

## Nano\_Garage(s): Speculations about (Open Fabbing)

En el año 2015, el primer hardware de fabricación rápida y económica de prototipos se difunde en las calles y crea redes globales de NanoGarajes que dan lugar a las primeras tácticas de piratería de materia del futuro. Los sospechosos habituales empiezan a promover el desarrollo de un grupo de materia abierta que sienta las bases de las primeras tecnologías de motor NanoFab con NanoBloques no perfeccionados disponibles. Mientras que el sueño de la I.A. (inteligencia artificial) y la singularidad no tiene lugar a la par que la amplia área de distribución de motores NanoFab, los NanoGarajes de todo el mundo (especialmente en el cono sur) se benefician rápidamente de la incorporación de este nuevo método de producción global y horizontal para alejarse de las economías cerradas del pasado. Asimismo, este método permite la aparición de una \*ciencia del oprimido\* como una asignación estratégica de ventajas tácticas atribuidas en parte a los movimientos de los NanoGarajes.

E-storia:

Trans\_Patent: 6608386: Sub-nanoscale wire fabrication and bacterial processes

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Inventors: Reed; Mark A. (Southport, CT); Tour; James M. (Columbia, SC)

Sometimes Lila would feel a bit itchy as she floated in her partner a few hours before integration-birth. Most birthing was now a trans\_patented condition involving sub-nanoscale trading - it was the only way to pay the cost of life now. So every hour during this last trimester Lila and her partner would ferment mass nanowire production on her in-vitro skin in collaboration with the Yale University Inc., nanoteria colonies. She could feel the oldest most sustainable microbes on the planet staging WIPO-2 contracts for the latest off-scale metal-changing particles. Hundreds upon hundreds of Yale University Inc., products were waiting impatiently for Lila to catch a bit of crying air at the edges of her partner's canal to install and run - for just in time delivery. Delivery was all that mattered now.

While it is important to look at what has been done and what is being done now - it also as important to imagine the multiple realities that will come with the emergence of distributed nanofabrication and the question of what we might call geo\_nano\_politics or NANOGEPOLITICA as it flows between open and opaque hacktivities that route around the neoliberal walls that have shut down the rapid development of empirical experimental practice(s) within public culture (s), community science labs and science of the oppressed tactics (that form around the southern cone as continuation of the histories of the Theater of the Oppressed and "methodologies of the oppressed" that emerged in response to neoliberal social labs of market driven dictatorships of the 70s and 80s in Latin America. While the (lo)bal networks in the Favelas and barrios of world will push Open Fab forward as a networked vision of the matter hacking (DIY materialismo(s)) that will come. Three primary sectors will attempt to shut down these (lo)bal the Open Fab networks: The Matter Markets of Particle Capitalism(s), U.S. Homeland Security sectors and their twins, the terrorist. Each of these sectors will continue to be primary social disruptors of the expanding Open Fab and the emerging nano Fabbing movements:

E-estoria:

Easy Bake Tech (2011): A U.S. forward operations base outside of Kandahar is inundated with several hundred micro automated aircraft (unmanned air vehicles, or UAV's), each carrying a small explosive. Most fail to go off, but casualties are significant enough to be headline news around the world. Military analysts quickly realize that these micro UAV's are Hewlett-Parkard ThingJet products (which had been on the cover of TIME magazine on July 2, 2011.) The "Easy Bake" micro-missiles were produced by easily accessible upgrades from "open source objects" nodes around the world. By the start of 2012 U.S. Congress passes the Fabrication And Bioterror (FAB) act - rapidly Open Fab networks and garage science communities start to be shut down and the first level commercial DNA-controlled engines are classified illegal.

Only underground Open Fab (lo)bal networks survive first by piggy backing on old narco-flows and then by linking in 2015 to the newly-constructed B.U. (Bolivarian Union) lead by Venezuela, Chile, Bolivia, Peru and the recent autonomous States of Zapata (what used be known as Chiapas and Oaxaca, Mexico). The B.U. adopts minimalist intellectual property (IP) policies and soon adopts the

Open Fab Charter or the Creative Hardware Commons- soon U.S., E.U. (IP) refugees, Brazilian quantemarinors, Asian horizontilist and nano\_socialist start to build what will become the first strata of the Open Matter nanoGarage(s) - the very first one is named the Tijuana Nano Institute (TIN) by Open Fab immigrants to the B.U. from Baja California. (TIN) hacks together an old RepRap, a Japanese pseudo\_RNA controlled nanoscale replication system, some bits and pieces from a German Pharmaceutical's nano-therapeutic engine and they focus on creating non-organic/bionano self-assembling architectures - from this point on the Easy Bake engines have a distinctly nanobiological aroma.

[Back to our side of the realities]

The shift from Open Fabing to nano Fabing will be slow to the degree that Open Fabing will do a great deal to expand the possibilities of DIY cultures around the world - without having to answer the many difficult and subtle questions that will manifest with the introduction of molecular factories that could control the configuration of matter at the nanoscale as opposed to the microscale. What may occur as the free and open source software crews start to target the question of replication and hardware issues - the cost for replicators will go down, the catalog of solid polymer materials will grow, design shareware will flow from a few garages to home desktop configurations. But, the first major hurdle will be creating Open Fab specifications and standards for easy integration into open fabrication devices. Another important condition for Open Fabbing will be bypassing the hard filters of official control via Open Fab-assembled mesh-network routers that will be extremely cheap by 2015.

