Carolyn Guertin

Mobile Bodies, Zones of Attention, and tactical media Interventions

2012

https://doi.org/10.25969/mediarep/1845

Veröffentlichungsversion / published version
Sammelbandbeitrag / collection article

Empfohlene Zitierung / Suggested Citation:
Guertin, Carolyn: Mobile Bodies, Zones of Attention, and tactical media Interventions. In: Wolfgang Sützl, Theo Hug (Hg.): *Activist Media and Biopolitics. Critical Media Interventions in the Age of Biopower.* Innsbruck: Innsbruck University Press 2012 (Medien – Wissen – Bildung), S. 17–28. DOI: https://doi.org/10.25969/mediarep/1845.

MOBILE BODIES, ZONES OF ATTENTION, AND TACTICAL MEDIA INTERVENTIONS

by Carolyn Guertin

"In the very near future, billions of people will be roaming the planet with GPS devices. Clouds of network connectivity are forming over our major cities and will inevitably coalesce. The geo-aware web isn't a product we buy; it's an environment we colonize."

—Udell, in fadgy4

Over the last few years, we have seen the arrival of the Internet of data and the Internet of things, and now the Internet of actions or of bodies-in-motion are here. As a part of this constellation of data, things, and embodied actions, we might think of activist media as having had three incarnations so far. Net.art was the 1.0 version. It arose in Eastern Europe in the early 90s in the wake of the fall of the Berlin Wall. The major players were Vuk Ćosić, Jodi.org (a duo comprised of Joan Heemskerk and Dirk Paesmans), Alexei Shulgin, Olia Lialina, and Heath Bunting. (Bunting was also a member of irational.org, which also included Rachel Baker, Minerva Cuevas, Daniel García Andújar, and Marcus Valentin). These artists defined their projects as one of social responsibility and fought against what they deemed the myth of democracy co-existing with capitalism. While Internet communications were being promoted as the triumph of the democratic subject, they felt the network was in the process of being co-opted by capitalist forces as a tool to expand consumer culture. As the free Web loses more and more ground, these net.artists have been proved largely right.

Net.artists focused not on buying and selling, but on the early Web as a public space, collaborative tool, and a distribution medium. As a result of its focus on flows and art-as-process, one of the remarkable things about net.art was its uselessness. Net.art often generated nondestructive server hacks to send back messages. Or, as with the hack-Mac, (which was an advertising campaign for a bulletproof, ergonomically designed clamshell Apple laptop with militaristic camouflage styling), net.art can go off like some combination of fashion accessory and incendiary device (Jaschko, 1999). The hack-Mac campaign revolved around the slogan "think weapon" alongside the Macintosh font and

logo. The computer, of course, was never made, but its guerrilla marketing strategy was designed to launch the Ora-ito agency, and that it did; but it also raised the possibility of a tool that might be designed to dismantle or destroy (or deconstruct?) the product that inspired it. This is the conundrum that tactical media, or the Web 2.0 wave of online activism, also grapples with. The next wave of networked culture, media tactics, are not strategies, for strategies are goal-oriented. Tactical media instead use reverse engineering, open access, collaboration, and hacktivist approaches to disturb. Tactical media "are pliable and that pliability allows for on-the-fly critical intervention: statements, performances, and actions that must continually be altered in response to their object, 'constantly reconfigured to meet social demands' " (Raley, p. 6). Tactical media use peer2peer methods to attack or critique corporate or political power. Designed to destroy or attack, their Achilles' heel is that they rarely build anything new.

Social networking is a tool that can be brought into play in tandem with activist tactics but, as Geert Lovink puts it, "social movements do not emerge out of the Web. Their beginnings lay somewhere else, not in the act of online communication" (2008, p. 218). While they can make the personal political until it is blue in the face, actions continue to speak louder than words. And activism itself is dead, or so Michael Hardt and Antonio Negri would have us believe. They say in their book *Multitude* that in our times "basic traditional models of political activism, class struggle and revolutionary organization have become outmoded and useless" (p. 69). Tactical media were very effective at starting, for instance, a so-called Twitter revolution in Iran in 2009 and used a variety of means to create accounts that could be used from within that country to get information out; however, the issues and their protest were entirely drowned-out when Michael Jackson died shortly thereafter. Tactical media, in other words, are highly effective at pure protest—calling out the lies of the Spanish government, for example, when they tried to pin the violence on Basque separatists in the wake of the Al-Qaeda bombings, but such actions are not very good at sustaining themselves and are easily led astray. Coco Fusco bemoaned activism's weaknesses. She said, "It is as if more than four decades of postmodern critique of the Cartesian subject had suddenly evaporated.…In the name of a politics of global connectedness, artists and activists too often substitute an abstract 'connectedness' for any real engagement with people in other places or even in their own locale" (in Tuters, p. 360).

