the small black-and-white zines that I furiously collaged on the floors of rented rooms, and which, somehow, I could not accept as my true medium despite how immediately and genuinely friends seemed to enjoy them. Such projects were churned out over holidays and in the spring and summer, when I realized that months of all-consuming reading and writing had left me mentally and creatively exhausted as well as neglectful of gifts for friends and family. I would spend hours cutting up old books and pasting their images onto zine pages until my legs were asleep under me, or knit until my body physically ached from the repetitive movements. Once done attending graduate seminars, I finally allowed myself to succumb to these intuitive processes for most of a semester, using conferences and publication deadlines to organize my work.

I filled a free sketchbook and then used a small amount of research money to support my lifelong habit of aimlessly wandering the thrift store, searching for cheap materials to build my prototype for ASA. Within a mile of my house, and the origin of almost all of its mismatched furnishings, was an outpost of the Value Village franchise in Adelphi, Maryland. To the northeast of Washington, D.C., this Value Village was sandwiched between the largely white suburbs of Takoma Park in Montgomery County, and the predominantly black and Latino neighborhoods of Prince George's County. Just down University Boulevard from the sprawling College Park campus of the University of Maryland, the store offered a small and unpredictable microcosm of interclass, interracial, and intergenerational contact. This was the closest store of its kind near me, and the frequent turnover of its inventory meant that some trips yielded incredible finds and others, nothing.

The "arts and crafts" section, a small area against one wall, was clearly one of many repositories for items that did not fit in any other category of household goods, and was thus rich with potential. Inspired by the art practice of my colleague and friend Jarah Moesch, who had been working on a project about Barbie dolls in which she took pictures of the partially clothed and sometimes dismembered secondhand Barbies in their thrift store packaging, I began using my cell phone's camera to document the items in the poorly organized sections at Value Village (Fig. 11). I was inexplicably saddened by the idea that one day these materials would be separated from the random companions sharing the clear plastic bags into which they had been haphazardly sorted by the no doubt underpaid Value Village employees. I began taking pictures of the things I purchased once I got them home, price tags still visible

so I wouldn't have to save receipts. Eventually someone would use up this stuff, and though I was not used to photographing my process, it was the only way to hold onto it all. The deteriorating hardwood floor in my office and the floral Ikea comforter left behind by a former roommate often formed the backdrop for these images; pretty much any space in my rented domicile doubled as a studio.



Fig. 11: The “arts and crafts” section of Value Village, Adelphi, Maryland.

After returning from ASA, I saw a call for papers for a special issue on “Kits, Plans, Schematics” from *Hyperrhiz*, the online journal for electronic literature that branched off from its parent publication, *Rhizomes: Cultural Studies in Emerging Knowledge*. *Hyperrhiz* was seeking projects that embodied the ethos of the maker movement as it manifested in academia, deploying what the editors called “kits for executable culture”: the provision of materials and instructions for DIY interventions

in cultural production that bridged digital and non-digital media. Having recently purchased new kits for physical computing while disassembling a number of thrifted craft kits to use for supplies, the creation of my own kit seemed to make sense. I proposed “Making Queer Love: A Kit of Odds and Ends,” a project that I hoped could sensitize the maker to the embodied, affective labor of queer crafting while also attuning them to the emotional space of the thrift store—the seductive and overwhelming nature of its material excess, the accumulation of life in the mysterious objects housed there. Such a project would publicly honor the fiber and textile artists who use craft’s materials and methodologies to document queer and trans feminist social worlds past and present, using the ephemera of material culture to encode queer lives and aesthetics. Not surprisingly, the editors wanted me to clarify what, specifically, was queer about this project—how did it contribute to queer feminist activism? Explaining “queer” was an imperative that I desperately wanted to resist, as my work was not necessarily legible within the framework of “LGBT,” nor did I want it to be. At the same time, the implication that the project was not obviously “activist” required me to justify why it should exist at all.

The work of the Public Feelings Collective as described by Lauren Berlant, Ann Cvetkovich, and Kathleen Stewart, among others, provides useful models for understanding how the collective material and affective practices of fiber craft make queer worlds.¹⁶¹ “Making Queer Love” is a public feelings project in that it creates

¹⁶¹ The Public Feelings collective is a multi-institutional humanities “feel tank” or working group that reconceptualizes notions of agency in response to what they call political depression. Through feeling, the group reworks the dualisms “public/private” and “political/personal,” which have long been generative sites of contention in feminist and queer theories. The collective’s projects show not only that feelings are already “public” in the sense of being distributed amongst shared social worlds, but also that the making public of feelings like depression can be a political exercise in itself. The Public Feelings collective uses politicized feelings as the foundation for queer counterpublic spaces that

shared spaces in which to express love, care, admiration, and affection for the work of queer and trans feminist crafters. In doing so, it demonstrates that the embodied labor of crafting is not merely decorative, but constitutes the slow and necessary work of bringing habitable worlds into being for those whose lives and loves are not recognized as beautiful or important. “Making Queer Love” attempts to craft what Cvetkovich calls a “utopia of ordinary habit”:¹⁶² a set of practices and “modes of attention” that remain hopeful about the possibility of new worlds even as they exist within spaces of negativity and failure.¹⁶³ Cvetkovich argues that everyday domestic activities such as crafting, when intentionally practiced, “can remake the affective cultures of nuclear family life, consumerism, mass media, and neoliberal culture” while acknowledging the realities of political exhaustion.¹⁶⁴ As a publicly circulating project for the construction of social worlds based in friendship, solidarity, and unusual intimacies, the kit and its accompanying materials argue that making queer love is itself a craft that we might learn to habitually practice. Completing one of the sampler patterns, or putting together one’s own kit of odds and ends to give to someone else, is a public gesture of lovemaking to queer feminist crafters.

My title, “Making Queer Love,” evokes not only forms of queer lovemaking or making love queerly, but also iterative acts of making love queer. “Love,” like most things deeply embedded in capitalist life, cannot be queered once and for all. Queering love will never be a finished project because it requires us to return again and again to the ways that hetero-romance, the monogamous married couple form,

bridge theory and practice in creative ways, making room for feelings that many would consider useless for political engagement.

¹⁶² Cvetkovich, *Depression*, 191.

¹⁶³ Cvetkovich, *Depression*, 189.

¹⁶⁴ Cvetkovich, *Depression*, 193.

and reproductive futurity attempt to capture and contain love's excessive meanings. Not giving up on the political necessity of love requires us to pay attention to the ways that heteronormativity (re)produces some kinds of love as deviant, pathological, or freakish. Like queer lovers, crafters are also quite accustomed to the repetitive "again and again" of acts of making; "not giving up" is a familiar practice for them. If the half dozen or more unfinished craft projects hidden in my closets are any indicator, crafters know how failure feels: perpetual reminders of the inevitability of making mistakes despite knowing how to do something, being "stuck" or unable to keep going, nagging guilt, frustration, disappointment. Not unlike queer feminist scholars and activists, crafters are sometimes forced to accept the fact that not all projects can or will ever be complete, at least not on our terms alone.

Craft practices—the practice of continuing to care about a project and the practice of failure, in addition to the practice of specific techniques such as embroidery—are therefore a set of approaches for sticking with the ongoing and conjoined projects of queer lovemaking and making love queer. "A Kit of Odds and Ends" provides a series of sampler designs for experimenting with lovemaking as a practice for putting together queer feminist worlds with the understanding that though this is always already an overambitious project, it is nevertheless worth undertaking. I use lovemaking to refer to a whole set of intimate practices that include affective orientations, sensory relations, and material ways of connecting with others that, when combined and repeated, can amount to a project: a way of making something happen, even if that "something" cannot be fully known ahead of time.

Thinking about lovemaking as a project, in much the same way that the execution of a craft kit is a project, draws attention to making love as a kind of labor that requires the investment of energy, time, and material resources. The project of lovemaking, like any craft project, also demands a persistent encounter with failure. To conceptualize lovemaking as a materialist project haunted by failure is to try to pry “love” from the grip of heteronormative romantic life, while also acknowledging that the concept’s meanings are fraught with and animated by capital.

I make love to queer feminist crafters, many of whom I have never met, by including a love letter in the kit’s instructions. These take the shape of a short zine with patterns for creating a sampler of queer words and phrases, words that historically have produced intense feeling, ambivalence, and conflict, like the word “queer” itself. The letter, addressed collectively to queer feminist crafters of all kinds, professes my admiration for these individuals’ skills with various fiber craft techniques, and shows my indebtedness to them as a self-taught amateur crafter and queer feminist. A declaration of love posted on the *Hyperrhiz* site, the letter is a way of making public my feelings, as well as a public making of a capacious world that can loosely hold together a collection of people, objects, and ideas. By citing both queer theoretical texts as well as some of these artists’ own writing about their work, the love letter is a manifesto for the project of queering craft and an act of knowledge production that constructs a patchwork speculative feminist genealogy. It argues that making love to pieced-together histories of queer feminist craft—caring for them in the face of erasure and continuing to honor them through everyday use—is a necessary political project that can make livable worlds possible. Conceptualizing

craft as a deeply materialist, bricoleur praxis that is as theoretical as it is functional and aesthetic, “Making Queer Love” revels in the rich materiality of queer cultural production, which, as José Muñoz points out, is so often ephemeral.¹⁶⁵ The letter explains the project’s basis in inhabiting ways of knowing that rely on feeling, sensation, and touch, modes of connection that can result in sometimes strange or surprising relationships with craft objects and materials as we participate in the making of social worlds.

I continued scavenging and hoarding craft materials, obsessively documenting my thrift store experiences in photos and journal entries. Over approximately six trips to Value Village in a six-month period, I had accumulated a variety of fiber crafting supplies, including yarn (as though I needed more) and just about everything I needed to teach myself cross-stitch embroidery, a technique that everyone claimed was easy to do. It was apparently so easy, in fact, that anytime a fellow creative person accompanied me to hipster versions of craft fairs they would often refuse to buy cross-stitched pieces because it would be simple to make them. This is how the truth of Lippard’s argument that there is a hierarchy among crafts became apparent to me. Wooden embroidery hoops in many sizes were perhaps the cheapest and most abundant items, available at around 99 cents each or less (Fig. 12); printed fabric quarters for quilting were also easy to find bundled into transparent plastic bags, but fresh Aida cloth, which is specifically designed for cross-stitch, was the hardest to

¹⁶⁵ In his essay “Ephemera as Evidence,” Muñoz describes ephemera as a kind of “anti-evidence” that “reformulates and expands our understandings of materiality. Ephemera...is linked to alternate modes of textuality and narrativity like memory and performance.... It does not rest on epistemological foundations but is instead interested in following traces, glimmers, residues, and specks of things. It is important to note that ephemera is a mode of proofing and producing arguments often worked by minoritarian culture and criticism makers” (10).

come by, found in unopened or unfinished donated cross-stitch kits. Acquiring or “inheriting” a cache of materials through the thrift store or an exchange with another crafter can make possible new realms of previously unimaginable projects. For instance, I stumbled upon a large tub full of meticulously organized cards of embroidery floss as well as decorative wire flowers, lace trim, and ribbon, which provided most of the floss for the kit (Fig. 13). I also had access to a beat-up Ziploc bag of tangled floss skeins that my domestic partner had been given by someone else long ago (Fig. 14).



Fig. 12: Wooden embroidery hoops, assorted sizes.



Fig. 13: A drawer of cotton embroidery floss in assorted colors and weights, from a bigger container of craft materials.



Fig. 14: Six strand cotton embroidery floss, assorted colors (left), courtesy of Reed Bonnet. Zippers, thread, and other odds and ends from Value Village (right).

