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Moral Circuits

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It all starts with a gesture that introduces a difference: parsing an excess of information to procure the basic elements that will integrate the blueprint of a new software / hardware project. A retrospective look becomes necessary. A gesture of consideration for those who came before. One traverses the electronic commons backwards after bits and pieces, sources of inspiration, crossing paths already mapped to address a question or a problem at hand. Like a *bricoleur*, parsing usually yields a partial picture, but good enough in any case, before putting us to work in direct or indirect collaboration. Among several definitions in circulation and dispute, the one I propose here after Gilbert Simondon (1958/1989; 2014) concerns the ethical practice of "openness" as *respect* (for the work) *of others*. Depending on its moral as much as on its digital and material circuits, "open technical objects" embody an invitation for practical engagement with the transformative, (open) networked potentials of moral circuits.

Moral circuits qualify as moral for their binding interdependencies and obligations, simultaneously *infrastructuring* and *orienting* particular sociotechnical arrangements in specific associated milieus. Through moral circuitries, *care* for the other is extended through technical offerings, where openness figures as a condition that prevents us from losing the ability to offer the capacity of sharing and learning from technical objects to others. More than a point of departure, "collaboration" constitutes a shared sociotechnical horizon and represents a point of arrival for an inventive project that is concretized: to find humans in the computer circuitry and, conversely, computer circuitries in moral worlds as if we were double-tasked as researchers of sociotechnical milieus. In her feminist

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reflections on questions of identify, individuation, and invention, Elizabeth Grosz suggests that

> what Simondon offers feminist and other forms of radical thought is a new way of understanding a world that is not ultimately controlled or ordered through a central apparatus or system, that has no inherent or necessary hierarchies, that does not require animation or coordination by culture but instead enables and makes culture itself possible. (2012, p. 53)

Not the *facile* humanism's "human" (with its intransigent technical culture without humans) but one situationally enmeshed with the material and virtual aspects of the machinery, its interfaces and its constitutive infrastructures. Right at the humanists' blind spot, out of sight for most but akin to Haraway's (1991) figure / device of the "cyborg" in the integrated circuits of late capitalism, technical second-natures are to be found.

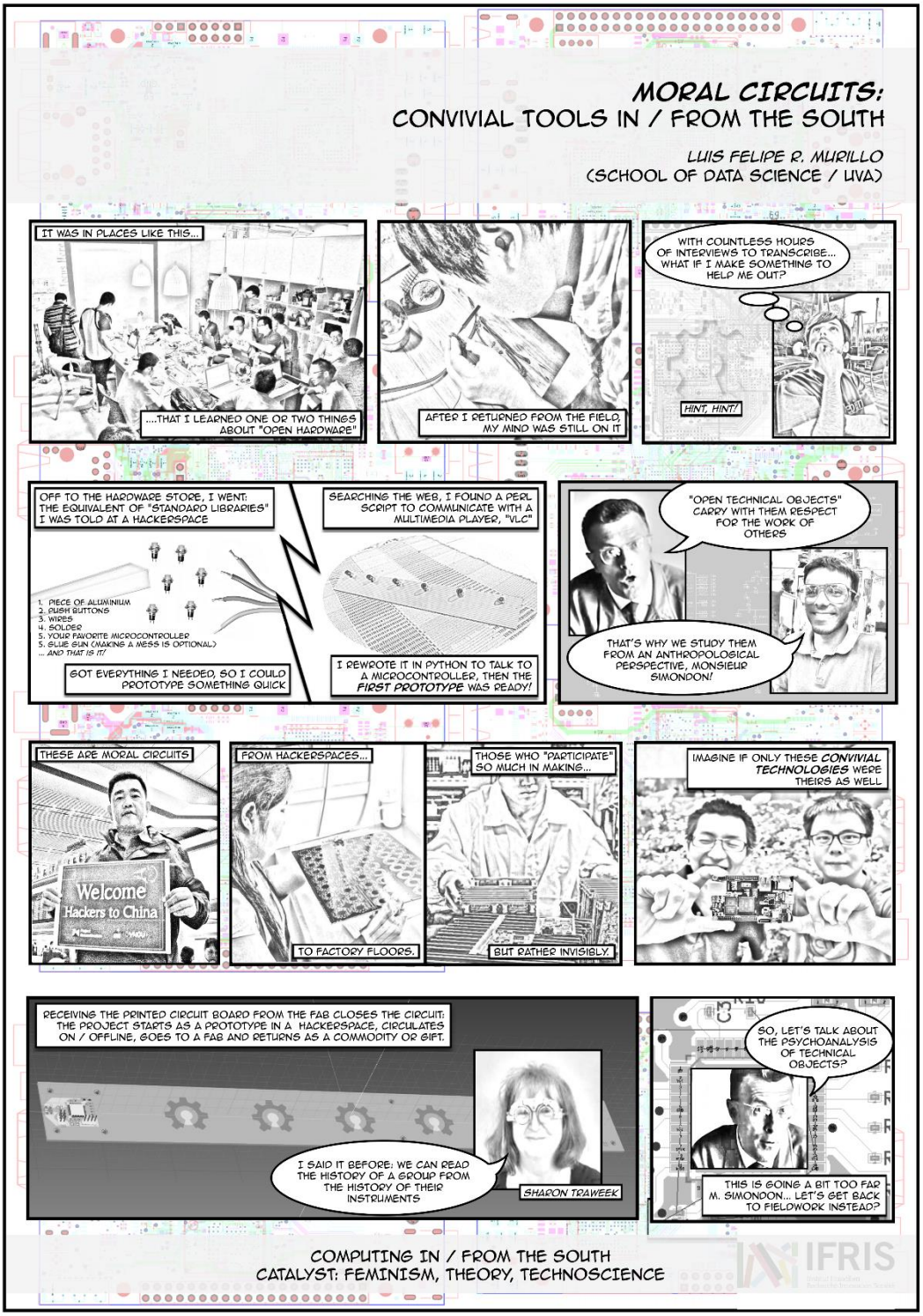
While many technologists and self-declared "hackers" have a public face and accumulated political capital, the industrial workers who are essential to the making of digital machines and infrastructures do not. Industrial workers are anonymous in the discursive, digital, or actual printed circuits even if the promise of a new moral circuitry for "open" technologies is to create convivial worlds in the context of pervasive OEMs (original equipment manufacturers**)** and IT corporations worldwide. Feminist STS has taught tomes about the experience of the invisibilization of one's labor, domestic, emotional, technoscientific, and otherwise, a project that is continued through *Catalyst* as an open forum. The prefiguration of a technological future with shared conditions for studying, understanding, modifying, producing, and redistributing as a gesture of respect for the (present, past, and future) work of others collapses with the discourse that "everyone is welcome" to join (Murillo, 2020). The catch-all rubric of "openness," often depicted as "universal access," serves a liberal rhetoric (from Sebastopol, California, *outward* when it comes to the newfound obsession with "making") that renders invisible the structural fault lines of gender, ethnicity, and class inequity. Feminist scholars such as Aiwa Ong (1987), Mary Beth Mills (2005), and Lisa Nakamura (2014) remind us of the gendering of electronics factory work in which the majority of precarious laborers are women and marginalized ethnic groups. This trend manifests in China where women-identified workers are to be found in high numbers on factory floors, soldering irons at hand, in stark contrast with their underrepresentation in celebrated Chinese "spaces of innovation" (Lindtner, 2015). From STS vantages, we have collectively examined the structuring and