Unlike detached tactical media, the third wave of Web culture—locative media—are "situated software" (a term coined by Clay Shirky) and foreground networked bodies. Shirky has observed that "The anywhere and nowhere of the Internet is challenged by site-specific software art that addresses a particular community or location" (in Lovink, 2008, p. 221). Locative media are everything that net.art was not and that tactical media wanted to be. Locative media are flexible, versatile, embodied, and portable. They are designed to find alternative approaches, to reimagine old spaces or problems, and to invent new

viruses or other organisms to do a better job. Locative media are an antidote to consumerism and a celebration of embodied experience. Where the *flâneur* was replaced by the shopper, mobile bodies are an antidote to sedentary, stationary technologies. Mobile technologies are transforming our use of space and place, but they are also recontextualizing, repoliticizing, and rehistoricizing our awareness and engagement with the inhabited neighborhoods of the world. For a measure of the disconnectedness and difference between net.art and locative media, for instance, compare Heath Bunting's 1990s *BorderXing Guide* to the Electronic Disturbance Theatre's *Transborder Immigrant Tool.*

We are used to an open Web, one that anyone—by definition *everyone*—is able to access. By contrast, *BorderXing* was the opposite. You had to go to one of only two particular computers in order to be able to access it at all and even there a user had to register to be allowed in. It redefined access in the narrowest possible way, like a keyhole in a door. At the *BorderXings* website, Bunting published accounts of his experiences of illegally crossing European borders. In tandem with his narratives, he also included directions for the best routes for walking, photographs, maps, and lists of suggested (and dangerous) equipment. Bunting, in short, enacts the experience of closed borders and raises "questions about immigration, illegality" and the nation state; he also makes others live the experience of restricted access and taxing or impossible registration procedures through a needle's eye approach (Jaschko, 1999).

Ricardo Dominguez and his team (collectively known as the Electronic Disturbance Theatre) were not concerned with the impossibility of borders so much as with orientation once one has crossed. Inspired by Brett Stalbaum's *Virtual Hiker* project, which reads terrain and creates a hike around the topography of that area, Dominguez and his team wondered if they could adapt this GPS-based tool to assist people crossing the Mexican-US. border and the desert that lies on the northern side of that divide. And so *The Transborder Immigrant Tool* was born. Dominguez went looking for a cheap cell phone that had GPS functionality without a data plan. He found the Motorola i455, which retails for about forty dollars, and used it to crack the GPS system. The tool had to be so universal that any user—literate or illiterate, Mexican or Chicano, Spanish-speaking or not—could use it. The interface was designed to resemble a compass, and is more pictorial or iconic than textual. The tool is also a virtual divining rod, vibrating when it approaches water or safety beacons, and alerting the user when she nears a road. The group had funding to build 500 tools and has been working with border organizations like Border Angels, who deliver water to walkers in the desert, to alert groups and would-be walkers to the existence of the device. The tool is not a finished product, but a work-in-process that is being developed one functionality at a time. The first step was to map the borderlands with great accuracy using a Global Positioning System (GPS); next, careful research was conducted on transborder networks (including those of organizations like Homeland Security, the Minutemen, Halliburton) and other infrastructures; thirdly, a list was

compiled of the food and water drop sites established by humanitarian communities; next, an algorithm was developed and the GPS coordinates rigorously tested; a bilingual English/Spanish interface was designed along with instructions for use; next, the tool was tested and distributed to migrant communities (Ho, 2008). By providing the gift of access to stolen satellite data, the tool endows the user with agency in a world increasingly constructed of virtual and augmented geographies. By hacking into the GPS grid, users are endowed with augmented vision and free navigational abilities that are generally 'free' only for those affluent enough to afford the hardware in the new rising geographic economy. The *Transborder Immigrant Tool* enables access in addition to providing "an intelligent agent algorithm" that selects "the best routes and trails on that day and hour for immigrants to cross this vertiginous landscape as safely as possible" (Ho, 2008). The best routes include the necessary information to dodge scheduled patrols.