The complicated apparatus of domestic organization and crafts storage designed to keep collections of yarn, thread, fabric, and floss clean and sorted, haunts the sites of secondhand consumption in the form of bulky plastic bins and colorful

cases divided into compartments of almost uselessly specific sizes. Literary and cultural theorist Scott Herring describes this growing industry of home organization and “decluttering” in the context of popular anxieties around hoarding,¹⁶⁶ an aspect of everyday life that intersects with cultures of fiber craft as they play out in domestic spaces. The afterlives of people’s chronic crafting obsessions, and their fears around having too much stuff (or too many projects), go on display on thrift store shelves when crafters decide these storage systems contribute to clutter rather than contain it. When a crafter donates a big chunk of their stash to Value Village, a Tupperware with an unpredictable assortment of gently used stuff can act as a “kit of odds and ends” for an amateur or autodidact scrounging for something with which to experiment. These are time capsules, and they often preserve the original packaging and branding of crafting products that offer up tantalizing material for queer feminist interpretation. Wrights’ “Flexi-Lace Seam Binding” in bright red, with a motif of feminine rosettes, claims to be “like pretty underwear. Stretchable. Colorfast” (Fig. 15). The mixed fonts on the packaging combine the sleek modern aesthetics of innovations in textiles technologies such as elastic fabrics and colorfast dyeing, with the femininity, the romance, and the sex appeal of lace. Such branding is designed to turn on the crafter—presumably a housewife making her own underthings for her husband’s pleasure and not her own—but not too much, immediately recapturing the erotic potential of the product in the safe pragmatism of doing the laundry without ruining one’s clothes, a mundane task for which the housewife is also responsible. Similarly, the iconography on the packaging of “Boutique Design-trims” gold sequins by the

¹⁶⁶ *Scott Herring, The Hoarders: Material Deviance in Modern American Culture (Chicago: University of Chicago Press, 2014), 88.*

yard (Fig. 16) merges domestic fiber craft in the figure of the house in the logo, with the cutting edge of creative empowerment: “be your own designer.” In this case we can assume the DIY designer is making their sequined garments in the home and then showing off these fabulous “boutique”-worthy creations elsewhere, perhaps on stage. Today, these unopened packages of beads, sequins, and other trims from the 1960s and 70s sell on Etsy as “vintage” craft supplies, often to the contemporary housewife who also blogs, works, and has children (or not). But I like to imagine dykes giggling about the double entendre of “trim” in the craft section of the thrift store, broke drag queens picking out sequins for their glittering performances.



Fig. 15: Unopened packages of seam binding and ricrac trim from Value Village.



Fig. 16: Gold sequins by the yard.

Secondhand kits in the form of crafters' old storage containers can yield any number of surprises. Thrift store items, especially fiber craft materials, carry remnants of their previous owners. Yarn and fabric tend to be susceptible to fading or staining; they easily take on the smells of their environs, and may have wear and tear from being incorporated into projects that take a long time to finish, traveling with the crafter between public and private spaces. Yarn that has been knitted or crocheted into project that was unraveled later will take on the shape of the stitches in a semi-permanent way, accumulating strands of hair (human and otherwise), the scent of smoke, moisture and mold, or particles of dust and detritus. Like the pillows I described in the first chapter, discarded craft projects are impure and mobile objects, displaying evidence of having been loved, ignored, repaired, stressed over, and torn apart. Handmade textiles frequently bear invisible traces of saliva, because their

makers may occasionally lick the end of thread to get it through the eye of the needle, and dried bloodstains from sewing-related injuries, which spit can also help remove. The imperfections in the materials found at the thrift store call attention to the fact that all objects have social lives spanning their production, use, and disposal, as anthropologists and material culture scholars have long pointed out.¹⁶⁷ These forgotten and inaccessible lives get “upcycled” with the materials themselves, becoming part of a new project.

Many of the crafters to whom I dedicate the project, such as Allyson Mitchell, Aubrey Longley-Cook, and John Paradiso, are bricoleurs, plundering thrift stores as part of their artistic praxis. Cvetkovich writes of Mitchell, for example, “Collecting lost objects that others left behind to be thrown away or sold for cheap, and collecting in massive quantities that reveal consumption’s popular trends, she creates new worlds out of discarded ones.”¹⁶⁸ In an interview, Mitchell describes the origin of her maximalist aesthetic in a trip to the thrift store, searching for treasure with a queer friend.¹⁶⁹ Sheila Pepe similarly describes her craft practice as one of constructing handmade abstract assemblages that were “hybrids of objects and ephemera” like rubber bands knitted together by hand, mixed media “things” to which she refers as

¹⁶⁷ See, for example, Arjun Appadurai’s edited collection *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1986), especially Igor Kopytoff’s “The Cultural Biography of Things: Commoditization as Process”; Robin Bernstein’s “Dances with Things: Material Culture and the Performance of Race,” *Social Text* 27.4 (2009) 101: 67-94; and, most recently, Scott Herring’s *The Hoarders: Material Deviance in Modern American Culture* (Chicago, IL: University of Chicago Press, 2014), which usefully posits “material deviance” as a queer relationship to objects that the medicalization and pathologizing of hoarding disorder seeks to contain in ways that are racialized, gendered, classed, and ableist.

¹⁶⁸ Cvetkovich, *Depression*, 185.

¹⁶⁹ Chelsey Lichtman, “Deeply Lez: Allyson Mitchell,” *Trade* 5 (Winter 2004): 21-23.

her “family.”¹⁷⁰ micha cárdenas suggests wearing gloves for digging around in junkyards in search of potentially life-saving material, describing her experience with a junkyard attendant who was unsure how to price unconventional salvaged parts like airbags.¹⁷¹ Josh Faught reconstructs queer worlds by putting collections of well loved crafting how-to books on display alongside pins with cheeky phrases, get well cards, and woven recreations of PFLAG newsletters.¹⁷² By engaging in and promulgating these crafters’ practice, one with which I am intimately familiar as a crafter from a working-class family who often had to “make do” with what was available, “Making Queer Love” attempts to think about how queer and trans people make art out of experiences of ephemerality, turning that which is labeled “junk” by normative aesthetic sensibilities into ways of building social worlds. As the theorists and art historians discussed in the first two chapters point out, these crafters use ephemeral everyday objects to rethink and reclaim the marginality of “low,” domestic feminine crafts such as knitting, crochet, quilting, sewing, and embroidery. They queer craft by exposing how its hidden, painstaking labor mediates social relationships as well as collective ways of feeling and knowing. This is labor that is feminized and devalued and, as cárdenas points out, does not only operate in domestic spaces or the artist’s studio, but is also consigned to women of color who are daily exploited in global

¹⁷⁰ Sheila Pepe, “The Margin You Feel May Not Be Real.” *The Brooklyn Rail*. 2 April 2014. <http://www.brooklynrail.org/2014/04/criticspage/the-margin-you-feel-may-not-be-real> Accessed 3 April 2014.

¹⁷¹ micha cárdenas, “Material Experiment #2: Kevlar Air Bags,” <https://faculty.washington.edu/michamc/wordpress-unstoppable/2015/11/29/material-experiment-2-kevlar-air-bags/> Accessed 15 February 2017.

¹⁷² Auther, “He is survived.”

sweatshops.¹⁷³ The labor of craft indeed forms the material of our everyday lives, whether or not we practice it ourselves.

By sourcing materials for the kit from Value Village, I dwelt in the affective spaces of a bricoleur craft practice, an experience I sought to recreate, however imperfectly, for queer crafters by providing them with a kit of strange bits and pieces to which I was attracted: “odds and ends.” This is a materials-based process that demands attention to how it *feels* to be in the thrift store as a specific embodied subject. Through queer feminist bricolage, the gestures of craft connect the affective, the material, and the social. Such a practice can queer or make strange familiar things, pushing craft to its limits while opening up the material world to play, messiness, deconstruction, and reassembly. It invites us to be guided by feelings that do not always make rational sense to us in the moment: interest, fascination, curiosity, excitement, surprise, pleasure, affection, disgust, repulsion. Thrift stores, like garage sales, flea markets, clearance bins, and junkyards, are ideal sites for thinking about how such feelings move us toward or away from certain objects, locations, and people. Any place for the collection and resale of discarded stuff is marked by an intensity of feeling that is not always or only “fun,” but bound up in loss, regret, shame, guilt, anxiety, and nostalgia. These feelings can be erotic in how they attach us to worlds we cannot fully know.

In thinking about craft as a set of erotic practices, I work from Audre Lorde’s reclaiming of the erotic as “a source of power and information,” “an internal sense of

¹⁷³ micha cárdenas, “Trans of Color Poetics: Stitching Bodies, Concepts, and Algorithms,” *Scholar & Feminist Online* 13.3-14.1 (2016): Traversing Technologies, 1.

satisfaction to which, once we have experienced it, we know we can aspire.”¹⁷⁴ Lorde challenges the reduction of erotic power to the purely sexual or pornographic, describing it as “our most profoundly creative source” that, if recognized and explored, “can give us the energy to pursue genuine change within our world.”¹⁷⁵ Tapping into the erotic’s creative potential involves “sharing deep feeling” in ways that facilitate working together across difference, connecting embodied feelings to self-knowledge and to the experience of social life.¹⁷⁶ In Lorde’s figuration, the erotic can be experienced in dancing, writing a poem, or painting a fence as well as in intimacy shared between women. I argue that craft, whether practiced, admired, or given in the form of a gift, is also one such erotic source, enabling the remediation of feeling into texture, color, and material form.¹⁷⁷ “Making Queer Love” requires the participant to pay attention to the kinds of erotic feelings that craft practices cultivate in the making of gifts for queer and trans feminists with “A Kit of Odds and Ends.” The kit grapples with crafting as a queer and trans feminist activity by using erotic energy to recalibrate feeling through craft’s sensory practices, offering ways of thinking about how creative labor is embodied and performed. Practicing craft can release or channel creative energies that actually reshape the materiality of our

¹⁷⁴ Audre Lorde, “Uses of the Erotic,” 54.

¹⁷⁵ Lorde, “Uses of the Erotic,” 59.

¹⁷⁶ Lorde, “Uses of the Erotic,” 58.

¹⁷⁷ Continuing to redefine what the erotic might mean remains a collective creative and political project. What counts as erotic practice, and how such practices relate (or don’t relate) to political activity, are contested questions in feminist and queer studies; drawing lines around “erotics” and “politics” delimits what it is possible to accomplish with queer feminist theoretical frameworks. Most recently, Sharon Patricia Holland has usefully problematized the use of Lorde’s erotic in feminist, queer, and critical race theories. Her book, *The Erotic Life of Racism* (2012), asks, “What would happen if we opened up the erotic to a scene of racist hailing?” (3). In positing erotic practice as a site of quotidian enactments of gendered and racialized desire, her work reaffirms the erotic as a fraught social space, one from which we might craft ethical relations.

worlds, mediating our relationships with one another in the form of gifts and art objects.

What kinds of queer possibilities might emerge from becoming open to the erotics of crafting? How might crafting, as a practice of cultural production, also produce modes of knowing or relating to the self and others? The material labor of working through “A Kit of Odds and Ends”—learning to cross-stitch; manipulating embroidery hoop, needle, and floss; reading a pattern; adding materials to the kit and sending it to another crafter—is simultaneously the affective labor of persistence, concentration, distraction, frustration, curiosity, pleasure, love, care, anxiety, confidence, and habit. The kit directs the work of these ordinary affects, as Kathleen Stewart calls them,¹⁷⁸ into a public feelings project that is affirming of queerness and that attempts to create connections amongst different forms of identification through collectively produced samplers of queer phrases. Those who work on a project from the kit, or offer the kit as a gift to a friend or lover, labor to extend queer feminist worlds, stitching them together with the repeated sensual practices of embroidery: the punch of the needle through fabric or accidentally through skin, the patient untangling of a knot or snag, the adjustment of the hoop’s screws, the tilt of the body toward light, the squinting of the eyes and the pulsing ache in the wrists. “Making Queer Love” creates an uneven spatial and temporal topography of queer and trans feminist projects, an erratic technique that is neither neat nor meticulously planned.

¹⁷⁸ Kathleen Stewart, *Ordinary Affects* (Durham, NC: Duke University Press, 2007).



Fig. 17: “A Kit of Odds and Ends” prototype, with cross stitch “Femme” embroidery, in a Whitman’s Sampler Box and candy tin: crocheted lace, faux flowers, ricrac, ribbon, cotton fabric quarters, Aida cloth, assorted colors and weights of embroidery floss, pompoms, faux feathers, elastic, pin cushion, pins. Photo by Reed Bonnet.



Fig. 18: “A Kit of Odds and Ends” detail with zine mockup. Photo by Reed Bonnet.

As a gift that proffers queer worlds in the making, a gift that keeps giving as it is passed from crafter to crafter instead of being used up, “A Kit of Odds and Ends” exceeds the finite values of the commodity form in its distribution and circulation. Each of the objects in the kit has a story, and while not all of those stories can be known or explained, they hint at complex social worlds built around craft practices. “A Kit of Odds and Ends” attempts to breathe new life into these materials by attaching them to queer worlds and projects. How might the kit encourage a queer approach to the materiality of craft practices? What kinds of stories is it possible to tell with an eclectic and imperfect assortment of materials? When ephemeral, unwanted odds and ends are incorporated into craft projects that circulate as part of queer and trans feminist communities of practice, they are reanimated in the creative process of claiming a world whose value was not intended for queer and trans people. Crafting gifts with discarded materials transforms them into aesthetic artifacts with the potential to sensitize us to the existence of heterogeneous and unfinished worlds, turning the failed promises of consumerism’s garbage toward an artful, utopian sociality.