structured inequalities of computing from the early work of Donna Haraway (1991), Diana Forsythe (2001), Sharon Traweek (1988), and many others on the "culture of no culture" of the technosciences to contemporary studies at the intersection of postcolonial studies, feminist STS, and social informatics (Philip, Irani, & Dourish, 2012; Chan, 2013; Amrute, 2016; Irani, 2019). Their voices are the means through which we get to speak about these issues and, slowly but increasingly, to be heard.

The ethnographic-oriented cartoon I offer here reflects an experience with moral circuits that are ethically oriented toward "openness." First drafted for the 4S meeting in Boston (2017)—under the title "Pedal Transcriba, an Ethnographic Device of (and for) Qualitative Research"—it depicts an experiment with moral circuits drawn from multi-sited research across community spaces for alternative computing in the Pacific Rim. My motivation was to derive the moral circuitry with a simple but open technical object by researching moral economies of "open" digital fabrication through my own practice of design and fabrication. The work I carried out was informed by Traweek's (1988) methodological orientation of reading the history of technoscientific collectives through the history of their instruments. The project was also meant as an invitation to navigate through different spaces, places, and debates by following the moral circuits by which political cultures of computing are actualized.

Based on the collaborative ties I cultivated over time, I started to learn about the circuits of exchange not only by following the circulation of projects, computer experts, and technical objects, but also through firsthand and hands-on experience with hardware projects. The pet project I describe in the cartoon—"Pedal Transcriba"[1]—was born out of the (personal) necessity of transcribing audio interviews but also out of the research itself, which demanded thinking through the tools, materials, and exchange practices of independent computer collectives and their convivial technologies. The technical object I prototyped consisted of a simple USB-based pedal that I used to control an audio player, which helped not only to reduce the number of hours normally required for the task but also brought to the fore the sociotechnical circuits that are necessary to create an "open hardware" project (from design to fabrication, distribution, usage, and repurposing). By representing an actual integrated circuit within latent moral circuits of open hardware development—understood here as a technical object and a feminist technopolitical heuristic after Haraway (1991)—the prototype materializes the conditions of the present but with an opening toward alternative technopolitical futures of much broader scope. If alternatives for

positive sociotechnical change depend on our struggles to *people* hegemonic circuits (Fischer, 2009), then computing in/from the South offers a methodology for the realization of moral circuits.



Notes

[1] The software code and hardware design files are available at https://gitlab.com/unixjazz/pedal-transcriba

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