Orientation is continually a problem in this border zone between the two countries (it is a desert and there are no distinguishing landmarks on the horizon) where movements are traced and behavior surveyed. *The Transborder Immigrant Tool* reveals that "simply to know one's location is a privilege" (Ho, 2008) and demonstrates how dangerous taking charge of one's own mapping and route really is. While Dominguez and his team define the device as a humanitarian tool designed to help save lives, it is not surprising that the American extreme right has viewed it as a declaration of war. Named one of the most interesting people of 2009 by CNN, Dominguez is a tenured professor of Visual Arts at the University of California at San Diego. He has not only been threatened with criminal action, but he has also received death threats. His project is perfectly legal and it builds on previous philosophical schools of thought like psychogeographic perambulations and:

> a long history of walking art, border disturbance, and locative media. At issue here is an interesting linkage that is made between humanitarian value and artistic value. While…Dominguez states, "All the immigrants that would participate would in a sense participate in a large landscape of aesthetic vision" due to the multiple layers of communication (e.g., iconic, sound, vibratory) and the way the tool's algorithm would help the user find a "more aesthetic route," I would suggest that the artistic value emerges from its very linkage with the humanitarian aspect. The *Transborder Immigrant Tool* subverts the usual idioms of locative and interactive media (such as "virtual reality") to… (Ho, 2008)

reveal the very tangible nature of the unspoken politics that govern such callous laws and heartbreaking results for those who attempt to cross the desert. That reality that hides just out of sight is the unspoken truth: the Americans and Mexicans are engaged in virtual war.

It is the act of bringing real, live bodies back into the picture that makes the ethical issues so apparent in locative media. Plug those bodies into mobile technologies and an entirely new kind of activism emerges. Adrian Mackenzie in "Wirelessness as Experience of Transition," says that the "experience is very much tangled up with things, objects, gadgets, [and] services" and also, "Wirelessness is a contemporary mode of inhabiting places, relating to others, and indeed, having a body" (Mackenzie, 2008). Being embodied means that we can relate to the histories of a place. It is in using a portable device that technologies become a "mode of embodiment" for that place (Richardson, p. 7). Mobile technologies are part of the body, and not merely an extension of eye or ear. The technologies themselves are so integrated into our consciousness and our behavior that they function as prostheses. More than that, we have a long history of engaging with screen technologies and, on the surface, mobile devices *seem* to be the same. In fact, they actually invert our usual relationship to screen space.

The television screen and cinematic screen, like their cousin the Renaissance painting with its fixed perspective, assume a stationary viewer. It is the conscious act of shutting out the smell of popcorn, the crinkling of candy wrappers, the coughing or talking of the people around us that works to make the screen so compelling. We actively put the world on hold and ignore those "zones of inattention" to give the film or program as much of our attention as we can. Laura Singer, in her analysis of cinematic vision, says that historically we have focused on screens only when surrounded by such an area of inattention (Singer, p. 55). This is a willful act of immersion. The computer monitor is different from the cinema screen. The computer monitor is a work surface. It is a window. It is a membrane between the private and public spheres, shutting us off from our senses and from others, we ignore what goes on around it, too. With the computer though, we do not look at the monitor; we look through it, so that we can interact with the virtual 3D content at a distance with our cursor. Now, the touch interface alters all of this again. With the mobile phone, we become mobile and the world becomes our zone of attention once more. The wifi-enabled mobile interface resituates us back out onto the other side of the screen. GPS and augmented reality technologies invite us to look through them, like the computer monitor, but, unlike the computer monitor, they reconnect us to our senses and to the world we see as an interactive, augmented world both outside and beyond the frame.

What the new mobile technologies (including augmented realities) offer to activism is the ability to reconnect with the world in DIY kinds of ways. Mobile technologies invite us to customize, just like Web 2.0 wanted us to do, but the big difference lies in the fact that with mobile technologies we have already dragged our hind ends out of our seats. While tactical media threatened to become point-and-click activism dissociated from real world effects, locative media by definition start with us back in the center of things.