It is impossible to say in advance what might emerge from a project like “Making Queer Love,” but my hope is that craft could continue to be queered by using it as a toolkit for dismantling normative life. In the process we might learn to more carefully attend to the material and affective labor required of crafting intimacies that are not wedded to heteronormative romance and nuclear kinship. By exploring the erotics of crafting we start to assemble, from bits and pieces whose origins are multitudinous, a queer feminist materialism that recognizes the pleasure of

aesthetic practice as a vital survival tactic for those whose lives are not considered valuable except as expendable surplus.

Rejecting scarcity, “Making Queer Love” embraces abundance: the endless supply of beautiful trash that consumers consign to an elsewhere that doesn’t exist, the bountifulness of different kinds of significant otherness, the polymorphous performances of queer and trans feminist identification that defy capture and explication, innumerable craft techniques with their own histories, practices, and tools. “A Kit of Odds and Ends” queers craft kits by refusing tidy completion, offering permission instead to linger in the exciting possibilities of freshly begun projects and collaborations, wide-eyed crushes, and flirtations without end. Rather than providing a product or a “thing” that can be finished, it opens up a space to practice making queer feminist love.

Chapter 4: The “Nation of Makers”: Racialized and Gendered Surveillance in and beyond the Maker Movement

The Maker Education of Ahmed Mohamed

“I lost a lot of things in my life.... The number one thing people think about me is that I’m living ‘the life’.... But I can't build anymore. My dad doesn't have a job anymore. I moved from my house to an apartment. I lost my place for building things.” —Ahmed Mohamed, as quoted in *The Washington Post*¹⁷⁹

In the previous chapter, I outlined major discourses circulating within maker cultures, showing how militarism, technological fetishism, STEAM education, and critical making have shaped maker movements as we know them. I also suggested that soft circuitry might offer methods for crafting queer and trans feminist maker movements and worlds that could support them. In this chapter, I describe the case of Ahmed Mohamed, a Muslim teen arrested for doing what any young maker might: building a digital clock inside a pencil case and showing it off at school. The discrimination, Islamophobic profiling, and harassment that he faced gives the lie to the official national narrative that describes the U.S. as a “Nation of Makers” that equally values all forms of entrepreneurship, creativity, and innovation. The work of micha cárdenas, which deploys soft circuitry to craft art activist responses to violence against trans women of color, provides another counterpoint to this narrative, demonstrating that not all futures are considered equally creative, valuable, or even possible in the white supremacist, imperialist nation that has taken up making as a

¹⁷⁹ Jessica Contrera, “Family of ‘Clock Boy’ Ahmed Mohamed files lawsuit against former school.” *The Washington Post*. 8 August 2016. https://www.washingtonpost.com/lifestyle/style/family-of-clock-boy-ahmed-mohamed-files-lawsuit-against-former-school/2016/08/08/f0ee53a0-5cba-11e6-af8e-54aa2e849447_story.html Accessed 30 January 2017.

herald of progress. cárdenas offers a speculative feminist theorization of making based in what she calls trans of color poetics, laying the groundwork for the world-building art I examine in the final chapter, “Crafting Queerer Worlds.” Juxtaposing Ahmed’s experiences with cárdenas’ work enables us to see that maker movements can address surveillance, militarism, and violence through redefining the roles technology and creativity play in the national imaginary of the U.S.

On September 14th, 2015, fourteen-year-old Ahmed Mohamed was escorted by police from his high school classroom in Irving, Texas after showing several teachers his homemade digital clock, built inside a pencil case with a holographic tiger on the cover, earlier in the day. Allegedly suspected of making a bomb, even though none of the school’s protocols for evacuation in the case of a bomb threat were followed, he was interrogated by police at the school for over an hour, and threatened with expulsion by the principal if he didn’t write a statement.¹⁸⁰ He repeatedly requested and was illegally denied the presence of his parents. He was then arrested, and when his family was finally allowed to see him, still in handcuffs, they were told he was being charged with bringing a “hoax bomb” to school. Possessing nothing illicit, Ahmed was suspended for three days for “possession of prohibited items,”¹⁸¹ despite the fact that the “hoax bomb” charge was almost immediately dropped when police admitted that Ahmed “did not intend to cause alarm”¹⁸² with his device. His family decided that he would not return to school.

¹⁸⁰ Mohamed v. Irving Independent School District, US District Court for the Northern District of Texas Dallas Division, Plaintiff’s Original Complaint. P. 23, paragraph 68.

¹⁸¹ Ibid.

¹⁸² Irving police as quoted in Jessica Contrera, “A year ago, Ahmed Mohamed became ‘Clock Boy.’ Now, he can’t escape that moment.” 2 August 2016. https://www.washingtonpost.com/lifestyle/style/a-year-ago-ahmed-mohamed-became-clock-boy-now-he-cant-escape-that-moment/2016/08/02/2b8650be-484b-11e6-bdb9-701687974517_story.html Accessed 29 January 2017.

Within two days of his arrest, the hashtag #IStandWithAhmed went viral, with thousands tweeting their support for the Muslim teen. Former Secretary of State Hillary Clinton encouraged Ahmed to “stay curious and keep building,”¹⁸³ and former President Barack Obama invited Ahmed to bring his clock to the White House, tweeting, “We should inspire more kids like you to like science. It’s what makes America great.”¹⁸⁴ Facebook founder and tech entrepreneur Mark Zuckerberg invited Ahmed to visit his company in a Facebook post, writing, “The future belongs to people like Ahmed” and repeating the phrase, “Keep building.”¹⁸⁵ Soon after followed invitations to attend the Google Science Fair, visit NASA (Ahmed was wearing what is reported as his favorite NASA shirt at the time of his arrest), and meet the president of his family’s home country of Sudan, Omar al-Bashir.¹⁸⁶ Although Ahmed also received numerous offers from schools and companies around the United States, and over \$20,000 were crowd-funded to support his education and to give memberships to makerspaces to inventive children,¹⁸⁷ only the Qatar

¹⁸³ Hillary Clinton, “Assumptions and fear don’t keep us safe—they hold us back. Ahmed, stay curious and keep building.” <https://twitter.com/dallasnews/status/643952536681115648> 16 September 2015, 11:13 AM. Tweet.

¹⁸⁴ Barack Obama, “Cool clock, Ahmed. Want to bring it to the White House? We should inspire more kids like you to like science. It’s what makes America great.” <https://twitter.com/potus44/status/644193755814342656?lang=en> 16 September 2015, 11:58 AM. Tweet.

¹⁸⁵ Mark Zuckerberg, “You’ve probably seen the story about Ahmed, the 14 year olds student in Texas who built a clock and was arrested when he took it to school. Having the skill and ambition to build something cool should lead to applause, not arrest. The future belongs to people like Ahmed. Ahmed, if you ever want to come by Facebook, I’d love to meet you. Keep building.” 16 September 2015. <https://www.facebook.com/zuck/posts/10102373304096361> Facebook. <http://www.today.com/news/ahmed-mohamed-gets-support-obama-zuckerberg-after-arrest-over-homemade-t44556> Accessed 30 January 2017.

¹⁸⁶ Lauren Gambino, “Ahmed Mohamed meets Sudanese president with whom father had rivalry.” 16 October 2015. <https://www.theguardian.com/world/2015/oct/16/ahmed-mohamed-sudan-president-omar-al-bashir-texas-clock> Accessed 30 January 2017. Ahmed’s father, Mohamed Elhassan Mohamed, unsuccessfully ran for president against Bashir, a war criminal wanted for genocide in Darfur, in 2010 and 2015.

¹⁸⁷ “#IStandWithAhmed: The official campaign to support Ahmed with a scholarship and fund other students like him in STEM fields,” <https://www.launchgood.com/project/istandwithahmed#/> Accessed

Foundation for Education, Science and Community Development would pay for Ahmed and his five siblings' educations in Doha, Qatar,¹⁸⁸ where six elite American universities opened campuses in Education City.¹⁸⁹

In addition to these generous offers, Ahmed's family also received hate mail and death threats when their Texas address was posted to Twitter,¹⁹⁰ forcing them to leave for Qatar less than a month after his arrest, where they now live. Ahmed was dubbed and continues to be referred to as "Clock Boy" in the media outcry widely acknowledging the Islamophobic profiling that led to his arrest, a moniker that has been shortened to the epithet "Clockmed," which strangers yell at him on the street.¹⁹¹ To this day he is still harassed on social media, and a number of conspiracy theories have surfaced claiming that his family plotted the "hoax bomb" for attention and that they are terrorists.¹⁹² Having previously reported on Irving, Texas' reputation for Islamophobic legislation,¹⁹³ *The Washington Post* called the family's suburban Dallas zip code "the most diverse area in the country. Only 9 percent of the students in Ahmed's school district are white. (However, there's only one nonwhite person on the Irving City Council.)"¹⁹⁴

30 January 2017. The campaign reached its goal just under a month after Ahmed's arrest. A GoFundMe campaign was also created to raise \$60,000 to pay for tuition at MIT, although it has not reached its goal.

¹⁸⁸ Contrera, "A year ago."

¹⁸⁹ Nick Anderson, "In Qatar's Education City, U.S. colleges are building an academic oasis." 6 December 2015. https://www.washingtonpost.com/local/education/in-qatars-education-city-us-colleges-are-building-an-academic-oasis/2015/12/06/6b538702-8e01-11e5-ae1f-af46b7df8483_story.html Accessed 30 January 2017.

¹⁹⁰ Contrera, "A year ago."

¹⁹¹ Ibid.

¹⁹² Ibid.

¹⁹³ Izadi, Elahe and Lindsey Bever, "The history of anti-Islam controversy in Ahmed Mohamed's Texas city." 16 September 2015. https://www.washingtonpost.com/news/acts-of-faith/wp/2015/09/16/the-history-of-anti-islam-controversy-in-ahmed-mohameds-texas-city/?tid=a_inl Accessed 31 January 2017.

¹⁹⁴ Ibid.

The lawsuit filed by Mohamed on his son's behalf in August of 2016, the first of two,¹⁹⁵ delves into Ahmed's experiences with racism and anti-Muslim discrimination throughout middle school in more detail, demonstrating how he was routinely singled out and punished despite excellent relationships with many of his teachers and classmates, whose broken electronics he frequently fixed and to whom he regularly showed off his own inventions.¹⁹⁶ In the sixth grade he was forced by the vice principal to get permission to pray before meals, while Christians were allowed to pray freely in school.¹⁹⁷ The same vice principal openly made racist comments about black and hispanic students and was the subject of formal complaints by other teachers.¹⁹⁸ He repeatedly threatened Ahmed and his father, ensuring that Ahmed was sent to an alternative school, which had been found in 2009 to have a "disproportionate number of African American students...compared to other ethnic groups."¹⁹⁹ Ahmed was called names by other students, physically attacked and choked, and disciplined for defending himself.²⁰⁰ This kind of physical abuse is often dismissed or downplayed under the rhetoric of bullying, which has also been the

¹⁹⁵ The first lawsuit, which I discuss here, claims that Ahmed's right to equal protection under the 14th Amendment was violated. The second lawsuit, filed a month later, claimed that conservative political commentator Glenn Beck, Irving Mayor Beth Van Duyne, and others defamed the Mohamed family after his arrest, implying on television that they were terrorists and feeding the conspiracy theories. Several of the defendants were dismissed from the suit late in 2016 and early in 2017. See Julieta Chiquillo, "Glenn Beck dismissed from 'clock boy' defamation suit." 10 January 2017. <http://www.dallasnews.com/news/irving/2017/01/10/glenn-beck-among-dismissed-clock-boy-defamation-suit> Accessed 31 January 2017.

¹⁹⁶ Mohamed v. Irving Independent School District, US District Court for the Northern District of Texas Dallas Division, Plaintiff's Original Complaint. P. 14, paragraph 43.

¹⁹⁷ Mohamed v. Irving Independent School District. P. 15, paragraph 46.

¹⁹⁸ Mohamed v. Irving Independent School District. P. 15, paragraph 47.

¹⁹⁹ As quoted in Mohamed v. Irving Independent School District. P. 8, paragraph 24. According to the lawsuit, the Irving Independent School District was the subject of a number of local controversies that resulted in the hiring of an independent consultant to investigate the experiences of African American elementary school students, who found that these students were disciplined more harshly and more often than other students and even refused access to bathrooms.

²⁰⁰ Mohamed v. Irving Independent School District. P. 16, paragraph 49.

predominant paradigm for dealing with harassment targeting LGBTQ students, and which ignores how systemic and institutionalized oppression shapes the everyday lives of vulnerable youth.

