Situating Technology in Contemporary Latin American Feminist Art

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Abstract

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Traditionally associated with outsider and women's arts in art history, the current interest in crafts in non-Western feminist arts is concurrent with the rise of the global maker movement. In Latin America, the conjunction of art and maker cultures led to a surge of novel practices, including projects with feminist themes. As, in part, the expansion of hacking practices from open-source software to hardware that is inexpensive and relatively easy to use, can be seen as a significant factor for the emergence of such projects, the articulation of technology from race and gender perspectives, which characterizes these works, also diverges sharply from dominant discourses about makers culture.

From this perspective, the onus of these works is not on lauding "making" or hacking as practices that allegedly contribute to inclusiveness in science and technology fields (as manufacturing shifts from industrial to individual models), nor on using DYI (Do-it-Yourself) technology to create new markets (that include more women entrepreneurs, as portrayed in media reports about maker culture).[i] In contrast, contemporary Latin American women artists fusing craft and technology, do so to address the convergence of digital technologies and global capital, thereby simultaneously emphasizing its impact on the bodies and lives of women, and negotiating its dynamics to formulate alternatives.

Two projects, *Maquila Zona 4* (*MA4*) (2010-2013), a mobile maquila-production unit, and *Yuca-Tech* (2013-ongoing), a temporary textile lab, by the Mexican artist Amor Munoz (b. 1979, Mexico City), and *Bricolage Sexual* (2004-2010), a travelling sex-toy workshop, by the Chilean artist Carla Peirano (b. Santiago de Chile, 1981) and her collaborator Orit Kruglanski (b. 1982, Tel Aviv), provide a lens from which to consider the relevance of feminist epistemology in changing the current configuration of technological practices. Munoz's work focuses on labor, specifically, the key role of poor, Mexican women workers in the production of digital technologies, while Peirano's and Kruglanki's project addresses consumption, with a focus on the masculinist overtone underlying the marketing of technological products. Counter objectification, these projects are also designed to transform the dynamics addressed.

Similarly conceived, as participatory performances that fuse technology, craft, and gender and race perspectives, these projects echo Donna Haraway's thoughts on reductionism (in this case, typified by the idea that DYI technology will somehow prompt gender and race equity in science and technology). As Haraway put it, "what money does in the exchange order of capitalism, reductionism does in the powerful mental order of global sciences" (Haraway, 1988 p. 580).[ii] Both projects testify that what Haraway termed, "situated knowledge", a concept that focus on embodiment as a site of

knowledge (opposed to the idea that knowledge resides in the mind); with knowledge thus understood as always representing a partial perspective.[iii] From this critical position, Munoz's, Peirano's and Kruglanki's projects foreground the muted realities of women's exploitation and oppression in the global capitalist system of technological production and distribution. In the vein of Haraway's and a host of others' calls for the appropriation of knowledge and technology for feminist ends, they also simultaneously seek to articulate concrete modes of interaction and production distinct from capitalist forms of techno-production, which can be all and all characterized by a stress on the relationship between the body and technology.

So, while premised on the mobilization of "situated knowledge," *Maquila Zona 4* (*MA4*), *Yuca-Tech*, and *Bricolage Sexual*, are likewise conceived as collaborative practices in which the integration of open-source and re-purposed technologies and crafts is designed to both foreground views from "below", as well as enable knowledge sharing over the creation of artifacts, as an end in itself. In this regard, they formulate practices that can be seen as responses to Haraway's standing call for projects that privilege "construction, deconstruction, passionate construction, webbed connections, and hope for transformation of systems of knowledge and ways of seeing" (Haraway, 1988 p. 585).

Against this backdrop definition, this analysis situates these projects in light of their foci, on inquiring into the gendered and raced dimensions of electronic production and consumption, and rearticulating technology as a means to empower distinct knowledge, relations, and contestation. Because these projects intersect with long- standing and rich currents in feminist thought and practice engaging technology, this analysis will also include a discussion of past projects relevant to the understanding of the works at hand as practices, which by way of (fusing craft and technology), reshape and revitalize the threads of contestational feminist legacies. Like maker culture, these projects then are conceptualized on the close relationship between knowledge and transformation. Contrary to the instrumentalism of the former, an "entrepreneurial" ethos, however, their distinct focus on situated knowledge (on the body), stakes out "knowledge potent for constructing worlds less organized by axes of domination" (Haraway, 1988 p. 585).