It is precisely this issue that Julian Bleeker and designer Erik Loyer grappled with when they set out to create the *Wifi.Bedouin*. Their premise was that they could create a

portable Internet, but not an Internet that connects to the Web. Instead they wanted to create an Internet of people: a psychogeographic space that you can wear like a shell on your back. Assembled from over-the-counter materials, the *Wifi.Bedouin* sets out to question the five most pressing issues that resonate in any kind of urban planning or psychogeographic exploration: location, community, proximity, connectivity, and mobility. A wireless alternative to the Web, their tool is a portal designed to draw people in to acquire or appreciate the hacker (or wijacker) aesthetic at play in the work. Bleeker says it is designed to raise questions about the "location" of URLs; and about the source of networks and alternative organizations and structures. In the introduction to the work in *Vectors*, Steve Anderson explains: "Bleecker's device is perhaps best understood as a cognitive tool, a means of creating conceptual and technical possibilities rather than a discrete object unto itself. The Bedouin also merges the ordinarily disparate worlds of the tinkerer-hacker-slasher with that of the academic or cultural investigator."

Along with the DIY directions for how to create your own *Wifi.Bedouin*, the project ultimately challenges its users not to unplug per se, but to plug back into their own bodies, lives, lived-in-spaces, and neighbors. It is intriguing, too, to note that gadget sites that cater to early adopters like *Travelizmo*, assume that this object is a commodity to be purchased rather than one to be assembled by yourself.

Another locative media project, *In.Fondo.Al.Mar* (*Under the Sea*) by David Boardman and Paolo Gerbaudo, asks the user for a different kind of commitment. Compiled primarily from official data in public databases like Netzfunk (an open network for politically-minded artists), this work maps the known locations of a host of "eco-mafia crimes perpetuated in the Mediterranean Sea" and plots the sites where ships laden with toxic waste have been sunk by pirates (Cangiano, no date). The project's inception was the result of Paolo Gerbaudo's exploratory work researching new sinkings that were not yet public knowledge in the Lloyd's of London archive—where all documentation on the sunken ships is kept. Gerbaudo felt great urgency at making this information known and so he contacted his friend, David Boardman at the Massachusetts Institute of Technology. Initially they thought they might write some more articles together, but almost immediately realized that they could compile a database that would save bodies and lives instead. They did this very quickly thanks to readily available open source tools. Their vision to plot additional data including routes and the specifics of the cargos' proportions proved too unwieldy, so they kept it simple. Gerbaudo explains, "In journalism, infographics have been used to summarize certain kinds of news for the last few decades" (Cangiano, no page). This story was far too complex to be rendered with such simplistic tools. Instead they discovered that the process of mapping the materials did not become a "substitute for the 'story'…instead it [became] a layout for the story and stories" (Cangiano, no page). At this site, they chart the sinking of an astronomical seventy-four ships and catalog each ship's launch date, the date it was decommissioned, its service

history, and the narrative of how it came to such a poisonous end. This is what they call "data-driven journalism," similar to Wikileaks. Data visualization tools make it possible to appreciate the magnitude of the crimes at a glance, but making this information more publicly accessible also made it possible to make it interactive. Photographs of each ship prior to its sinking, have been donated by users of the site, and so have patterns in the data about what routes they took, details of their cargo manifests, the chronology of events (often as documented by survivors). It thereby becomes possible to identify where the Mediterranean mafia is most active and where the sea becomes deep enough just outside territorial limits to conceal crimes of this magnitude. Just mapping the data as a timeline also reveals some of these secrets, such as during what years the sinkings were most intense, and how changing laws affected these kinds of incidents—in particular every time laws have been relaxed it has resulted in a flurry of new sinkings (Cangiano, no page). What had previously been written off as coincidences start to emerge as specific patterns, and some crowdsourced information including corrected coordinates on the sinkings (where it can be corroborated from external sources) has also been included. Another collaborative aspect that emerged was the creation of the free augmented reality prototype application for smart phones by Mauro Rubin. Rubin loved the project so much that he wanted to be sure that the information was available to people at sea. *In.Fondo.Al.Mar* has also led to a citizen-generated monitoring network that allows people to report crimes.

Another locative media project that has been widely celebrated is Esther Polak and Ieva Auzina's *MILK,* winner of the 2005 Golden Nica at Ars Electronica and the Golden Nica for Interactive Art. The project uses the crisscrossed paths of GPS-mapped journeys to reconnect to the land, and to the experiential aspects of production. Their network is, in the end, translated into galley art or an aestheticized version of the data as they trace the path of milk as it travels from rural Latvia to a cheese shop in the Netherlands. In an age of poisoned seas and the use of Bovine Growth Hormone on cows and in our foods, the ability to track the path of a product's production may well become not simply a project for activists, but a survival skill. Then again, given the rate that we are poisoning our home ecosystems and our planet, being an activist may well be a necessary survival skill in its own right.