Despite being constantly targeted for his religious beliefs and practices, Ahmed still made friends and participated in robotics club, where his creativity and love of engineering could be nurtured. The lawsuit takes great pains to humanize him, constantly reiterating the pressures he faced to fit in, impress his teachers, and be a “normal” kid as well as a model student in order to try to mitigate the harassment he experienced. The lawsuit states, “He would rummage through the treasures” in his garage and shed and, using leftover inventory from his family’s cell phone businesses, cobble together “elaborate creations.”²⁰¹ The kinds of business ventures in which his family engaged are not as highly valued as the kinds of entrepreneurship that those like Zuckerberg practice; instead they are perceived as the kind of invisibilized work that immigrants to the U.S. are expected to do in order to get by, regardless of their level of education in their countries of origin. Nevertheless, it is the remains of this kind of everyday entrepreneurship that allowed Ahmed to experiment and explore in his suburban garage. Meanwhile, his school district was embroiled for years in disputes over racist members of the board of trustees and the local community, who variously claimed that the curriculum was in danger of being overtaken by black people, Spanish speakers, “pro-Islamic” teachers, and Marxists.²⁰² After Ahmed’s arrest, the Department of Justice opened a civil rights investigation into the systematic harassment he faced in the Irving Independent School District, at

²⁰¹ Mohamed v. Irving Independent School District. P. 13, paragraph 41.

²⁰² Mohamed v. Irving Independent School District. Pgs. 9-11, paragraphs 29-35.

the urging of almost thirty congresspeople.²⁰³ The district's response, in February of 2016, was to sue the Texas Attorney General and refuse to release information about the investigation.²⁰⁴

How can we make sense of the national discourses about Ahmed's experiences in the context of post-9/11 Islamophobia in the U.S., which has proclaimed itself a "Nation of Makers" and sought to entrench maker pedagogy as part of STEAM curricula nationwide? What can we make, for example, of high profile, white tech entrepreneurs like Zuckerberg publicly urging Ahmed to "keep building," when, in the quote that opens this section, Ahmed mourns the loss of a space in which to build? And what is the effect of the former president of the United States encouraging "kids like you" to go into STEM fields—kids that are curious and smart, kids that are Muslims and immigrants—in order to "make America great," in a political climate in which the presidential incumbent would go on to use the same slogan in an attempt to ban Muslims from entering the country? When Zuckerberg says, "The future belongs to people like Ahmed," it is unclear whether he means the future belongs to engineers and inventors in general, or engineers and inventors who are black and brown, who are from Middle Eastern, African, and Asian nations, who have experienced unrelenting racial profiling and discrimination because of their religions, ethnicities, and national origins. What is clear, however, is that children who are poor, of color, gender nonconforming, or who come from families of

²⁰³ Wilonsky, Robert. "Feds investigating Ahmed Mohamed's ex school district over discrimination, harassment charges." 4 December 2015. <http://www.dallasnews.com/news/news/2015/12/04/u-s-attorney-general-justice-department-investigating-treatment-of-ahmed-mohamed> Accessed 30 January 2017.

²⁰⁴ Selk, Avi. "Ahmed Mohamed's ex-school district sues state to keep civil rights investigation secret (though you wouldn't know it from their website)." 26 February 2016. <http://www.dallasnews.com/news/news/2016/02/26/ahmed-mohameds-ex-school-district-sues-state-to-keep-civil-rights-investigation-secret> Accessed 31 January 2017.

immigrants and refugees are rarely granted access to that privileged category, “innocence,” in the same ways as white, middle-class, cisgender children. They are denied childhoods and, contrary to Zuckerberg’s statement, they are presumed not to have meaningful futures, which is used to further justify withholding legal protection from them while precipitating their incarceration and their deaths through state-sanctioned murder or slower forms of cruelty such as environmental racism.

It is not a coincidence that in a suburban town almost equidistant to Dallas as Ahmed’s, and just a few months before his arrest, fifteen-year-old Dajerria Becton was dragged by the hair and pinned to the ground by a police officer at a pool party. This is not even the most egregious example of police violence against black teens (and preteens, in the case of the fatal shooting of twelve-year-old Tamir Rice) since the 2014 murder of eighteen-year-old Mike Brown concentrated national attention yet again on how the lives of black people of any age do not matter in the same ways as the lives of white people; moreover, the killing of black children and adults by vigilantes and “concerned citizens” has been ignored and condoned by the state, as in the murder of seventeen-year-old Trayvon Martin in 2012, whose killer was acquitted in a trial that spurred the Black Lives Matter movement. I return to the Black Lives Matter movement, with which micha cárdenas collaborates, in the next section on community responses to violence against trans people of color. Although Ahmed has not publicly identified as black or African American, often speaking of himself as a minority, the language in the lawsuit and in multiple news articles repeatedly frames him as African American (and as a U.S. citizen, who is the son of a U.S. citizen) to make his experiences of harassment legible within U.S. civil rights discourse, which

historically has centered African Americans, and to contextualize them in a world in which racism and Islamophobia are part of the air we all breathe.²⁰⁵ Such a framing is a tactical and complex navigation of race and religion under the kinds of thinking that characterize white supremacy, which works to erase the long and radical history of the presence of black and African American Muslims in the U.S. in favor of the hyper-visible and stereotypical figure of the ultra-conservative religious terrorist or jihadist.

This type of logic, which relies on oversimplified binaries, sometimes conflates and sometimes rigidly separates racial and religious categories, assuming that one cannot be both “black” and “Muslim,” or even “African” and “Middle Eastern,” for that matter. Junaid Rana describes this effect in his essay, “The Racial Infrastructure of the Terror-Industrial Complex,” arguing,

the racialization of Muslims is a flexible process that incorporates the portability of a number of race concepts, such as blackness, indigeneity, colonialism, genocide, immigration, and religion, in a system that appears contradictory and nonsensical. Muslim racial becoming is precisely that: a system of race that is deemed to not be race. In this paradox Muslim racialization perhaps reflects racism but not a racial group; it is always becoming yet will never be. It is a historicity without a futurity because the future is what must be preempted in the language of counterterror. White supremacy as a biopolitical system depends upon multiple and variegated forms of racial becoming.²⁰⁶

Rana’s focus on temporality, futurity, and biopolitics is useful here. The future is what drives technological innovation in narratives that cast maker movements as central to the pursuit of American progress, yet such a future is one with which

²⁰⁵ To be clear, this is not to falsely equate “black” and “African American” identifications, or to suggest that Ahmed is somehow automatically black by virtue of being African American. There is a large body of theoretical work both in and outside the U.S. that works to elaborate, disentangle, and complicate the relationships between blackness and African American identity.

²⁰⁶ Rana, Junaid, “The Racial Infrastructure of the Terror-Industrial Complex,” *Social Text* 129: 34.4 (December 2016). 120.

Ahmed is deemed incompatible by virtue of his race, religion, and nationality. He was not just detained in order to keep him from the activities associated with this bright, entrepreneurial futurity—he was threatened, physically harmed, and removed from school many times before that as part of a systemic and calculated effort to make Muslim students of color disappear, along with English-language learners and immigrants.

The future is also at stake in the epidemic of murders of trans women of color, which micha cárdenas' work addresses in the next section. The hyper visibility, policing, and criminalization of trans people of color has worked to erase their futures even as wealthy white gays and lesbians are welcomed more fully into the future of the nation via legal marriage and highly commercialized Pride marches funded by defense contractors such as Lockheed Martin. To be clear, the violence trans women of color experience is not the same as that experienced by Ahmed, however the ways in which Ahmed was marked as deviant, seen as a threat to the national body in need of policing, and denied access to some kinds of futures show how strategies of surveillance and state-sanctioned violence are distributed across and enacted in the sites of everyday life, from high schools and playgrounds to streets and homes. Coalition-based politics that movements like Black Lives Matter perform, political and aesthetic interventions that can connect the Islamophobic racism Ahmed faced, the centuries-long genocide of black children and adults, and the systematic incarceration and extermination of trans women of color, are vital to reimagining of the realities of our worlds. Understanding how ideologies of white supremacy prevent oppressed people from making knowledge and expressing creativity, as in Ahmed's

case, is central to this imaginative work. How can maker movements value the specific knowledges and forms of creativity practiced by, for example, immigrant youth, black and brown people, queer and trans people?

Admittedly, the lawsuits and newspaper articles on which I have just drawn comprise a markedly different archive than the forms of cultural production, craft theory, and artworks that I have thus far been examining and which will continue to make up the bulk of the examples that I use to discuss maker movements and their alternative manifestations. State violence, Islamophobia, and legal theory are not directly my areas of expertise, which center the materiality of media and the circulation of DIY knowledge, however these are the most urgent issues for queer activism, women of color feminisms, and media criticism in the present. Ahmed's case is significant because in the complex discourses that his arrest, relocation, and lawsuits produced and continue to generate, overwhelmingly what comes to the fore is that what seems to matter to the government, Twitter commentators, and conspiracy theorists is not Ahmed's adolescent dreams or his fundamental rights as a person, but the profitable potentials of what he is able to do with his technological skills and the knowledge he gained through tinkering and study. In this rhetoric, immigrants like Ahmed, regardless of whether or not they have legally entered the U.S., are considered valuable only insofar as they can be incorporated into or contribute to national narratives that celebrate industry (including the military, medical, and prison industrial complexes), entrepreneurship, and technological or scientific innovation. These kinds of narratives surfaced again and again in the

January 2017 protests of Executive Order 13769, which banned citizens from seven countries with predominantly Muslim populations from entering the U.S.

Such narratives reproduce the equally stereotypical figures of the deserving, “good immigrant” or the model minority that works to assimilate, chasing the American Dream of progress and pulling oneself up by the bootstraps, and the dangerous, undocumented “illegal” who puts jobs under threat, refuses to speak English, or is potentially a terrorist. Both figures are being mobilized to do quite a lot of work in the moment of this writing under Donald Trump’s political regime, and have been for quite some time before him. Attempts to recruit Ahmed to prestigious schools, including American universities in Qatar, and to welcome him to companies like Google and Facebook with subtle or not so subtle suggestions that he is smart enough to one day work for them, were also attempts to capitalize on what was perceived as a missed opportunity to usher his talents and knowledge into the technological futures of the national body, presumably so that others could profit off what he would make. In such a scenario, by being rewarded instead of punished, Ahmed would repay his debt to the U.S. with his intelligence, his skills, a productive future, and presumably, his obedience.²⁰⁷ What this kind of praise of Ahmed after the fact could not make clear is that every person deserves access to education, creative exploration, and justice, whether or not they are citizens, whether or not they are white, and whether or not they make marketable technological inventions. In celebrating Ahmed’s ingenuity, resourcefulness, perseverance, and his creative ways of making and repairing things, I risk reproducing the very narratives that imply that these are

²⁰⁷ In her 2012 book *The Gift of Freedom: War, Debt, and Other Refugee Passages*, Mimi Thi Nguyen refers to the imperialist expectation that if the U.S. grants citizenship to refugees and immigrants, they will repay their debt with loyalty, the “gift of freedom.”

the only reasons he matters. And yet, it still behooves us to assert that he and every other person who is targeted as deviant or dangerous should be able to experience a life free of harassment, discrimination, and violence, while critiquing and resisting that which presently denies them this.

How Ahmed Mohamed was and continues to be treated by the “Nation of Makers” reveals much about the maker movement’s claims to be for everyone. The seemingly progressive and egalitarian values that the maker movement espouses are not evenly applied among different communities of practice that could be actively participating in DIY cultural production. Ahmed’s case also demonstrates the tremendous failures of the U.S. educational and justice systems to protect those whose lives are most put at risk by the perpetuation of racist ideologies and practices. Both of the lawsuits filed by Ahmed’s father were dismissed as of May 2017; Irving Mayor Beth Van Duyne, named in the second of these lawsuits for defaming the Mohamed family and notorious for her Islamophobic speech, accepted a post with the Trump administration as a regional administrator for the Department of Housing and Urban Development, also in May. Is it possible to build art activist maker movements capable of dismantling white supremacy, nationalism, imperialism, capitalism, and patriarchy? The artist-theorists whose work I examine in the remainder of this dissertation are engaged in the careful imagining and crafting of worlds that could exist without prisons and police, militarism, racism, homophobia and transphobia—worlds that could welcome immigrants, refugees, queers, black and brown people because of their humanity, not because of their potential for profit or the monetary value of their technological innovations. These artists are indeed entrepreneurs, as

they find ways of reimagining what we value within and beyond capitalism, reconceptualizing what we mean by technology and creativity.