Situating Technologies

Munoz's interest in electronics developed organically, out of interactions with other artists working with open-source technologies in Mexico, with whom she began working after her return to Mexico from New Orleans, where she trained as a visual artist with an emphasis on graphics (at the New Orleans Academy of Fine Arts).[iv] Alongside graphics and electronic art, her interest in indigenous textiles, and in particular *huipiles*, a traditionally embroidered garment worn by Mayan women in Mexico (and Central America), form the bases of her work. (The patterns on huipiles are connected to ritual and Mayan mythology, as well as identify the community to which the wearer belongs).[v] *Maquila Region 4* and *Yuca-Tech* combine these interests with concerns about the social and cultural dynamics underlying textiles' and electronics' production, two women-dominated occupations in Mexico.

Munoz's focus on gendered labor (the female laboring body) and craft was already salient in *Amor Porno* (2007), a project consisting of a collectible series of handmade embroideries and artifacts, including pillows, handkerchiefs and shoes, with themes relating to intimacy and sexuality. *Amor Porno* blends pornography, erotica and commentary about the exploitation of women's bodies in sex work. Later works similarly implicates embodiment by way of exploring interactions between bodies and textiles. Munoz's initial experiments with interactive textiles includes *Esquematicos* (2011), an

installation of five different sound-generating, large-scale textiles incorporating electronic components (electronic, open-source sensors), each of which were hand sewn based off her schematic drawings (hence the name). Inspired on the geometric aesthetic of constructivist graphics, these works evoke the schematic look of printed board circuits (PCBs). Each of the panels incorporates conductive thread, electronics and sensors designed to be activated by audiences. *Alcoholmeter*, for example, emits the sound of a siren and radiates with patches of color when you take a drink of alcohol and blow into its attached breathalyzer, and *555* oscillates a high-pitched radio frequency while you draw on a piece of paper that is connected with circuits.

In *Maquila Region 4* (fig. 1), Munoz explores related themes, materials and techniques, beyond studio and gallery spaces. Designed for public spaces, the project consists of a series of performative exchanges between Munoz, her ambulant textile factory, a large white bike-trailer equipped with materials required for the manual production of interactive textiles, including open-source hardware (arduinos, a programming platform), and residents of working class neighborhoods in Mexico City and Campeche. Conceived as a commentary on the social impact of globalized capital, the project mimics the conditions of *maquiladoras*, the Spanish term for manufacturing plants located in "free trade" zones, in which factories import materials on a tax-exempt basis for assembly and processing of products, often destined for export back to the raw materials' country of origin (typically textiles and electronics).[vi]

Like at the *maquiladoras*, Munoz's workers, the majority of whom are women, sign a contract, are paid hourly, and are provided with raw materials for assembly. The difference between Munoz's *Maquila Region 4* and industrial maquilas, is in the compensation received, however. Munoz pays workers between six and eight dollars an hour, in contrast to maquiladora wages, currently set at roughly $3.50 an hour (the minimum wage in Mexico is still lower, at sixty cents) (Cave, 2012). The work involves the production of interactive art pieces that combine sewing and embroidering with conductive thread over the patterns in the shapes of circuit board circuits traced on pieces of cloth. Once finished, each piece is catalogued through an embroidered BiDi tags (similar to QR codes), which contain information about the work including the "name of the worker, location, date and duration of the work session, salary received, schematic and a "self-representation" section where the worker can optionally add information about him or herself, stories, dedications, donations, videos or anything else." (Munoz, project's website). In this way, the embroidered tags, which can be 'read' with a mobile phone, function like the patterns on huipiles, (signs or symbols that tell a story about the wearer and her social environment). In this case, the tags serve to humanize maquila workers and their communities, and thus to place focus on the relationships implicated in the production of electronics, normally invisible to consumers of electronic products (fig. 2).