French philosopher Michel Foucault realized that teeming populaces, population control, and a rising concern with territories were biopolitical problems. Furthermore, as our maps get smaller (think genomes) and infinitely larger (think of the mapping of the universe), biopolitics become something that our scientists seek no longer just to control, but to manipulate in the transgressive manner of that first fabled bio-artist, Dr. Frankenstein. Within the rising field of tactical biopolitics, scientists, artists, activists, and writers explore not just politics through biology, but politics with a biology. "Bioartists articulate life to make biology an object of recognition and concern for all; activists reconfigure lines of authority, knowledge, and regulation to change how concern about life

operates" (Dumit, p. xii). This prefigures what Dumit calls a DIY-science that ranges from massive government projects to "ancestral DNA testing to bioterrorism to bioengineering" (xii-xiii). The political dangers of this kind of activism—especially when used as a tool of protest or for public education—have been made abundantly clear through Steve Kurtz's arrest, imprisonment, trial, and ultimate dismissal in relation to his participation in Critical Art Ensemble's alleged "bioterrorist" experiments, which were designed to make consumers aware of the presence of genetically-modified foods in their diet. Tactical BioArt projects cut a bit closer to the activist bone still. These are organic projects that seek to create a new science—a science that combines art with activism, animal husbandry, and chemistry. I had become aware of many activist-led BioArt experiments in my reading, but it was Allison Carruth, a food culturist at the University of Oregon who introduced me to the concept of this work as a field in its own right. The field of tissue culturing is about creating living tissue, usually kept alive in test tubes and Petri dishes, from live human and animal donors that can then be harvested for food or other uses. According to Carruth, the field is driven by two pressing concerns: the first is with creating sustainable foods for both human tastes and organic ecosystems, and, the second, with creating ethical food that is just as appetizing as the real thing.

The first project I want to discuss is the idea of an organic *Extended Body* presented by The Tissue Culture and Art Project. The duo (Oron Catts and his partner Ionat Zurr) created "The Extended Body" as:

> an amalgamation of the human extended phenotype and tissue life—a unified body for disembodied living fragments, an ontological device, set to draw attention to the need for re-examining current taxonomies and hierarchical perceptions of life. The Extended Body is a tangible metaphor for the Victimless Utopian ideal; at the same time, it paradoxically is an embodiment of the sacrifice of the victim. (Catts and Zurr, no date, p. 1)

Other recent tissue culture projects include grown houses, "tissue-engineered meat (sometimes wrongly referred to as violence-free meat),…complex research models, and art" (Catts and Zurr, no date, p. 1). Catts and Zurr say that unknown quantities of cells, tissues, organs and other parts are harvested from the newly dead and the living for transplant, or are frozen for potential future uses. Others still are manipulated and reintroduced into other living organisms—not necessarily of the same species—for experimental purposes. The semi-living do not reside only in the lab either. They live, more or less, at your fish market, your butcher shop, and as road kill, which can survive "even without technological intervention…for hours and days after the organism is considered to be dead (meat)" (Catts and Zurr, no date, p. 2).

This is the stuff of nightmares out of which Mary Shelley's *Frankenstein* was born, for, Catts and Zurr propose "not just to represent scientific research but *to advance new scientific knowledge*" (Carruth). Under what taxonomy do we classify these liminal lives? Where do we draw the line between living and dead, species, gender, race? While claiming to produce products that have a victimless foundation, can this really be considered the case? *Victimless Leather*, for instance is a prototype grown in the lab "presenting a miniature leather-like jacket grown out of immortalized cell lines (a mix of human and mouse cells) that cultured and formed a living layer of tissue supported by a biodegradable polymer matrix in a form of a miniature stitch-less coat" (Catts and Zurr, no date, p. 5). Corporations have been in touch about the potential for commercializing this market. Another project, the *DIY De-Victimizer*, allows those of tender conscience to grow their own food from tissue culture so that they know it was raised humanely.