A Trans Feminist Theory of Making

“This is a call to all feminist hackers, anti-racist coders, gender hackers, genderchangers, queer and trans hackers, political hackers, dancers, movement makers, poets, performers, anti-violence activists and networked activists to come together to help stop violence against queer and trans* people, people of color, disabled people and women....To think about ending violence with technology we need to think broadly about what violence means and what technology is: movement is a technology, gender is a technology, language is a technology, code is a technology. We need more collaboration between hackers, activists and artists to end violence.” —micha cárdenas, “From a Free Software Movement to a Free Safety Movement”²⁰⁸

The theoretical and art activist work of micha cárdenas shows how the technologies and the algorithmic operations of maker movements are also available for anti-racist, trans feminist appropriation and transformation. cárdenas is a crucial link between the kinds of fiber-based figuration I examined in the first two chapters, and the performance of practical political interventions in the conceptualization and use of digital technologies in the second half of this dissertation. Contemporary maker cultures may house collective spaces in which to answer cárdenas’ call in the quote above—spaces in which to collaboratively enact technologically mediated utopias free from the multiple and intersecting forms of violence experienced by the people in our communities whose lives are the most vulnerable and precarious. For the so-called maker “movement” to be able to realize this vision—for it to be a movement in more than just name—art activist political and cultural interventions

²⁰⁸ micha cárdenas, “From a Free Software Movement to a Free Safety Movement,” *Mute*, 10 July 2013. <http://www.metamute.org/editorial/lab/free-software-movement-to-free-safety-movement> Accessed 8 February 2017.

that address injustice, environmental destruction, and unevenly distributed access to technology are key.

cárdenas' 2016 essay, "Trans of Color Poetics: Stitching Bodies, Concepts, and Algorithms," opens by considering how movement, in terms of "urban mobility, transnational migration, performance, and social movement,"²⁰⁹ might mediate the problem of visibility for trans people of color, especially trans women, for whom increased visibility in media and popular culture has meant increased harassment, violence, and death. For cárdenas, these kinds of movement "constitute the survival strategies of trans people of color and allow them to escape death every day."²¹⁰ Drawing on the work of philosophers Deleuze and Guattari and media theorists Kember and Zylynska, she elaborates on the act of stitching as "a material and conceptual operation," or artistic method, that can help reduce such violence and facilitate healing,²¹¹ not only in the medical sense of stitching together bodies that have undergone surgery but also in the broader sense of healing communities who regularly experience harm and precarity. In cárdenas' work as in Nia King's, creativity and artistic practice are spiritually and physically life-giving.

Stitching as an operation that is both algorithmic and constitutive of a kind of movement, in the case of "facilitat[ing] a change in shape, a shift"²¹² as well as, I would add, the repetitious and rhythmic bodily gestures that compose the act of stitching itself, fits well within both Jeanne Vaccaro's framework of the handmade that describes ways of crafting queer and trans feminist knowledge and bodies, which

²⁰⁹ micha cárdenas, "Trans of Color Poetics," 1.

²¹⁰ Ibid.

²¹¹ Ibid.

²¹² Ibid.

I discussed in detail in the second chapter, and Margaret Wertheim's queering of digital algorithms, which features prominently in the next chapter's theorization of soft circuitry. Much like cárdenas, Wertheim thinks about how stitching performs algorithmic transmutations of matter and shape, specifically, the practice of hyperbolic crochet, which can model complex geometric forms. As cárdenas acknowledges, "Algorithms do not need digital technology to exist. Algorithms can be useful ways of imagining and performing possibilities for trans of color life in contemporary mediated environments."²¹³ By reminding us of algorithmic operations beyond, or perhaps even before, digital technological devices, cárdenas performs a reevaluation that enables us to shift focus from the maker movement's problematic understanding of expensive, difficult-to-use technology as the "solution" to complex social issues, in which relentless technological innovation appears an end in itself.

In figuring algorithms as imaginative and full of possibility, they become yet another set of tools for feminist making whose purpose is enacting meaningful and positive change in the everyday lives of oppressed people, not furthering harm through the production of more vulnerability under the guise of creating safety through calculating risk. cárdenas is invested in the development of "resistant" or oppositional algorithms in order to combat "the harmful ways that algorithms increasingly define race and class through surveillance and databases."²¹⁴ One example she offers is the work of artist Zach Blas, whose *Facial Weaponization Suite* (2011-2014) uses speculative design to prototype masks by digitally "stitching" together three dimensional images of faces, in the process scrambling the facial

²¹³ Ibid.

²¹⁴ Ibid.

recognition software that facilitates profiling and surveillance. In this project, “stitching is used to create an object that enacts a cut in a field of mediation: in this case, the algorithmic stitching of data is used to create masks that disrupt the mediation of bodies through biometric surveillance.”²¹⁵ Like *cárdenas*, Blas uses participatory workshops to directly engage the communities most affected by such predatory and invasive uses of technology. In this manner, artistic practice becomes a way of doing both research and activism, allowing for the mutual transformation of both disciplinary methods and everyday resistance tactics.

By gathering such transdisciplinary practices of cultural and theoretical production under the rubric of “making,” I want to think about ways of intervening in the depoliticization of mainstream maker movements. If we consider the projects of *cárdenas* and Blas to be forms of making instead of purely “art” or “activism,” it is easier to imagine that making could include both high- and low-tech practical applications for people who experience intersecting forms of oppression. Reimagining maker movements in this way counters the dominance of the militarized and environmentally destructive forms of making that were the subject of the previous chapter. Drawing attention to how sewing “continues to be primarily the task of women in sweatshops in the Global South,” *cárdenas* argues, “The stitch can be thought of as the basis for a theory of feminist making, which values the forms of knowledge practiced daily by oppressed people as they make their lives in the face of violence.”²¹⁶ Importantly, she grounds this theory in the community-building labor of women of color: “The operation of creating relations through the stitch, of finding

²¹⁵ *cárdenas*, “Trans of Color Poetics,” 2.

²¹⁶ *cárdenas*, “Trans of Color Poetics,” 1.

means to connect groups of people who had been separated, can be seen as an abstraction of the work of women of color feminism, which sought to bring together women across racial lines.”²¹⁷ Thus collectivity within and across difference is central to the connective labor of the stitch as operand in this theory of making, which grows out of the creative knowledge and lived politics of trans people of color.

Although cárdenas’ emphasis on the intentional creation of relationships through stitching echoes earlier feminist conceptualizations of the uses of women’s fiber art in social movements, it is distinctive in several respects, namely in that it relays between outsourced, feminized sweatshop labor and local, community-based responses to violence while explicitly emphasizing the roles of trans women of color in these movements. LJ Roberts has similarly called on queer crafters to make the labor of trans people, people of color, and people outside the US central to their politics,²¹⁸ however these ways of publicly valuing and validating the knowledge and cultural production of trans people of color are relatively new.²¹⁹ The records of the everyday lives, activism, and theoretical contributions of trans people of color, specifically, before and during what are popularly referred to as second wave feminist movements in the U.S., as well as movements for gay liberation and queer organizing, are still being researched and recovered in the present as emergent interdisciplinary formations such as transgender studies gain a foothold in the academy, and as we gain a better understanding of how earlier feminist communities conceptualized, or erased, transgender and transexual identities.

²¹⁷ Ibid.

²¹⁸ Roberts and Pepe, “Honor Our Wrinkles: Fiber Women, Dykes, and Queers.”

²¹⁹ See, for example, Nia King’s *Queer and Trans People of Color* Volumes 1 and 2, based on her podcast “We Want the Airwaves,” as well as Morgan M. Page’s trans history podcast, “One from the Vaults.”

Not surprisingly, the presence of people to whom we today refer to as trans is not explicitly acknowledged in documents such as the *Heresies* issue on traditional craft practices that I examined in the first chapter, which were focused on asserting and exploring lesbian identities within feminism. For example, white lesbian artist Harmony Hammond also put forward a theory of the stitch; between 1977 and 78 she published on the stitch as a transhistorical, abstract “woman’s language” that connected all women via traditional arts.²²⁰ Elissa Auther offers a nuanced critique of how, in proposing the stitch as a “mythic space,”²²¹ Hammond “embrace[d] a universal conception of female experience”²²² in an attempt to stake a claim on a tradition of feminist abstraction based in indigenous women’s crafts, thereby rejecting “the feminist position of the time that abstraction was an overly subjective, patriarchal, inaccessible form, and thus irrelevant to feminist revolution.”²²³ Acknowledging Hammond’s romanticization of indigenous women²²⁴ as well as her lack of an analysis of “the history of colonialization that in part shapes her relation to Native American visual culture as situated in the past,”²²⁵ Auther shows how this impulse was nonetheless “a sincere response to specific pressures generated from within the feminist art community.”²²⁶ cárdenas’ theory of the stitch is significantly different from Hammond’s, however, because while they both draw attention to the labor of women through craft, cárdenas explicitly theorizes racial difference and relationality rather than assuming an undifferentiated history of oppression. While it

²²⁰ Hammond as quoted in Auther, *String Felt Thread*, 144.

²²¹ Auther, *String Felt Thread*, 135.

²²² Auther, *String Felt Thread*, 144.

²²³ Auther, *String Felt Thread*, 140.

²²⁴ Auther, *String Felt Thread*, 138.

²²⁵ Auther, *String Felt Thread*, 139.

²²⁶ Ibid.

is important to acknowledge how stitching theorizes have been iterated across feminist generations, it would be a mistake to simplistically equate them.

cárdenas approaches stitching as a trans feminist theory of making through her project *Autonets* (2011-present), a line of prototypical electronic garments and accessories including hoodies, dresses, and bracelets designed to enable users to connect via “local autonomy networks,” mesh networks that bypass NSA surveillance “because they route traffic between devices locally, instead of sending all data through phone companies and international DNS backbones.”²²⁷ Powered by sewable circuitry, the garments are equipped with Arduino XBee wireless transmitters, LEDs, and flexible electroluminescent wire, allowing wearers to signal each other from a distance when in danger and convene upon activation. As cárdenas writes, *Autonets* is modeled off the work of prison abolitionist movements, and seeks to create “autonomous communication networks for trans of color safety that do not rely on prisons, police, or corporations.”²²⁸ Over four years, she tested the garment prototypes in workshops and public performances in a number of cities in and outside the US including Detroit, Toronto, and Los Angeles, where she practiced Augusto Boal’s Theater of the Oppressed communication and performance techniques with trans and genderqueer people of color, sex workers, and survivors of sexual and gender-based violence.

These workshops attempted to reverse hierarchical relationships in art worlds and in academia, in which the artist or researcher is recognized as the sole producer of the work and all those who help to make it happen, such as assistants, performers, and

²²⁷ cárdenas, “Trans of Color Poetics,” 2.

²²⁸ Ibid.

ethnographic participants, often go uncredited or appear as incidental to the project after the fact. In line with decolonizing and transgender studies methodologies and what the Electronic Disturbance theater, after Monique Wittig, has called the science of the oppressed,²²⁹ in cárdenas' projects, "trans people of color are not the objects of study, but the subjects of knowledge creation."²³⁰ These "collective design process, inspired by existing networks of horizontal knowledge production"²³¹ are, in theory, valued by maker culture ethics of open source and open access; in practice, however, "open source" often glosses over more substantive forms of change.²³² In addition to the workshops, cárdenas documented her design diagrams and prototyping process extensively on her website with the explicit hope that "a movement for free safety" and transformative justice would become increasingly distributed.²³³

Importantly, *Autonets* combines digital and non-digital technological modes: "The networks are both online and offline, including handmade wearable electronic fashion and face to face agreements between people. Autonets considers how movement is a technology and how dance and performance can be used to develop networks for community based responses to violence."²³⁴ As in her thinking about algorithms without digital devices, "technology" undergoes a transformation when cárdenas describes movement as a technology for daily navigation, negotiation, and

²²⁹ cárdenas, "Trans of Color Poetics," 1.

²³⁰ cárdenas, "Trans of Color Poetics," 2.

²³¹ cárdenas, "Autonets: Background," <https://faculty.washington.edu/michamc/autonets/> Accessed 6 February 2017.

²³² Garnet Hertz brings this up in conversation with Natalie Jeremijenko in response to her "comment about open source standing in as a replacement in the maker community for criticality," in which "open source [is] being used as the kind of catchall idea that a project is socially engaged in some way." Hertz and Jeremijenko, "Engineering Anti-Techno-Fetishism," *Conversations in Critical Making*, 30.

²³³ cárdenas, "From a Free Software Movement."