The notion of situated knowledge is central to *Maquila Region 4*, as it underscores the instrumentalist view of the body driving the racial and gendered make-up of labor in the electronic factories of Mexico, based on preferring mestizo and indigenous women workers, who are poor and traditionally skilled in sewing and embroidering, and simultaneously actives this knowledge to highlight these dynamics. [vii] According to Munoz, the project was inspired by the informal economies of women embroiders working on the streets in the environs of her former studio in Mexico City (Emma, 2013). These women are found across Mexico, and represent the target or ideal worker sought after by *maquiladoras*' contractors (indigenous women form seventy percent of *maquiladora* workers). Like Munoz, other researchers and artists have revealed that *maquiladoras*' preference for native women over male workers, is ultimately based on a mixture of economic calculation, misogyny, and racism, as women are paid less; are understood as more efficient workers because they possess greater manual

dexterity (a trait connected to their training in traditional crafts, and essential to the maximization of production); and are assumed to be culturally socialized to "accept tedium, and to obey unquestioningly" (Fusco, 2001 pp. 195).

While maquiladoras have been operating in Mexico since the 1990s, with at present many relocating elsewhere (mainly China, where labor is cheaper), Mexican officials, newly in power, continue to upheld neo-liberal policies as an antidote to move beyond the social and economic woes gripping contemporary Mexico. Munoz's alteration of the *maquiladora* wage in *Maquila Region 4* counters these discourses by highlighting the objectification of women of color as integral to the competitive, profit foci of global capital, and by extension, its invested interest in preserving the status-quo. In this case in buttressing, not changing, existing, retrograde gender and racial divides in Mexico, whose impact is most felt by the most marginalized group in society, poor, indigenous women.

An extension of the dynamics explored in *Maquila Region 4*, Munoz's current project, *Yuca-Tech* (fig. 3), focuses on the development of alternative forms of production in collaboration with women crafters in Ake, a small village located in the Yucatan henequen zone (a Maya region). (Incidentally, the Yucatan has a large concentration of *maquilas*). *Yuca-Tech* is a community technology lab, which Munoz began last year, building on an existing small-scale textile cooperative managed by local women. Conceived as one-year long experiment, *Yuca-Tech* involves the creation of fabrics that combine traditional techniques, including weavings of agave fibers, with open-source technologies, including photovoltaic panels. The aim of the project is both functional and experimental, as *Yuca-Tech* represents jobs (albeit at the moment, temporary) for the community's five families, while also exploring the feasibility of developing portable photovoltaic textile artifacts designed to function as distributed energy generators in communities off the main-grid, like Ake. The notion of self-sustainability, which forms the basis of the project, is also reflected in its conception as an application of open-source technologies that align with the collective and non-propriety nature of traditional indigenous crafts or technologies. In so doing, *Yuca-Tech* clarifies the implications of *Maquila Region 4*, namely, that the transformation of the technological and social spheres are intertwined questions, best addressed from "subjugated" positions, as Haraway suggests (Haraway, 1988 p. 584). Contrary to the homogenizing logic of industrial tech production, *Yuca-Tech* then engages indigenous women as agents of technological development whose basis on location (local knowledge and usage) and community, is as innovative as is hostile to capitalist models of technology (mass-production, opacity, and individual consumption).

Like Munoz, Peirano and Kruglanski focus on the gendered dimensions of technology, but from the perspective of consumption. The feminist conceptualization of *Bricolage Sexual* reflects the duo's converging interests in electronic art and design, and their involvement with feminist and queer communities in Barcelona, Spain, where both are based. Kruglanki, who self-identifies as a queer woman, came to the project through her work in non-linear, electronic poetry, which she began developing during her graduate studies at the Tisch ITP program in New York City, during the 1990s. Peirano has long been involved with feminist communities, via her work as the director of the public relations department at the Casa internazionale delle donne (the international women's house) in Rome, a position she took after receiving her masters in Communications at the University of Rome, Tor Vergata. *Bricolage Sexual* emerged in the activist context of La Teixidora CSOA (Centro Social Okupat Autogestionat) in Poble Nou, Barcelona, where in 2004, Peirano and Kruglanki began devising experimental workshops designed to teach consumers how to convert domestic technologies into sex

toys (Peirano and Kruglanski, 2006). For the following six and half years, *Bricolage Sexual* travelled to various localities in Spain and Northern Europe, Israel, Italy, and Guatemala.

