In my work, I am interested in exploring the mechanisms of skill-sharing, how tacit knowledge is imparted, and the possibilities for being reflexive on the manner in which education plays out in makerspaces or hackerspaces. In this work, a hackerspace/makerspace is a place where like-minded individuals gather to share tools, skills and projects while establishing a community of camaraderie. Often these spaces will focus on particular tools for material manipulation including laser cutters, 3-D printers, CNC routing machines, drill presses and soldering irons. While these places are touted as open and accessible to all, there are often dominant norms or narratives that rise to the surface, and implicit barriers of cost, elitism or location may keep certain people out of a space or practice of skill-sharing. The potential for critical workshopping and explorations into the structure of skill-sharing in DIY and DIT projects is rooted in the engaged and feminist pedagogy of bell hooks, as well as the consciousness-raising practices of Paulo Freire. While many makers and hackers are explicit about the politics of opening up the black-box of technology, there are some who are adamant their practices are just about having fun and tinkering in their free time. Critical reflection does not always factor into these practices, and the hackerspaces sometimes embody less a community of practice than a clubhouse for friends to tinker and play around with shared tools.

In reaction to this, there are some hackerspaces or groups that explore issues around the politics of ‘no politics’ and are explicit about the politics they want to impart within their practices and skill cultivations. Feminist hackerspaces take on a socially political stance in their groups, grounded on acknowledging systemic privilege and dominant structures of innovation. As with other spaces, their focus is on experiential learning of tacit knowledge. Added in with that, though, they question norms of technological skill-sharing and cultivate a particular politics as important for moving forward into a constructively critical realm. DIY and DIT practices in makerspaces and hackerspaces take many forms, but in the end they factor into what Michel de Certeau explicates as tactical moves within the practice of everyday life. The possibility in this framework is to recognize these particular acts as exploratory and subversive – but sometimes the line needs to be drawn at what acts are breaking boundaries and which are reinforcing them.

The need for delineation regarding these narratives comes up when comparing the subversive tinkering tactics happening at feminist hackerspaces and Repair Cafes with innovation incubator and Silicon Valley rhetoric that comes out of TechShop prototyping focused on consumerist, capitalist end goals. In this context am also interested in taking a critical look at the terminology and labelling that drives the ‘Maker Movement’ in particularly Western Centric contexts. While some label personal fabricating and DIY practices as a new trend in computer-centric cultures, there are groups at the margins of society that have ‘always already’ taken on fabricating, repair, and bricolage practices as a needed and sustainable way of life. What does it mean to label these groups as doing something ‘new’? Particularly when trends highlight a particular commercialist/consumerist bent toward ‘making’ through the need of 3-D printers, laser cutters, DIY kits and project-specific devices.

Other narratives that I explore are subversive music scenes and their fostering of DIY practices, particularly with technological manipulation. I am interested in bringing particular artistic sound and noise projects engaged in flexible interpretation and bricolage of materials into the hackerspace skill-sharing realm. Several threads of DIY practices emerging from the underground music scene include circuit bent toys and homemade contact microphones, as well as radio transmission arts practices. Musicians include in this form of technological tinkering often find unwanted objects being sold cheaply at yard sales or thrown away into trash heaps. By caring for these objects and rethinking what they can do, they give it a new life while often creating new and innovative instrumentation. I am particularly interested in teaching and work-shopping the fabrication of contact microphones from cheaply acquired piezo elements and other components. Creating these sound devices is a satisfying and fairly simple project through which to learn soldering and to explore the possibilities of material sonification. By facilitating contact microphone-building projects, I have begun to untangle different forms of skill-sharing and begun to engage critical questions regarding who solders and why, while opening up different
ways and conceptions of ‘soldering’ (such as using conductive ink, conductive thread or conductive tape for the completion of circuitry).

In the vein of critical practice, I am interested in groups such as the Public Laboratory for Open Technology and Science (PLOTS), as well as the QAMP initiative of Agbobloshie in Accra, Ghana. Both projects have an interest in using DIY and DIT narratives for social justice works, and bringing the tools of informal scientific practices to the public sphere. PLOTS enacts these goals by sharing open-source blue-prints for over-head mapping technology (which are helpful for documentation during sudden pollution and oil spill events), water-temperature sensing flotation devices, and other toxin detection devices that are easy to acquire, fabricate and tweak for a particular local situation. They also work to create online and offline communities of tinkerers and data collectors who are invested in their local environmental story, helping to instigate spectacle-type events that bring awareness to particular pollution issues. There is no one exact or right way to deploy their openly developed technologies, and their success is deeply grounded on local ‘situated knowledges’ and available materials that help to tweak devices for a particular need.

The Agbobloshie Makerspace Platform (QAMP) group is deeply invested in working with the cultivated and specialized knowledge of the scrapper community in the large electronic waste (e-waste) dumping ground located in Accra, Ghana. They hope to facilitate in remediation practices and rethink what scrapping practices can do on-site. This has involved ethnographic interviews and surveying of scrappers, their working environment, and the classic practices they have developed to deal with large amounts of e-waste in the area. While acknowledging that these individuals and their communities are dealing with very harsh working conditions that can hopefully be improved, QAMP recognizes that they have much to contribute to the possibilities of remediation and improvement of working standards. They are interested in helping to establish more small-scale fabrication possibilities on site for the scrappers so that they might move beyond selling materials to outside processing centers toward doing their own processing on site with the hope of larger business end-goals.

These groups are doing phenomenal and interesting things geared towards the opening up of technology in subversive ways. Yet, there is still room to be critical and reflexive of practices that are inherently political and often preference certain types of knowledge over others. Working through artistic practice and Science and Technology Studies (STS), my work engages performativity and critical work-shopping as a site of critique, research and new methodologies. I am interested in exploring how the spectacular and creative can instigate new spheres of public discourse, critique, knowledge-sharing, and bottom-up production practices. In this vein, I have been participating in and leading makerspace/hackerspace workshops that take a critical, if playful, look at DIY and DIT skill-sharing practices. Exploring the potentials of these participatory events results in the making of ephemera, videos, photography, written works, and engaged discussions that examine how knowledge is imparted, practiced, actualized and materialized. In particular, I explore and unpack normalized dominant narratives that are reinforced in a space of “no politics,” and how these norms are (or are not) questioned by reactionary and subversive projects or practices. Recognizing that the academic written text is a craft and creative practice in its own right, my work pushes for the further inclusion of other creative endeavors in order to open up communicatory possibilities. I hope to document and create materials other than the written word, stepping into a realm of sensory ethnography that explores touch, site, sound and the feelings of lived experience. While, my work is still grounded in the discursive theories of feminist pedagogy, the engaged pedagogy of bell hooks, Donna Haraway’s “situated knowledges,” Matt Ratto’s Critical-making, it points toward an opening up of methodologies and practices for critique in the vein of José Muñoz’s queer utopic futures.