²³⁴ cárdenas, "Autonets," <https://faculty.washington.edu/michamc/autonets/> Accessed 6 February 2017.

survival, adding dance and performance to our algorithmic toolkits along with stitching. Dance is algorithmic in its combination of movements into longer, more complicated processes. For example, for a public outdoor performance at the 2012 Zero1 Biennial using the *Autonets* garments, cárdenas describes how participants from the organization Gender Justice LA activated their hoodies and performed a gesture, at which point “other members of the group would join, mirror the gesture currently being performed, and then perform their own gesture for others to mirror. This technique, borrowed from dance, is called flocking.”²³⁵ In this performance, flocking as an algorithmic operation that stitches together collective movements was intended to provoke a shift in consciousness for the audience and “bring some of the affective violence felt by the participants into the space of an international art biennial.”²³⁶

For cárdenas, collaboratively inventing and experimenting with new ways of conceptualizing safety and vulnerability, in person, are paramount to the high-tech aspects of the project. She argues that in the process of testing the garments, “it has become clear that non-digital social networks are far more important than the digital technologies involved, because even if the technology worked perfectly flawlessly...[it] would still rely on the human will to respond and the social agreements as to what to do in case someone else in the networks needs help.”²³⁷ Moreover, the technology does not, in fact, work perfectly, as “circuits sewn by hand were not reliable enough in the long term” and “battery life was another limiting

²³⁵ cárdenas, “Trans of Color Poetics,” 2.

²³⁶ Ibid.

²³⁷ Ibid.

factor.”²³⁸ Finally, the cost of the wireless transmitters was prohibitive, resulting in garments that were too expensive to be accessible to the people who most need them.

cárdenas writes of the *Autonets* performances,

Ultimately, these performances were still performative, speculative gestures, as the strength of bonds needed to rely on others to protect them from violence cannot be built through a handful of workshops and performances. While I knew that stitching those affective bonds was of central importance to the project, I underestimated the multiyear commitment required to build fully functioning community-based responses to violence.²³⁹

The importance of “speculative gestures” and “affective bonds” cannot be underestimated in the anti-racist, queer and transfeminist project of imagining and crafting safer, more habitable worlds. While profit-driven corporations are often unwilling to engage the kinds of years-long, community-driven research and intensive dialogue cárdenas describes, instead designing their technological devices without substantial input from the people who will be most affected by both their intended and unanticipated applications, the speculative nature of the functional prototypes developed by cárdenas is something that can be explored and iterated long-term in spaces like those that exist inside maker cultures. This can only be accomplished if what is recognizable as “making” does not entail only the uncritical consumption of technological products, but works to actively hack, redesign, and ultimately transform what technology altogether.

cárdenas’ work on trans of color safety continues in her recent project *UNSTOPPABLE* (2015-present), which reimagines the meaning of “wearable technology” altogether in its designs for DIY bulletproof clothing for black trans

²³⁸ Ibid.

²³⁹ Ibid.

women. While in high-tech maker cultures wearable technology usually refers to sensors, transmitters, and “smart” devices worn on the body to track and share data being produced by individuals during daily activities like exercising, *UNSTOPPABLE* moves away from the kinds of electronic textiles used in *Autonets* in order to focus on the use of low- or no-cost recyclable materials in the construction of garments, such as rubber from used tires and Kevlar from car airbags found in junkyards. The project thus transforms “wearable technology” from something that is expensive, inaccessible, and designed by elites into that which can be custom made from salvaged materials, for the purposes of saving lives rather than collecting data on them.

This understanding of technology’s life-saving potential emerges from Cárdenas’ collaboration with artist and activist Patrisse Cullors, one of the cofounders of the Black Lives Matter movement, whose keynote speech at the opening ceremony of the 2015 Allied Media Conference emphasized uses of technology based in social justice: “how will technology save black lives? In a world where surveillance is an everyday reality, when media and technology is used against us to track us, harm us, and kill us—we have to be present for a technology that saves black lives. It isn’t about fearing technology, it’s about utilizing it and creating it so it works for us.”²⁴⁰ Cullors’ comments highlight agency and empowerment in the use of technology rather than powerlessness in the face of surveillance. They also call to mind Ahmed Mohamed’s experience of surveillance and policing at school, experiences which were meant to curtail his ability to hack the technological devices to which he had

²⁴⁰ “The Black Lives Matter Movement Convenes at AMC2015.” 4 August 2015. <https://www.alliedmedia.org/news/2015/08/04/black-lives-matter-movement-convenes-amc2015> Accessed 13 February 2017.

access as a way of expressing creativity and demonstrating his knowledge. Just as cárdenas stressed the human relationships at play in community safety networks in *Autonets*, Cullors urges her audience to take an active role in the creation of tools and technologies that will help keep protect black lives and combat surveillance, rather than assuming that digital technologies alone will automatically “solve” such a complex problem as violence. The DIY approach of *UNSTOPPABLE* models how vulnerable communities might apply unconventional technological knowledge to their own safety, using the materials at hand, instead of waiting for corporations or the state to develop solutions to urgent issues.

As with *Autonets*, cárdenas and her collaborators document the process of materials testing and garment design through photos and blog posts on the project’s website with explicit invitations to participate, making it possible to replicate their experiments and contribute to their research. She writes that they used a 9mm gun in their tests because it is the same size weapon that was used to kill Trayvon Martin,²⁴¹ the Florida teen whose murder by George Zimmerman in 2012 sparked the Black Lives Matter movement. cárdenas’ “Material Experiments” include cutting down free tires with a sawzall and taking them to a shooting range, where they are taped to a plywood stand in layers alongside Kevlar from recovered airbags and affixed with targets. Close-up images of used bullets, the sawzall and safety glasses, and artfully arranged sections of tire tread are interspersed with photos of cárdenas holding a 9mm pistol and aiming a 5.56mm rifle against the backdrop of the mountainous terrain, wearing sunglasses and a bright red sleeveless tank that exposes her tattooed

²⁴¹ cárdenas, “Materials Testing #1 and New Designs with Edxie Betts,” <https://faculty.washington.edu/michamc/wordpress-unstoppable/2015/11/29/materials-testing-1-and-new-designs-with-edxie-betts/> Accessed 8 February 2017.

arms, as well as photos of her collaborator Edxie Betts, a self-described “black, filipin@, black footed, trans femme, gender non conforming, queer anti-authoritarian art healer.”²⁴² Edxie models the prototypes of the used tire backpack and a Kevlar dress, whose shiny silver fabric still retains the rounded shape of the airbag as well as some of the artifacts of its installation in a car, like the circle of stitching partially hidden beneath the bright red band accentuating the waist of the dress.

Taken together, these photos mingle femme fashion (ruffled silhouettes, crop skirts, flashy colors, elaborate tattoos, and bold accessories) with the masculinized aesthetics of American gun culture that get reproduced via online forums, where camouflage-clad hunters, military and ex-military personnel, and other gun enthusiasts share pictures of themselves posing with weapons, buddies, and their kills in rugged outdoor settings. Combing such forums for useful information is part of cárdenas’ research process: “As is described on numerous right wing, racist and survivalist forums, one can find Kevlar at an auto junkyard, and when layered 15 layers deep, Kevlar should be bulletproof against smaller caliber weapons like pistols.”²⁴³ She has also posted screenshots of user comments on sites such as SurvivalistBoards.com, in which one user describes his attempts to make a bulletproof vest out of felt, sand, and silicon and eventually recommends against making one’s own body armor: “It would probably be better to forgo body armor altogether and rely on increased speed and agility than to go with cheap, homemade

²⁴² Edxie Betts as quoted in micha cárdenas, “UNSTOPPABLE Exhibition at INCA Institute in Seattle and media coverage,” <http://faculty.washington.edu/michamc/wordpress-unstoppable/> Accessed 15 February 2017.

²⁴³ cárdenas, “Material Experiment #2: Kevlar Air Bags,” <https://faculty.washington.edu/michamc/wordpress-unstoppable/2015/11/29/material-experiment-2-kevlar-air-bags/> Accessed 15 February 2017.

stuff that will weigh you down, restrict your movement and STILL allow bullets to pass through your body uncontested.”²⁴⁴ These forums not only offer disturbing insights into the thought processes and strategies of the kinds of people who gravitate toward vigilantism and apocalyptic “prepping,” but also demonstrate that they can afford to buy Kevlar by the roll in order to make their own body armor, as this user suggests earlier in his post, while most queer and trans people of color, who are frequently criminalized and kept in poverty due to systemic racism, transphobia, and institutional violence, cannot.

Unfortunately, communities of end-of-the-world preppers overlap with some segments of the mainstream maker movement, sometimes jokingly in the guise of people developing gadgets for a fictional zombie scenario, sometimes more seriously in the form of prototyping security devices and life-sustaining systems for luxury bunkers built out of shipping containers that only the wealthy could afford to outfit. The photo documentation of *UNSTOPPABLE* exposes and subverts the ways these attitudes circulate, challenging normative assumptions about who is deserving or capable of protecting themselves, and who is assumed to have a future. The language on the website also makes it clear that vulnerable communities are already living in dystopian worlds where surveillance, policing, and state violence are daily realities and their lives are expendable, while others are protected. For the trans women of color that cárdenas’ work engages, “the apocalypse” is not a singular catastrophic event that has yet to arrive, but something through which they fight to survive in the present.

²⁴⁴ Charles Martel as quoted in cárdenas, “Screenshot of survivalistboards.com,” “First Prototypes: Bulletproof Dress and Backpack,” 23 July 2015. Screenshot. Accessed 15 February 2017.

The *UNSTOPPABLE* website demonstrates practical ways that trans people of color can learn about self-defense, gun safety, and the materials that crowd our junkyards and, often, backyards. While not everyone has safe and legal access to guns for the purposes of testing materials (nor, for that matter, is cárdenas necessarily advocating for more people to arm themselves with guns), the project is an experiment in how to distribute collective knowledge via “art as intervention.”²⁴⁵ The tested materials, including the used bullets and punctured airbags, have been exhibited alongside the dress prototypes and images of the process at Seattle’s Institute for New Connotative Action (INCA), the Alice Gallery (also in Seattle), and Works/San José art and performance center in California. The artists and local activists also host public conversations in conjunction with some of these events to discuss “how art can be a space to develop direct action strategies to save the lives of black trans women, trans women of color and black people more broadly.”²⁴⁶ Being able to see a used 9mm up close in a glass cloche as it was displayed at INCA, made into an object of scientific knowledge and systematic examination, is to put under public scrutiny the killing structures that result in the deaths of innocent people like Trayvon Martin and dozens of black trans women each year, not to mention those that go uncounted and unnoticed. Such exhibitions give the public tangible access to the materiality of objects that can and have been used to commit state and extrajudicial violence, making these events a reality for those who have the privilege of ignoring

²⁴⁵ cárdenas, “UNSTOPPABLE,” <http://faculty.washington.edu/michamc/wordpress-unstoppable/> Accessed 16 February 2017.

²⁴⁶ cárdenas, “Unstoppable exhibition in INCA,” 5 March 2016. <https://faculty.washington.edu/michamc/wordpress-unstoppable/2016/03/05/unstoppable-exhibition-in-inca/> Accessed 16 February 2017.

them while creating an archive of evidence in the face of erasure for those who do not.

cárdenas continues this work in the Poetic Operations Collaborative at University of Washington Bothell, whose abbreviation, POC, puns on the vernacular concatenation of the phrase “people of color.” She is also currently involved in developing health and fitness apps for trans people, whose specific needs are often excluded entirely from normatively gendered technologies for tracking exercise, and who frequently report experiencing gyms and fitness cultures as sites of violence, trauma, and exclusion. This project, *#stronger*, “aims to develop a decolonial vision of futures of health, fitness and strength for trans and gender non-conforming people” in order to contribute to their safety and overall wellbeing.²⁴⁷ The range of forms of cárdenas’ work demonstrates that the categories of art, activism, and theory are, by themselves, insufficient to describe the kinds of interventions that “making” could encompass. Canadian artists Hazel Meyer and Cait McKinney, whose writing and installation art I examine in the final chapter, similarly show the queer and trans feminist potential of embracing making as a method for archiving speculative world-building projects in process.

²⁴⁷ cárdenas, “#stronger,” Research, Poetic Operations Collaborative. <https://faculty.washington.edu/michamc/lab/research/> Accessed 16 February 2017.