Conceived as a "sexual DIY experience," Peirano's and Kruglanski's workshops (fig. 4) typically begin with visits to local sex-shops followed by communal discussions about issues concerning sexuality (Peirano and Kruglanski, 2006). Topics of discussion range from personal to social reflections on sexuality, including participants' sexual fantasies and auto-eroticism, the commodification of sexual life, the political dimensions of heteronormativity, and the relationship between sex and technology. (To facilitate discussion, some of the initial workshops were recorded and the footage was shown at subsequent workshops). Discussions are followed by hands-on sessions, in which, participants assemble their own sex toys using a variety of recycled materials such as empty water and juice bottles and parts salvaged from household appliances, including computer mouse balls, safety switches, and motors in electric tooth brushes, depilation machines, cellular phones, and blenders (which they bring to the workshop). During the workshops, Peirano and Kruglanski teach basic electronics techniques, such as soldering, and the design of electronic circuits, leading participants to the 'personalization' of sex toys (keggel balls, vibrators, and dildos) by way of 'traditional' crafts, including sewing, knitting, and embroidery, as well as simple casting techniques, such as molding silicone rubber (fig. 4). Public announcements of the project, including flyers and posters (fig. 5), as well as the project's website (no longer extant), were conceived both as calls for participation and as means of infusing public spaces with representations and images that testify to pluralistic views of human sexuality (counter the homogenizing images of mass-media advertisements).

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Although like *Maquila Zona 4*, *Sexual Bricolage* was not intended solely for female audiences, its key focus is on highlighting and challenging the prevalence of essentialist notions and images of women (woman as sign) in the consumption (marketing) of technologies, including digital technologies.[viii] Along these lines, in their statement, Peirano and Kruglanski point out the similarities between the "digital divide," or the perceived unevenness of technologization along economic and geographical lines, and categorizations of technology along the bounderies of industrial and domestic realms, as notions that function similarly, as to propagate gendered and raced perceptions of technology which are ultimately intertwined with its processes of production, marketing and consumption (Peirano and Kruglanski, 2006). Counter the spectacularized "woman" of advertising, *Sexual Bricolage* empowers *s*elf-representation by way of encouraging engagement with domestic technologies beyond one's role as passive ('feminized') consumer. The point, however, is not taking the position of the active ('masculinized') role of producer, but to open up new modes of thinking about and engaging with technology. Thus, Peirano and Kruglanski refrain from advocating 'alternative' products and modes of circulation (e.g., industrial sex toys made by women and women-run sex shops), to highlight instead the intertwinedness of homogenizing views of technology and gender. *Sexual Bricolage* highlights how efficiency, a chief value in technology, is inscribed with masculinist connotations, and how these connotations function to circumscribe use along existing gender categories. As one of the posters announcing the project declares: "There is a blackbox around our blender, depilation machine and even our electric tooth brush."[ix] Techniques geared toward making visible, exploring, and understanding the inner works of a machine mirror the conceptualization of the project as a "window" into pluralizing views of gender and technology (Peirano and Kruglanski, 2006).

While developed in and for distinct contexts, Munoz's *Maquila Zona 4*, and Peirano's and Kruglansk's *Sexual Bricolage* converge in their shared interest in joining the body and technology through sensorial experiences, a concern that ultimately speaks to the conceptualization of these projects as counterventions of the control ('masculine') narratives around technologies. Following from this, these projects probe issues around creative control as questions that, as Munoz, Peirano and Kruglasnk suggest, span narratives about women, art and technology. The development of these projects in parallel to mainstream art locals and circuits and in dialogue with speaks to

Hacking Feminism

The first mentions of hacking in feminist art and theory occurred on the background of the overwhelming masculinism of 1990s computer culture. At the time, cyberpunk fiction was instrumental in casting hacking in the image of the "computer-literate rebel," a "white male," as artist and cyberfeminist, Cornellia Sollfrank then noted (Sollfrank, 1999 p. 42). [x] Bruce Sterling's portrait of the "hacker crackdown" in the United States in 1990s (Sterling, 1992), and William Gibson's "noir" dystopias, along with Hollywood films (*Blade Runner* [1982], *Hackers* [1995], *The Matrix* [1999]), portrayed the "console cowboy" **(Gibson, 1984 p.   )** as the nemesis of the emerging "society of control", Gilles Deleuze's term for a hermetic, abstract system, embodied in the rise of the computer as control mechanism (Deleuze 1992). In her brief inquiry, Sollfrank, herself a self-proclaimed hacker, concluded that while "hacking" was a keyword within our computing culture, no one definition was possible as consensus about the practice in its most general sense did not exist.[xi] This inquiry was itself guided by a search for the missing "women hackers" in hacker culture, as part of the emergence of cyberfeminism.