While all of this occurring on the microscale very little nanoscale fabrication will be networked to what might be considered the accessibility frame for the nanoGarage matrix. Matter hacking will probably float into our realities along the tracks set by the Open Fab project and will be far more mature, and will need to be, with almost full set of protocols for toxicity issues, control interfaces, and device standards - so that the social trauma of molecular manufacturing will be far softer in terms disruptive technologies than what came before. Or perhaps it will be a nanoscale enclosure system that is too much a part of our long history of exploitation:

E-storia:

Your Matter Is Our Market - NanoMiX Corp.

When Lily was lucky, she got a contract for weapons. The pay was good because it was dangerous. The weapons would come gushing suddenly out of her with much loss of blood, usually in the middle of the night: an avalanche of glossy, freckled, somewhat transparent bits of weapon goo-particles, each one with a number of soft blue eyes and rows of bright sharp teeth. No matter how ill or exhausted Lily felt, she would shovel them, immediately, into rusted tin cans or milk cubes and tie down the lids with auto-clean tape. If she didn't do that, immediately, if she fell asleep, the particles would eat her. Thrashing in their containers as she carried them down the steps, the particles would speed eat each other, till nothing was left - the last one left would always eat itself - "the highest state of artificial evolution," her sister would whisper to her before the accident. She would have to hurry, shuffling as fast as she could under the weight of so many containers, to the Neighbors. The Neighbors only paid her for the ones that were left alive. It was piecework.

[Back to the Future Again]

Personal Nanofactories (PN): What had started as the Easy Bake Oven trajectory a few years back hits the worldwide market with the smooth big bang of the Hatchi\_Apple iFab in 2019. The cost factors go way down after a matter hacking group deep in the tunnels of Gaza discover a way to produce cheap electro-plastics from re-cycled UAV's (micro-drones) and artificial corn products, these corn-plastic derivatives replace the petroleum based plastics as the core for both the PN market and the Open Matter networks in 2020. New Gaza becomes a core for the Open Matter networks and quickly links up with the B.U.'s nanoGarage economies to develop the first trans\_patent with WIPO-2 (World Intellectual and Property Organization 2) that both creates new economic flows for the community and allows for rapid expansion of Open Matter PN's and old market matter replication engines, like the iFab. Particle Capitalism(s) comes of age at all levels of society quickly and just a quickly begins to fade away...

[science of the oppressed and garageScience]

We can imagine Augusto Boal's Theatre of the Oppressed,

Chela Sandoval's Methodology of the Oppressed, Critical Art Ensemble's tactical science, Natalie Jeremijenko public experiments and what the Electronic Disturbance Theater has framed today as the "science of the oppressed" - each of these parts of a wide area call for a re-framed relationality between spectator, poesis, praxis, experimentation and Sandoval's differential consciousness of the "la conciencia de la metiza". Each gesture diagrams alternative social forms of life and art that fall between the known and unknown, between fiction and the real, between clean science and dirty science - each a part of a long history of an epistemology of social production which privileges the standpoint of the proletariat, the multitude, the open hacks of the DIY moments, and of autonomous investigators who stage test zones of cognitive styles-as/and out of - concrete practices as speculation and speculation as concrete practices - at the speed of dreams.

What the artist adds to this circuit is the ability to stage potential rehearsals for the now-and-future community laboratories, for the nanoGarages to come, for the current empirical speculations of new ecologies of social formations that can create a space for the agency of actor-spectators - that can route around the neoliberal walls of "venture science" as only protocol for "scientific" research and instead offer a counter-frame/unframe of a science for and by the people. As Boal stated, "we must move towards a rehearsal-theater and away from a spectacle-theater." The "science of the oppressed" for EDT is type of "rehearsal-lab" that imagines community laboratories blooming from the always/already "lowrider" robotics of East L.A., from the Zapatista "Open Seed" an assemblage Open Wetware lab(s) - each garage a "rehearsal-lab" for new agency(s) defined by the people/the citizen/the nomad to "resume their protagonistic function" between/within/without art and science.

P.S.

Electronic Disturbance Theater's Transborder Immigrant Tool, a work-in-progress (in collaboration with Brett Stalbaum, Micha Cardenas and Amy Sara Carroll), is ready to move from alpha stage software design to beta testing in the Fall 2009. These devices learn from and redeploy the logics of distributed geospatial information systems (such as the Goggle Earth Project) to develop a virtual immigrant algorithm. They are intended as a safety net tools for those landlocked between Mexico and the United States. But, they also remember a long history of walking and earth art,

of border disturbance, of locative media, what we are coming to call “inter-American transcendental -isms.” Poetic gestures from their inception, the cracked Motorola i455 phones will include GPS poems for psychic consultation, spoken words of encouragement and welcome, which Amy is writing and co-designing (in the mindset of Audre Lorde’s sentiment that “poetry is not a luxury”). Layered as geology (e.g., they “speak” on the lower frequencies of the iconic, the sonic, the vibratory, the concrete, the performative, the poetic), the tool’s algorithm will aid users in tracking sustainable routes across the U.S./Mexico desert of the real and its virtual walls, each immigrant a researcher/poet creating new Nazca lines-of-flight/arco-irises across literal and imaginative post-NAFTA borders

<http://bang.calit2.net/xborder> (A rough draft URL for the project).