Chapter 5: Crafting Queerer Worlds

Don't Be a Tool: Speculative Feminist Maker Movements

As I have shown, despite their reputation as a haven for wealthy white men with expensive technological toys and inaccessible if not toxic spaces, maker movements are also sites of queer, trans, and anti-racist feminist intervention, creativity, and knowledge production. This chapter continues to explore the concrete ways feminists challenge what counts as cultural production in maker movements, and how they are applying speculative materialist knowledge practices to invent new genres of activism and education. Anti-racist, queer and trans art and research can help us retool our visions of what maker movements could become, putting into practice feminist theorizations of materiality, art, and technology. In this chapter, I examine the work of Hazel Meyer and Cait McKinney, who prototype aesthetically innovative, art activist responses to crucial issues such as the exclusion of queer and trans sexualities from normative histories and institutions. Taken alongside the work of micha cárdenas and artists such as Allyson Mitchell, LJ Roberts, and Sheila Pepe, such responses constitute part of an emergent queer and trans feminist maker movement. Finally, by way of conclusion, I also offer my final project, “Golden Showers,” which deploys some of the aesthetics of queer archival praxis that Meyer and McKinney’s work highlights. “Golden Showers” uses soft circuitry to document queerly felt erotics in the dismantling and reassembly of everyday life; it is an

amateurish material reworking of the intimacies that sustain our imaginations and emotional lives.

In their short online essay, “Tools for the Feminist Present,” artist and academic duo Hazel Meyer and Cait McKinney (both white queer women) explore the questions, “What would it mean to think about the history of feminist activism through its tools? Through the materials, technologies, and routines of its making?” Interspersed with brief descriptions are black and white drawings of pegboard hung with “tools” such as chisels, floppy disks, headphones, and a mini card catalog.²⁴⁸ The sketches also include pegboard with Sharpie silhouettes of tools that are not currently hanging up, such as a jump rope—for keeping active in queer and trans feminist subcultures of health and fitness—and a mallet—presumably for smashing imperialist white supremacist capitalist patriarchy. The pegboard calls to mind DIY spaces past and present, from suburban garages and basements for tinkering in privacy, to community-based makerspaces where people of all ages can collaboratively experiment with and learn how to use tools.

The essay references the popular practice of outlining in marker or tape the locations where oft-used tools should be replaced by newcomers who may not be sure where everything goes, an organizational practice that keeps things tidy while allowing someone looking for a tool to see, at a glance, what is currently being used or borrowed by someone else. As Meyer and McKinney write, their pegboard setup is offered in homage to *The New Woman’s Survival Catalog* (1973), which provided a practical guide to DIY feminist empowerment; their reimagining “captures

²⁴⁸ Hazel Meyer and Cait McKinney, “Tools for the Feminist Present,” *No More Potlucks* 44: Reflect (May-June 2016). <http://nomorepotlucks.org/site/tools-for-the-feminist-present-hazel-meyer-and-cait-mckinney/> Accessed 22 August 2016.

feminism's rich countercultural history, too often forgotten within the masculine, white settler aesthetics often used to re-engage 1970s DIY techno-cultures from the present.”²⁴⁹ A compelling visual metaphor, the intricately drawn pegboard—with its subtle scuff marks signaling frequent use—enables us to reintegrate the DIY feminisms examined in my first chapter into contemporary maker cultures, putting an array of different tools on display in a non-hierarchical arrangement that invites the user to pick and choose, appropriating as they will.

For Meyer and McKinney, “Peg board is a small-scale world-making project, utopian, as feminist politics often are,” and the Sharpie outlines “can be practically aimed at accommodating the tools we already have, or they can be aspirational; spaces held open for tools we hope to house, or haven't yet imagined.”²⁵⁰ The “Anti-Obsolescence Floppy Disc of Feminist Elders,” for example, urges us to

Browse the forgotten gallery of early women and trans coders, operators, and engineers. Play in the archive through one of several limited-edition, collectively made feminist video games. Explore the story of Sandy Stone's landmark essay ‘The Empire Strikes Back: A Posttranssexual Manifesto’ (1987) as it has circulated through early Bulletin Board Systems (BBS) and listservs, re-versioned over the years by Stone, who continues to distribute the text under creative commons license.²⁵¹

Ironically juxtaposing the floppy disc, itself an obsolescent technology, with the avant-garde of trans feminist theory and techno-cultural production, the essay does its own play on versioning by remediating the knowledge of these “elders” as instrumental to our current moment, still up-to-date and cutting edge—not dinosaurs or antiques. The miniature card catalog depicted similarly assembles a tiny intertextual and trans-temporal archive, the cards featuring Stone's manifesto

²⁴⁹ Meyer and McKinney, “Tools for the Feminist Present.”

²⁵⁰ Ibid.

²⁵¹ Ibid.

alongside, among others, Donna Haraway's "The Cyborg Manifesto," JR Roberts' "Black Lesbians: An Annotated Bibliography," and even a self-referential nod to *No More Potlucks*, in which Meyer and McKinney's essay appears. The small, utopian world conjured here thus figures continuity between analog and digital, between unfinished histories and the present. It recognizes the importance of information technologies invented since the publication of *The New Women's Survival Catalog*, as well as how the materialities of relatively "old" media, like out-of-print zines and the cards in the back of hard-to-find library books about queer sexualities, significantly influenced the ways that feminist communities took shape over time. Meyer and McKinney's collaborative work mediates queer and trans feminist pastpresents, figuring an erotohistoriographical encounter with a material-textual archive that makes a repertoire of tools available for reimagining what maker movements have been and could be.

The final sketch in the essay depicts a large binder clip hanging from the pegboard by itself, with the note, in irregular handwriting and official-looking calligraphy, "Feminist tools are 100% guaranteed to frustrate, fail some of the time, and be incompatible with the feminist tools of others. If you are not satisfied with your tool for any reason, try passing it on to a friend; the best pegboards are built through collaboration."²⁵² Its edges appear ragged, with fragments of text visible, as though torn from the back of a catalog or warrantee booklet. By highlighting the inadequacy of many of our actual and conceptual tools, Meyer and McKinney do not fetishize tools and technologies in the ways that the mainstream maker movement often does in order to sell products. Instead, the essay counters the popular and

²⁵² Ibid.

inaccurate conceit that the “right” tools and materials are all one needs for a makerspace or a craft project to be successful. This assumption often puts the onus of failure on the user of the tool, rather than its designer or manufacturer, when a project does not go as anticipated. Implicit in this “guarantee” of frustration and failure is the fact that no tool is self-explanatory, obvious, or intuitive for everyone. Tools can be misused, broken, “hacked,” redesigned, and reinvented. It can take years to figure out which tools are appropriate for one’s purposes, a trial and error process mitigated by help from others in the form of collaboration and teaching. Not all tools are designed for all bodies or communities, as disability theorists have repeatedly pointed out. A tool might work for me but not for you, hence Meyer and McKinney’s instruction to be generous with lending and borrowing. Their work opens up a space—utopian yet not overly idealistic—for conversation about why and how queer, feminist, and anti-racist tools function or fail.

Pegboard as a DIY, queer feminist archival technology for organizing tools and media appears again in Meyer and McKinney’s collaborative 2016 installation “Tape Condition: degraded” at the Canadian Lesbian and Gay Archives (CLGA) in Toronto. This immersive community digitization station, recreation room, and (potentially) masturbatorium comprises a casual viewing area with a battered brown chair and footstool positioned in front of an old television on a low tabletop supported by red milk crates. Blending the aesthetics of queer domesticity and DIY BDSM dungeon, above the chair hangs a potted fern, from the bottom of which dangles tendrils of kinky black paracord. The installation showcases a number of functional and partially disassembled devices like VCRs, a microfiche machine, a clunky

camcorder on a tripod (strategically aimed at the chair to capture erotic performances of viewing), and an Olympia word processor alongside filing cabinets and archival storage boxes. One wall of the exhibition is entirely covered by bright pink pegboard displaying a bullhorn, rubber-tipped clothespins, fingerless gloves, and a framed photo of the late Chris Bearchell, a former staff member at CLGA and a renowned Canadian feminist and gay liberation activist. The pegboard also features framed drawings by Meyer, which are included in the exhibition's accompanying publication.²⁵³ "Tape Condition: degraded" is the culmination of Meyer and McKinney's years-long work digitizing the CLGA's substantial collection of VHS tapes of queer porn, whose salacious contents occasioned so many police raids on the archives in the 1980s that Bearchell is "said to have advocated for the construction of a never-realized false-wall...behind which all the porn could be kept hidden."²⁵⁴ Visitors enter the installation through a jagged opening in just such a wall, giving the impression that they have stumbled upon a secret dungeon cum preservation room that someone busted open with a crowbar.

The general public was invited to make appointments to digitize their own VHS tapes on a new Mac computer at one of the desks in the exhibition, combining more formalized institutional preservation practices with DIY, grassroots efforts to archive everyday life. Thus the installation was not just a commemorative way of marking a past moment in queer history, but also a space in which to teach and learn

²⁵³ Hazel Meyer, *No More Shit! (for Chris Bearchell)*, 2014, ink on paper, 28 x35cm, in Meyer and McKinney, *Tape Condition: degraded*, NP, <http://caitmckinney.com/TCD.pdf> The publication also includes "Dream Tapes" by eleven other artists, descriptions and depictions of the kinds of materials they fantasize about finding in the archives.

²⁵⁴ Meyer and McKinney, "Play, Rewind, Repeat: Queer Porn Archives and the Digital Afterlives of VHS," *Tape Condition: degraded*, NP, <http://caitmckinney.com/TCD.pdf>

practical skills that empower ordinary people to make their own history. It is within this context of familiarizing oneself with the tools for remediating and sharing archival materials and artifacts that I would like to think about “Tape Condition: degraded” as a kind of queer feminist makerspace, even though the installation was not specifically a place for the creation of handmade objects or crafts as such. McKinney asks, “how can digitization act as a moment of rebuilding and repairing the historical exclusions within LGBTQ archives: the bodies, desires, and identifications marginalized within archival records?”²⁵⁵ This attempt to “rebuild” and “repair” archival and artistic institutions through the creation of physical and imaginary spaces, the destruction of actual and metaphorical walls, and the distribution of both high-tech and low-fi media tools, can act as a model for queer feminist and anti-racist interventions into maker cultures. Meyer and McKinney’s makerspace brings together oppositional acts of viewing and production (in the case of the chair within sight of both television and camera, where one could imagine filming oneself masturbating, as Bearchell herself is rumored to have done,²⁵⁶ to queer porn) as well as preservation and access (in the case of “daisy chains” of porn on VHS, “the DIY method of bootlegging tapes from other tapes” in order to

²⁵⁵ Cait McKinney, “Tape Condition: degraded,” 25 September 2016 <http://caitmckinney.com/2016/09/tape-condition-degraded/> Accessed 25 January 2017.

²⁵⁶ Meyer and McKinney, “Play, Rewind, Repeat: Queer Porn Archives and the Digital Afterlives of VHS.” NP. The essay relays an anecdote from Bearchell’s obituary about the activist’s creation of a masturbation tape, which the artists were unable to find in the archives. Some of Bearchell’s homemade porn did surface during the run of the exhibition, however, and Meyer and McKinney attempted to find a Super 8 projector on which to view its unknown contents, according to their interview with Amy Fung.

“amplify and multiply what’s already been recorded...with an ethos of sharing, circulating”²⁵⁷).

When asked in an interview about the pegboard in the installation and in her and McKinney’s shared kitchen, Meyer responded that it helps create the feel of “a functional perv zone, like an S&M dungeon where you can see all the tools of what’s available. She recounts the moment when she was going through Chicago’s Leather Archives and Museum tumblr and just seeing this beautiful dungeon with wall-to-wall pegboard. To see all the floggers, blindfolds and tools you could use on someone is part of the experience.”²⁵⁸ McKinney also remarked on “the aesthetics of display and how the pegboard allows someone to take in all the possibilities.... They are as powerful as the objects themselves.”²⁵⁹ Their comments echo their conceptualization of pegboard as utopian space of possibility in their *No More Potlucks* essay, and McKinney’s mention of the “aesthetics of display” calls attention to the ways that feminists have appropriated some of the aesthetics of the maker movement while countering a “technology for technology’s sake” attitude. Meyer and McKinney’s work encourages the users of these spaces to think critically about the social, cultural, and activist uses of specific tools and technologies and their usefulness for the kinds of worlds we are currently crafting. In the final section, “Golden Showers,” I return to soft circuitry to figure one possible form such a world might take.

²⁵⁷ Amy Fung, “Gay Liberation, Sex Dungeons, Gossip, and What We Want in Art,” *Canadian Art*, 13 September 2016 <http://canadianart.ca/features/hazel-meyer-cait-mckinney/> Accessed 25 January 2017.

²⁵⁸ Ibid.

²⁵⁹ Ibid.