Cyberfeminism, a term coined in the 1990s, described the work of feminists interested in theorizing, critiquing, and engaging digital technologies (the internet, videogames, biotechnologies, etc.). Beyond these shared interests, cyberfeminists spanned strands of feminist thought that took an utopian view of the internet and digital technologies as means of freedom from social constructs like gender (Donna Haraway, Sadie Plant, VNS Matrix, among others), as well as individuals and groups that took a more skeptical view toward this stance, viewing the new technologies as an extension of existing power ideologies and structures and calling for a politicized perspective of the impact of new technologies on women's lives.[xii] Sollfrank, herself, was part of the Old Boys Network, a group that she identified as upholding the latter perspective. Cyberfeminist was never codified, opting instead for . Issues of race, subRosa, . Cyberfeminist critiques of the masculinist overtones of technological culture, including hacking, were at the time exceptional.[xiii] Nevertheless, they constitute a precursor of current practices that similarly combine art, technology and feminism

Currently, the broadening of hacking as a varied, ambiguous, and contested term is a sign of the increasing re-definition of the practice in light of a pluralistic ethos. What emerges is a picture of hacking that involves a wide variety of "ethics", motivations, social groups, and "styles." Insofar as genealogy has historically been taken to be the dominant prism from which to approach the practice, however, other ways of considering hacking have been exceptional.

As experimental and performative interventions, Munoz's and Peirano's works operate beyond the confines of art institutions and traditional art audiences. *Maquila Zone 4* is conceived for manual workers (many of them women) waiting for a job or simply passing time in the public squares of Mexico City and Campeche. *Sexual Bricolage* has its inceptions in women community spaces in Barcelona (where Peirano still resides) and is aimed at consumers of adult toy.

Both projects constitute nomadic, participatory, and parodic 'theaters' that converge on critiques of the impact of new technologies on women's bodies, work, and enjoyment, by way of exposing how women's bodies are implicated within the networks of production and consumption of current forms of global capital. While similarly indicting the instrumentalization of digital technologies to maintain and support existing gender roles, both artists also aim to empower their appropriation for opposite ends. This goal entails by extension the rejection of capitalist co-option of technology (Munoz uses open-source technologies, while Peirano and Kruglanski use recycled technologies) and collective knowledge (use economy), and the activation of collective knowledge, in these cases skills traditionally associated with women, such as those related to crafts, including embroidery, sewing, and ceramics, which recombined with technological artifacts and processes serve to demystify (i.e., de-gender) technology. The diversion of 'hacking' techniques toward women's individual and collective pleasure similarly negates their objectification in current processes of industrial production and reproduction. While addressing distinct audiences, both projects uphold a provocative, irreverent re-orientation of technology toward joy, enjoyment, and sensory pleasure, which allows to recognize its instrumentalization as perceived individually and collectively, experienced, interpreted, contested, and appropriated.

Hacking and Slashing the Empire of Signs

Hacking, related to political, economic and social conditions. The project contravenes the rhetoric exponded by Mexico's newly elected president, Enrique Peña Nieto (elected in 2012), a proponent of free market policies. As foreign companies, many of them North American, increasingly relocate outsourcing operations to countries with lower wages such as China, Peña Nieto and other government officials favor the suppression of wages in Mexico as a way to compete. This controversial position (at the time of writing, Mexican youth is on the street calling for the resignation of the current governement) is designed to improve Mexico's desirability among foreign companies in face of escalating drug-cartel and paramilitary violence in the country (Cave, 2012).[xiv] Munoz's ambulant *maquiladora*, which she characterizes as a "fantasy", shows otherwise, as it highlights the promise of free-market driven global capital as a fantasy in of itself. The exploitation of women's labor, is as the project shows, central to global capital's dependence on low-paid production.

[Its underlying commentary targets the neo-liberalist rethoric accompanying the return of PRI (Institutional Revolutionary Party) to power in 2012, and the impact of free-trade policies on women's lives. Its extensions into the public space through posters and flyers which are designed both as means

of convocations as well as images of female sexuality counter to the objectifying representations of women on billboard advertisements around the city.]