Allison Carruth says that tissue culture dates as far back as 1910 and that Winston Churchill in 1932 reputedly imagined that animal protein would soon be grown in-vitro rather than raised in feedlots. Catts and Zurr call this category of animal or food source the "Semi-Living." To them, the Semi-Living is a boundary being that occupies the space between the animate and inanimate, between the biological and the engineered, and "the object and the subject" (Catts and Zurr, in Carruth, p. 10). "While the Semi-Living relies on the vet and the mechanic, the farmer and the artist, the nurturer and the constructor to care for them, they are not human imitations nor do they attempt to replace humans" (in Carruth, p. 10). The "Semi-Living" are instead a new class of beings, according to Catts and Zurr, or perhaps more accurately, class of things, living objectified entities that (or who) exist apart from the born and the bred. Thousands of tons of this organic matter exist around the globe and it is probably no accident that Catts and Zurr call this an "extended body." We might think of these parts as prostheses or as the dissolution of boundaries between animals and humans. It might bring to mind, too, John Perry Barlow's 1990s distinction between "meatspace," the material world, and cyberspace, the virtual world; he took no trouble to conceal, like so many philosophers before him, his *contempt* for meatspace and all that it encompassed. Tissue culture also points to the shadow looming on the horizon indicating that in the near future biotechnologies may well encompass not just our food, clothing, and organs, but that our computers and houses might become living, breathing beings as well.

In November and December of 2010, independent research groups from the Chinese University of Hong Kong and the University of Tokyo announced that they had achieved bioencryption. Researchers had organized bacteria into massively parallel structures and enabled them to solve logic puzzles and perform problem-solving feats, including Sudoku. Along slightly different lines but also in November 2010, researchers at the University of Newcastle announced that they had sprouted bacteria that could colonize concrete and germinate an adhesive that would repair cracks in its structure (NDMnet, 2010). Clearly

this is an emergent trend in the scientific community and, if we look at architecture, it is apparent that that field's visionaries are dreaming a whole new generation of sustainable housing ideas. The environmentally-conscious New Mexico architect Michael Reynolds (a.k.a., The Garbage Warrior) has been creating self-sustaining structures since the 1970s using everything from bottles to tires for building materials, but he never imagined anything like 3D printers, "meat houses," or the merging of DNA with architecture.

While 3D printers are already printing everything from car parts to food to skin, Architect Mitchell Joachim of Terreform is creating organic houses made from living matter. Advocating the use of "pleaching" or practicing the ancient geometric art of inosculating trees into a woven vascular network, he says that whole villages—what he calls Fab Tree Habs—could be created. Entire villages that consume carbon emissions could be grown in as little as seven to ten years. Similarly, architect and designer Matthias Hollwich seeks to change humankind's relationship to architecture through nature, and says that through the DNA sequencing of organic matter it should be possible to create "powerplants" or entirely organic tree-based buildings that power themselves as early as 2026. Joachim also takes the notion of a green structure one step further by proposing In Vitro Habitats also known as "meat houses"—organic structures grown in test tubes. Using a blending of "regenerative medicine and tissue engineering" means that architecture and biology could meet each other halfway. Joachim and his team use modified pig cells and a 3D printer to print cellular geometry or what is known as "victimless meat." Meat houses repurpose fatty cells as insulation, musculature as support structure, cilia to lend aerodynamic properties, and sphincter muscles as orifices for entry and exit, light, air and circulation all grown around recycled PET plastic (polyethylene teraphalate derived from bottles) scaffolding (Joachim).

Does the work of The Tissue Culture and Art Project and Mitchell Joachim's In Vitro Houses constitute activism? Where lie the zones of attention in a society that allows such work to continue with little regulation or publicity? Who will police the source of this organic material and ensure that the growth and harvesting remain humane? While these may be so-called victimless forms, do these organisms have rights or consciousness? How do trees feel about being grafted into architectural shapes? Might future architectures contract colds or viruses? Might they be contagious to humans? Might future swine flu epidemics, Dutch elm, or mad cow diseases threaten the health and welfare of whole cities? Perhaps we can only map the movements through different kinds of activism and hope that such watchdog organizations continue to spring up to protect us from unethical uses of industrial or architectural living matter no matter what hybrids or future paths loom. As Gilles Deleuze said, "There is no need to fear or hope only to look for new weapons." May all of our weapons be benevolent and our media interventions honorable.

References

Net.art. *Wikipedia*. http://en.wikipedia.org/wiki/Net.art [Accessed 11 Nov. 10].

Anderson, Steve. (2009) "Introduction to *Wifi.Bedouin.*" *Vectors.* http://www.technohistory.net/?p=527 [Accessed 11 Oct. 10].