“Golden Showers”

What kinds of resources go into the reorganization of social life as we know it? With what tools do we reshape the crushingly familiar intimate gestures that may not be working for us? Craft offers materials and techniques for experimentation with the shapes that social life can take; it offers a formal language for thinking about love as a conceptual and material project: a collection of intentions and other affective and embodied practices that may or may not cohere in order to *make it work*, to *make something happen*. Crafting attaches us to worlds in the making. Crafted objects are queer companion species in promiscuous intimacies, collaborators in love—proof that in speculative feminist materialism there are no finished projects, only beginnings.

A beginning, of a sort: it is 2014. I am standing in a long, winding line at the Salt Lake City airport with a new acquaintance—a crush, a future partner. We are at the end of a grueling four-day conference, some of the events of which I helped organize. I am exhausted and, frankly, hungover from the previous night’s end-of-conference festivities. It is difficult to remember what we are talking about, but I mention, apropos of nothing in particular, that I enjoy peeing on people—that there is little that approximates the delicious feeling of shame and filth of being pissed on by someone or of pissing on oneself. Compared to my other kinks, this one is relatively recent, as are my adventures in nonmonogamy. Indeed, I may have only considered I could be “into it” because I read Dorothy Allison’s classic short story, “A Lesbian Appetite,” and Samuel Delany’s long and dirty book, *Through the Valley of the Nest of Spiders*. Regardless, whatever I say is not actually this eloquent, and I try to pretend away my embarrassment by passing it off as bravado. He looks bemused, a

little surprised, hardly fazed by my oddly timed confession. A TSA agent, a middle-aged white guy, opens up a stanchion next to us, gesturing at my new confidante.

“You together?” he asks me.

“Uh, no, no I’m not with him,” I respond, too quickly, unsure what is being asked of me and becoming more convinced by the millisecond that I answered inappropriately. I’m startled at how the presumption that we are a heterosexual couple reaches out for us, engulfing the tiny halo of personal space we occupy in the bustling airport. How, when I am standing next to a man, even a stranger, I am straightened out. Strategic aspects of my gender presentation, the details of my partnerships and my sexuality that feel the most relevant and pressing in my daily life, don’t matter—become invisible. Inhabiting the position of privilege of a cisgender white woman means that these erasures and misreadings have not as yet been the cause of public or private harm to my physical wellbeing at the hands of others, as they overwhelmingly are for queer and gender nonconforming people of color, especially trans women. But that does not mean that I am not confounded and frustrated by them almost daily, searching for productive ways of countering or mobilizing them.

“Melissa,” my crush of the last seventy-two hours whispers, inclining his head toward the opening the TSA agent has created as if to say, *Come on*. We’re not being hassled, as I was starting to think. We’re being hailed, recognized in this moment by heteronormativity as one of the apparatuses of white supremacist state surveillance. We step past the man and into the space made by power, skipping the line—two differently gendered white people, not quite together, each of us queer in our own subtly shifting and yet to be discovered ways.

A year after that I was making art about piss. How might a handmade thing capture what it feels like to repeatedly come out about queer sexual pleasures that take unexpected and sometimes hilarious forms? I desired a craft object that would do some of the labor of confessing this curious erotic practice—that could, in the words of *Project Runway*'s tastefully flamboyant Tim Gunn, “*make it work!*” Like performative utterances that call worlds into being, cross-stitched words, phrases, and images also *make things happen*. Cross stitching “Golden Showers,” one of my favorite nicknames for piss play, helped me understand what I was hoping to accomplish with these casual but nonetheless fraught acts of self-revelation. At best they tended to elicit curiosity: how does that work, exactly? The logistics are endlessly compelling, the follow-up questions numerous. Where and how do you do this? What about the mess? How did you find out you were into it? What does it *do* for you? The question of *why* it works—why it turns people on—is a more complicated one. Ultimately, I guess I figured that if you didn't run away or try to shame me when I told you about this debased sexual practice, I could probably be friends with you. This is a queer worlding tactic leftover from my tomboy adolescence: shock other weirdos and perverts into liking you, and cohere a social life with those who share an experience of shame, exclusion, and loneliness. In this way the daily affective labor of “having feelings” about something—producing emotional responses in oneself and in others—is the material for the ongoing project of making social worlds.



Fig. 19: Cross-stitched piss droplet on black Aida cloth.

A formal experiment as well as an exploration of erotic practice, “Golden Showers” (Figure 20) depicts its titular phrase in golden-brown embroidery floss on black Aida cloth, illuminated by two yellow sewable LEDs behind eyelets in each letter ‘o.’



Fig. 20: “Golden Showers” illuminated by yellow sewable LEDs.

In addition to a cross-stitched piss droplet falling from near the center of the words (Fig. 19), yellow light drips gently from these small holes. Like many of my projects, I used the idea as a vehicle for learning more about specific craft techniques. Looking for a way to diffuse the light from the LEDs, which create very bright localized illumination, I followed online tutorials for making an embroidered eyelet: a small reinforced hole created in fabric that can be used to give the effect of lace or, more functionally, to thread with ribbon in order to secure a garment. With LEDs behind them, eyelets allow light to shine through but obscure the electrical components and the gray conductive thread; the embroidery floss around the eyelets distributes the light softly and evenly. The LEDs are powered by a 3V coin cell battery in a sewable battery holder controlled by an on/off switch (Fig. 21, left), and are arranged in a parallel circuit so that they can split the voltage equally (Fig. 21, right). Hiding the circuitry on the back of the piece on a thin strip of felt, invisible from the front, lent the glowing words an aura of mystery and inviting warmth.



Fig. 21: The back of the sewn circuit with battery holder on white felt (left). The front-facing side of the circuit with two yellow LEDs, connected with conductive thread.

“Golden Showers” thus materially and visually figures a queer kind of eroticism. The pale, off-yellow embroidery floss is beautiful but seems a bit dirty, the LEDs further highlighting this impurity with their bold, bright color. Queer sex acts, especially those involving urine—the colors of which, incidentally, are too variegated and unique to be described by a single word, “yellow”—are also beautiful and dirty. Some, like me, find them beautiful or pleasurable *because* they are dirty. The light emanating from the thickly embroidered eyelets suggests the warmth of hot piss, but also the deep, comforting satisfaction of performing this activity with an intimate other—someone to whom you can entrust your most vulnerable, disgusting, and

childlike scatological excess. That kind of trust, made possible in part through the struggle of feminists and queers to politicize and transform sexual consent, is hot! The eyelets are pee(p)holes onto queer erotic gestures, holes in the fabric of heteronormative life (which is, as Gayle Rubin illustrated with the concept of the “charmed circle” of sexuality,²⁶⁰ built partially on the illusion of sanitized and “appropriate” sex) by the light of which we are able to glimpse an alternative. Traditionally punched through fabric with a stiletto, an embroidery tool that resembles a thin, tapered dagger or an extra large needle, eyelets are traces of the penetrative power of feminine creativity to violently and carefully puncture the status quo. Rather than a nothing where something complete used to be—an absence—eyelets are windows to other worlds, other forms of life.

Like peeing on people, craft is a mode of practicing queer pleasure. Crafting is a turn-on; it’s physically and emotionally satisfying, and although it can be used to create functional objects, often it is an end in itself: a pleasurable set of practices whose complex sensory and cognitive effects cannot be reduced to simply “having fun.” The same could be said of queer erotic practices, which, albeit fun, *make things happen* when we build identities, lives, and worlds around them, even temporarily. Here I am using craft to think about a performative kind of lovemaking, a praxis for relating to each other that asks us to busy ourselves with the gentle and tedious work of repair and embellishment; the repetitive and time-consuming labor of going stitch by fragile stitch; the delicate and painstaking task of *caring* that must be undertaken again and again in order to *make it work*—“it” being the forms of our relationships,

²⁶⁰ Gayle Rubin, “Thinking Sex: Notes for a Radical Theory of the Politics of Sexuality,” *Pleasure and Danger: Exploring Female Sexuality*. Ed. Carole S. Vance (London: Pandora, 1992): 267-293.

our utopian dreams for our worlds, projects both long-term and short-lived. “Golden Showers” is just one kind of representation of the ongoing making-vulnerable that is intimate entanglement, a “becoming-with” not only one “other,” but the proliferation of many different types of significant otherness.²⁶¹ To craft intimacies, to make a *thing* that documents the everyday temporalities and shapes of our intimate relations, is to offer up a world in the form of a gesture or a series of gestures—the gesture of giving a gift to someone else, but also the performative bodily labor of craft practices accumulating over time, to which Jeanne Vaccaro refers as the visceral methodology of the handmade.²⁶² Crafted artifacts are the material evidence of worlds in the process of *becoming*, whether they are just coming together or are about to fall apart.

The project of cohering worlds, like the project of dismantling and repairing them when they are not working, is less about being perfect, “doing it the right way,” or following the instructions than it is about making a connection, using what is at hand to work *with* and *through* resistance. In circuitry, soft or otherwise, resistance (Ω) is the ability of materials to work with or against our purposes. Resistance affects the amount of energy flowing through different parts of a circuit, and while it reduces electrical current, it is productive in that it can dramatically impact the outcomes of our projects. This is more than a metaphor for how feminist and Foucauldian models of resistance describe the productive effects of power; it is a material reality of how things work in an everyday world where circuitry is not only all around us, but also increasingly difficult to access and modify as technological devices become more

²⁶¹ In *The Companion Species Manifesto*, Donna Haraway uses significant otherness to refer to “vulnerable, on-the-ground work that cobbles together non-harmonious agencies and ways of living that are accountable both to their disparate inherited histories and to their barely possible but absolutely necessary joint futures” (7).

²⁶² Vaccaro, “Feelings and Fractals,” 275.

pervasive, specialized, and disposable. Part of the reason that the sewable LEDs in “Golden Showers” are so user-friendly is that they have small resistors built into them that prevent the LEDs from getting too much electricity and burning out, reducing the risk that novice practitioners will irreparably damage their components and be unable to reuse them in future projects. This aspect of their design presumably lowers barriers to learning about circuitry and electronics for women and children, the targeted users of the sewable components designed by Buechley. Thus “resistance” is not only something that women, people of color, queers, poor people, and other targeted communities deploy to contest unjust forms of power; as a boundary object, it is a generative friction that makes our circuits work or not.

In addition to resistance in the electrical sense, which can be accounted for and overcome with a simple mathematical formula (Ohm’s law) or through experimentation, there is also a more banal resistance specific to working with craft techniques and tools. Materials always resist the uses to which you try to put them. Thread knots and breaks, fabric frays, circuits short. Sometimes a project refuses to materialize and making it work is the best you can do. Sometimes you do not even know what you are making. Sometimes, your projects *piss you off*. Such was the case with “Golden Showers,” which went awry at almost every step of the process. After putting the phrase into a free online program that generates fonts onto a cross-stitch grid, I tweaked the irregular letters and transferred the pattern onto graph paper to make it easier for me to read and to alter if necessary as I worked. So the light from the LEDs would appear brighter and the gold embroidery floss would stand out, I used black Aida cloth, fabric woven with a grid evenly spaced openings designed for

cross-stitch. My first time embroidering on black cloth, I was unprepared for how difficult it was to see my work. Because it was much harder to count my stitches than on white Aida, almost every letter I stitched was in the wrong place or had some sort of mistake in it. The eyelets I created for each letter ‘o’ were asymmetrical, and seemed somewhat uglier than the eyelet I had first made to practice. Frustrated, I fixed these after I had finished stitching the rest of the phrase, buying myself time. Each mistake felt like another sign that I shouldn’t be making art about piss, that I shouldn’t be writing or talking about this publicly, that this was a project doomed to failure and that I should just give up.

But failure, like craft, queer sex, and worlding, is something that takes practice. Failure is rarely once and for all; it continues to haunt feminist, queer, and anti-racist praxis, and giving up doesn’t make it go away. To fail to live up to or to be invested in the requirements and expectations of normative life is to recognize that your social world is always already a failed project.²⁶³ It is to have to keep insisting that your world matters. It is to understand failure not as a discrete moment but as a *state of being*—the very social material with which we are working to craft something, anything, that feels just a little more livable. *Failure is an ethical and erotic practice, a method for making something out of nothing.* The practice of failure is the way to love.

²⁶³ In *The Queer Art of Failure* (2011), Judith Halberstam argues, “Under certain circumstances, failing, losing, forgetting, unmaking, undoing, unbecoming, not knowing may in fact offer more creative, more cooperative, more surprising ways of being in the world” than success according to heteronormative and capitalist terms (2-3). As she writes, “Failure is something queers do and have always done exceptionally well” (3).

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