Personal experience with sexual harassment at sex shops in Barcelona ( ).   Rescue of skills displaced by or absorbed in industrial production and their application to challenge control over women's sexuality. Challenging the intrusion of capital into women's sexuality, commodification and instrumentalization of women's sexuality in porn and the image industries, and religion. Use of technology to explore the relationship between gender, technology and art. Deconstructive method, to disassemble a machine is also to disassembles its cultural representations and values. Eroticizing consumer products, connected to domestic labor performed by women, deny the logic of efficiency (control) behind the marketing of these products. Thus, the project recombines skills traditionally understood along gender binaries (in the West), with the aim to create, as Peirano and Kruglanski put it, a "sexual DIY experience" (Peirano and Kruglanski, 2006).

Project realized in   . Reactions in Latin America and Spain

Support for maker culture, influx of open-source technologies, and abundance of cheap technologies. The veneer of creativity, Art looks good, art and technology is even better in countries like Chile and Mexico, seeking to appear modern. *Maquila Region 4* award recognition.

Munoz, generally positive, *Sexual Bricolage* more controversial. Newspaper comments, political figures admonished the sponsoring of the project, which one politician characterized as a "frivolity" in a time of economic crisis, canceled, and on the internet.   The website Bricocrak, (also a television program in Spain), .

Subversive practice, countervenes capitalist logic of production, circulation and consumption (commodity festishism). (bricolage: "Epistemological Pluralism", *he Savage Mind* (1962, English translation 1966), French anthropologist Claude Lévi-Strauss used "bricolage" to describe the characteristic patterns of mythological thought. In his description it is opposed to the engineers' creative thinking, which proceeds from goals to means. Mythical thought, according to Lévi-Strauss, attempts to re-use available materials in order to solve new problems; Gilles Deleuze and Felix Guattari, bricolage as the mode of production characteristic of the schizophrenic producer). Hybridizing and recycling, artistic trajectory that has roots in anti-colonialist sentiment, tracing to the Manifesto Antrofogista (1923). Here transposed and developed within a feminist critiques of global capital. Use of technology to regain control of work and leisure, as their pertain to women's bodies; to speak to the economic and political forces using technology to control the body (a fundamental element of feminist vindication). "Colonialism abjected the subaltern body through militarism, forced labor, and scientific objectification—new technologies elaborate and diversitfy these strategies of domination" (Fusco, 2001 xvi).Hacking as a social practice, self-learning and the transfer of knowledge in a collaborative and horizontal way. Paulo Freire, empower participants, creates social cohesion and reactivates undervalued and forgotten knowledge that people have.

Trace their roots in part to the work of women artists, activists, and thinkers whose concerns intersect in shared critiques of capital, emphasis on the body and embodiement as an antidote of objectification,

and interest in the idea that feminists should engage and use technologies for feminist ends (to destroy or at least disrupt the master's house). From these perspectives, Munoz cites a performative thread connected with the disturbing realities of maquiladora workers, and includes the Cuban American artist Coco Fusco; the Mexican director Inti Barrios; the Costa Rican performance artist Elia Arce; and the Argentinian Judi Werthein. Altogether, all of these women have addressed the ongoing Juárez *feminicidios* (femicides) produced activist theater of the scores of women—mostly young maquiladora workers on the U.S.-Mexico border—murdered in and around Ciudad Juárez. Ongoing since 1993, the number of women kidnapped and/or killed in the area over the last two decades is unknown, and their murderers remain unidentified. Munoz's performance echoes the gist of these works, which draw parallels between the misogynist impulse of femicide, (in the case of Juárez, largely met with impunity), and the way in which the maquila industry contructs women workers as "disposable" (temporary workers), but also eschew their representation as victims. , but to empower women who are still alive. In this light, Munoz is currently seeking to surpass these performative gestures, by creating   that goes to the roots of the issue, namely .