Bleeker, Julian and Loyer, Erik. *Wifi.Bedouin.* (Prototype first tested 20 Sept 2003) http://www.vectorsjournal.org/projects/index.php?project=12

Boardman, David and Gerbaudo, Paolo.(2009) *In.Fondo.Al.Mar* (*Under.The.Sea*) http://www.infondoalmar.info/ [Accessed 27 Oct. 10].

Cangiano, Serena. "*In.Fondo.Al.Mar (Under.The.Sea):* Mediactivism and Infoviz." http://www.digicult.it/digimag/article.asp?id=1900 [Accessed 27 Oct. 2010].

Carruth, Allison. (2010) "Food Culturing: A New Environmental Ethic." Presentation, 2010 Hermanns. (Unpublished, courtesy of author.) University of Texas, Arlington.

Catts, Oron and Zurr, Ionat. "Toward a New Class of Being: The Extended Body." http://www.tca.uwa.edu.au/atGlance/pubMainFrames.html [Accessed 09 Nov. 10].

Chinese University of Hong Kong. (2010) "iGEM2010: Bacterial-Based Storage and Encryption Device." http://2010.igem.org/files/presentation/Hong_Kong-CUHK.pdf

Daily Mail Reporter. "Your Food is in The Printer…the machine that lets you create and eat your meal from freshly squeezed syringes." (26 Dec. 2010). *Daily Mail Online.* http://www.dailymail.co.uk/sciencetech/article-1341481/Your-foods-printer-machine-lets-create-eat-meal-freshly-squeezed-syringes.html [Accessed 25 Jan 2011].

Fadgy4. (13 Sept. 10) "The Power of Locative Media." Blog. http://fadgy4.wordpress.com /2010/09/13/ the-power-of-locative-media/ [Accessed 09 Nov. 10].

Hardt, Michael and Negri, Antonio. (2004) *Multitude: War and Democracy in the Age of Empire.* New York: Penguin Books.

Ho, Sophie Le-Phat. (09 June 2008) "Locative Media As War." *post.thing.net* http://post.thing.net/node/2201 [Accessed 27 Oct. 10].

Hollwich, Mattias. (25 Sept. 2009) "TEDxAtlanta: Matthias Hollwich" *FORA.tv*. http://www.youtube.com/watch?v=3r3EX_0B8ls&feature=channel [Accessed 26 Dec. 2011].

Jaschko, Susanne. (1999) "The Art of Hacking—or: Communication Guerrilla as Artistic Practice with New Media." http://www.sujaschko.de/downloads/99/filename/

Joachim, Mitchell. (02 July 2010) "Don't build your home, grow it." *Ted Talks Online.* http://www.youtube.com/watch?v=Rw9s0ivfn3w [Accessed 27 Oct. 10].

Lovink, Geert. (2008) *Zero Comments: Blogging and Critical Internet Culture.* New York: Routledge.

Mackenzie, Adrian. (2008) "Wirelessness As Experience of Transition." *The fibreculture Journal* 13. http://thirteen.fibreculturejournal.org /fcj-085-wirelessness-as-experience-of-transition/

NDMnet. (A meta-network of blogs from the University of Maine.)

"The Computer of the Future May be Alive." Blog. http://www.nmdnet.org/2010 /12/01/the-computer-of-the-future-may-be-alive/ [Accessed 01 Dec. 2010].

Polak, Esther and Auzina, Ieva. "Behind the Scene." http://www.behindthescene.org/artefact-172-en.html [Accessed 11 Nov. 2010].

Regine. (14 Nov 2008) "Jens Hauser's Presentation in Aix-En-Provence. Part II." http://we-make-money-not-art.com/archives/biotech_art/index.php?page=4 [Accessed 27 Oct. 10].

Richardson, Ingrid. (2005) "Mobile Technosoma: Some Phenomenological Reflections on Itinerant Mobile Devices." *fibreculture* 6. http://journal.fibreculture.org/issue6/issue6_richardson.html

Singer, Laura. (1990) "Eye/Mind/Screen: Toward a Phenomenology of Cinematic Vision." *Quarterly Review of film and Video.* 12.3, pp. 51–57.

Tissue Culture and Art Project (Oron Catts and Ionat Zurr). *Disembodied Cuisine* and *Victimless Leather.* http://www.tca.uwa.edu.au/

Willis, Holly. (27 Oct 2005) "Digital Universe With L.A. at its center." *Los Angeles Weekly Online.* http://www.laweekly.com/content/print Version41106/ [Accessed 11 Oct. 2010].