Carla Peirano, **(concrete, neo-concrete)** the Brazilian artist Lygia Clark (1920-1988) 'relational objects' which emphacize the sensorial (affect); such objects, Clark noted, elicited corporeal memories, sensations, and resonances that could not be captured by language.[xv]   anti-essentialist theories Rosa Braidotti (*Nomadic Subjects*)   (Bricolage Sexual,   ), Teresa de Lauretis's concept of "gender technologies", and queer theorist Monique Wittig, who provocatively proposed that queer women are not women as the notion of "'woman'" has meaning only in heterosexual systems of thought and heterosexual economic systems" (Wittig, 1993). [mention affective labor, and Nakamura use of it]. – along with **Haraway, critique of technology. Urging feminists to embrace the tools of the master].**

Because the performative basis of Munoz's and Peirano's projects hinges on the conjoining of technology, feminist concerns and performative strategies, they can be best characterized as what the founder of Old Boys Network (OBN) and subRosa, the Paraguay-born artist, Faith Wilding, characterizes as "information theater" (Wilding, 2002).[xvi] Similarly, *Maquila Zone 4* and *Sexual Bricolage* are conceived as participatory and pedagogical performances, which extend irony, intervention and appropriation by way of .

Women artists working in parallel, extend these preoccupations to experimentation but also to concerns with the control of media and technology by the powerful: Opensource culture and DIY. Mexican artist Leslie Garcia's artistic engagement with electronics traces to Dream Addictive Lab (2003-2011), a Tijuana-based collective co-found with Carmen Gonzalez.[xvii] During eight years, the duo produced distinctive public sculptures that reflect concerns with interactivity, sound, sustainability, and open-source culture (Zuniga). Her own work, and that of the collective Astrovandalistas, concerns the development of open-source aural tools for artists and activists.[xviii] the Colombian artist Claudia Robles-Angel, who manipulates live projections of images and sounds through open-source bio-interfaces (GSR, Galvanic Skin Response, and EEG, electroencephalogram).[xix] Marcela Armas (Mexico), who re-purposes industrial materials in solo and collaborative installations in urban environments which explore ecological themes in relation to fossil energy, bodies, and mobility.[xx] the collective Chimbalab from Chile (Constanza Pina and Claudia Gonzalez) who in response to the failure of the cellular network during the 2010 earthquake in Chile designed a portable radio station for the Vega central vegetable market which works on energy generated by potatoes.[xxi] All workshops.

http://en.maquilasolidarity.org/node/965

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[i] The media portrayal of Limor Fried, a former MIT engineering student, and now CEO of Adafruit Industries, a multi-million dollar start-up company manufacturing open-source hardware, as a poster child of the maker movement, is a case in point. The name of Fried's company is a homage to Ada Lovelace, a nineteenth-century British mathematician, recognized as a pioneer of computer programming. Fried was named "Entrepreneur of the Year" by *Entrepreneur* magazine in 2012, and was the first female engineer featured on the cover of *Wired* in the same year. She was also included on *Fast Company*'s "Most Influential Women in Technology" list in 2011. In 2009, she was awarded a Pioneer Award by the Electronic Frontier Foundation, a digital-rights group.

[ii] **Donna Haraway**,

[iii] Donna Haraway,

[iv] She cites her collaborations with the Mexican artist Arcangel Constantini as particularly important in this respect **( ).**

[v] Indigenous textile production in Mexico involves both men and women. Maya women's huipiles, however, are more elaborate and ornamented than men's garments (currently, the embroidered loincloth of Mayan times appears as a sash or belt). Today, the huipil is almost exclusively produced by women. Along with community identification, huipiles have a ritual function, and particularly complex designs, symbols and techniques, including the manipulation of fibers and natural dies, were once reserved for the religious and ruling classes of pre-colonial times. Once a fading art due to the impact of colonization, ironically, the tradition of adorning catholic saints in huipiles also contributed to the surviving of huipiles, as specialized techniques and designs were practiced, preserved and handed down through the continuing production of such ceremonial garments.

[vi] The term maquila has its origins in colonial forms of production, and refers to the practice of millers charging a "maquila" or a fee for the processing of grain.

vii The term mestiza or mestizo

viii Chun, Orientalism, Asian women; bodies selling . "Orientalizing the Future."

ix "Existe una nube negra alrededor de nuestra batidora, maquina depiladora y hasta cepillo de dientes electrico." Translation mine.

x Cyberfeminism is a term coined in the 1990s to describe the work of feminists interested in theorizing, critiquing, and engaging digital technologies (the internet, videogames, biotechnologies, etc.). The term spans strands of feminist thought that took an utopian view of the internet and digital technologies as means of freedom from social constructs like gender, as well as individuals and groups that took a more skeptical view toward this stance, viewing the new technologies as an extension of existing ideologies and power structures and arguing for a politicized perspective of the impact of new technologies on women's lives. In her essay, "Women Hackers," Sollfrank, who was then part of a cyberfeminist group named the Old Boys Network, identifies with the later. For a discussion of the varied perspectives of cyberfeminism see for instance the essay by Paraguayan born artist and co-founder of Old Boys Network and the art collective subRosa, Faith Wilding's "Where is the Feminism in Cyberfeminism?" (1998).

xi Recently, the Puerto Rican media theorist Gabriella Coleman arrived at a similar conclusion, pointing out that the idea that hacking can be distilled to the "hacker ethic" is due as much to Steve Levy's painstakingly detailed account of the origins of hacker culture in North America in 1960s MIT engineering culture (Levy, 1984) as the concept's subsequent extension to encompass current open-source software (F/OSS) practices: "a commitment to information freedom, a mistrust of authority, a heightened dedication to meritocracy, and the firm belief that computers can be the basis for beauty and a better world" (Coleman 2012, p. 99). Counter Levy's genealogy, Coleman highlights a distinct strand of hacker culture tracing to the prankish ethos of 1950s telephone phreakers (known for hacking telephone systems), the 1970s computing underground (kit-based computers), politically-oriented hackers, and today's "trolls" (Coleman 2012, pp.).

xii For a discussion of the varied perspectives of cyberfeminism see for instance the essay by Paraguayan born artist and co-founder of Old Boys Network and the art collective subRosa, Faith Wilding's "Where is the Feminism in Cyberfeminism?" (1998).

xiii The work of sociologist Sherry Turkle and pedagogue Seymour Paper's view of hacking in light of "epistemological pluralism" constitutes in this regard an exception (Turkle and Papert 1991). Turkle and Papert's mention of hacking fits with their broader call for the need to validate varied modes of knowledge in computing, that is, for "epistemological pluralism". Following on feminist science studies, their focus is on contesting ways in which social constructions of gender intersect with questions about who gets to define and engage technology. To this effect, Turkle and Papert pointed to the asymmetric power dynamics involved in privileging the analytical, typically seen as a male trait, as the correct mode of relating and interacting with computers. Specifically, their call for pluralist epistemologies requires, in their words, a "re-valuation of the concrete", a mode of interaction typically associated with the feminine, which they see as an equally valid approach (Turkle and Papert 1991). In Turkle and Papert's view, concrete or "soft" styles correlate with a "psychological approach" that focus on the "pleasure of closeness", "negotiation with materials", "association" and "interaction" (Turkle and Papert 1991).xiii In contrast, "hard" styles, coded as masculine, are based on abstraction (typified by Turkle as the privileged "style" of the "epistemological elite"), and emphasize "reason", "the analytic", rules and plans, and as such, exemplify a "top-down" or hierarchical relationship with the machine, which Turkle and Papert characterize as involving "distance, objectivity and control" (Turkle and Papert 1991). Computing, as Turkle and Papert suggest, is a realm coded as masculine, while in contrast the concrete, understood as a mode of thought and interaction that proceeds from the material to the abstract, is a well-known and accepted mode of interaction in the arts, traditionally seen as a "soft" or feminine epistemology.

xiv **The women of Juarez,**

xv Peirano and Kruglanki also cite Nicolas Bourriaud's term "relational art" (1986) as a notion that can be applied to their worshops as loci of aesthetic production aimed at probing existing social relations, dynamics relating to interpretation and knowledge, rather than focusing solely on the art object. Bourriad's notion is however in itself

not new insofar a long tradition of avant-garde art, to which feminist artists are central, have pointed out that art and artistic production is itself embedded in the production of social relations.

xvi The notion of an information theater, **Critical Art Ensemble.**

xvii http://dalab.ws/

xviii http://lessnullvoid.cc/pulsum/; http://www.astrovandalistas.cc/base/.

xix http://www.claudearobles.de/.

xx http://www.marcelaarmas.net/?page_id=25

xxi https://constanzapina.wordpress.com/tecnologia/chimbalab/.