Leon Vance
INFO 601
Professor Calado
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Book Review: *Technology of the Oppressed*

The use of digital technology in our everyday lives is often seen as commonplace and unremarkable. But it is through these mundane acts that our society is both made and re-made. David Nemer's *Technology of the Oppressed: Inequity and the Digital Mundane in the Favelas of Brazil* (2022) provides a thorough ethnographic analysis of how digital technologies change and are changed in the *favelas* (slums) of Brazil. Nemer structures his analysis through his self-created "Mundane Technology" framework, which approaches the use of digital technology in the everyday through an intersectional lens. His work grounds itself in the theories of Brazilian philosopher and educator Paulo Freire, most notably his book *Pedagogy of the Oppressed* (2018, first published 1970).

In addition to expanding on Freire's body of work, *Technology of the Oppressed* is easily situated in the broader conversations in literature about the societal impact of information technologies, particularly those that talk about racial biases inherent in technology such as Benjamin's *Race After Technology* (2019), and how technology can be used as a tool for political oppression such as Wooley's *Manufacturing Consensus* (2024). Though *Technology of the Oppressed* differentiates itself from other research on the subject through its unique ethnographic approach, which provides both great analytical detail on the topic of its research as well as giving a direct voice to the marginalized group(s) it seeks to uplift.

In "Introduction," the book's first part, Nemer provides a general history of the *favela* situated in the larger history of systemic inequality in Brazil. In his research, Nemer focused on a group of neighboring *favelas* in the city Vitória, collectively known by residents as the "Territory

of Good" (*Território do Bem*) (Nemer, 17, 20). Nemer additionally introduces his analytical framework of "Mundane Technology," which he describes as "how people outside the centers of technological and social power use materials and knowledge from professional technoscience for their own kind of sociotechnical production" (Ibid, 8). Nemer emphasizes that the study of Mundane Technology in the context of the Brazilian *favela* is effective because it decenters the use cases of the elite. He argues that Mundane Technology is one way for *favelados* (favela residents) to gain what Freire conceptualized as "consciousness" (*conscientização*): recognizing their own position in the systems that oppress them in order to liberate themselves from it (Ibid, 5, 8).

The second part, "Repairing the Broken City," Nemer discusses how repair and custodianship of technology is different in the *favelas* than in other, more privileged parts of the world. The *favelas* presently and historically suffer from infrastructural neglect**,** which influences the provision of services from running water to smartphone repair. As Nemer explains: "[b]reakdown and failure are not deviations from upper-class normality, [... r]ather, [...] breakdown and failure are how technology is most commonly encountered in everyday lives permeated with uncertainty" (Ibid, 34). In this context, repair and adaptation become a form of Mundane Technology, allowing residents to gain agency over the technologies (or its shortcomings) that often control their quality of life. Nemer connects this to the Brazilian concept of *gambiarra*, the "piecemeal process of overcoming precarious conditions through improvisation, bricolage, and adjustments" (Ibid, 44).

Nemer provides the example of the QWERTY keyboard layout, something unremarkable in the context of the North American market of which these keyboards are manufactured for, but a point of difficulty for *favela* residents who are developing technological literacy skills. As the

keyboards are used, the ink on the keys wear off (another aspect unaccounted for when technology is designed only for the context in which replacement is easy), causing greater confusion and frustration for users unfamiliar with the QWERTY layout. In response, technology center owners repaired the worn keycaps by printing the necessary letters on paper and taping them to their respective location(s). Several technology center workshops were held where *favela* residents could write and attach their own letters to each keyboard cap, allowing them to make familiar the keyboard layout in a way that met their own needs. While this repair allowed users engagement and agency with the technology in the short term, their underlying frustrations with its design were not alleviated; "[I]f I were to design it, I'd put the keys in alphabetic[al] order. Especially because the letters on the keys fade away. If they fade away, at least I'll have a better chance to guess where they are. … And then we can move slowly towards this weird format [QWERTY layout]" resident Neuza (twenty-seven) told Nemer (Ibid, 39).

In part three, "Community Technology Centers as Mundane Technology," Nemer discusses how the Community Technology Centers (CTCs) in the *favelas* are not only important spaces for technological literacy development, but also as a space where community members can feel safe and connect with one another. "Community Technology Center" refers broadly to spaces or organizations that aim to provide technology access to residents. In Vitória this role is primarily occupied by a number of government-funded "telecenters" where *favela* residents can use various digital technologies and access the internet. Nemer also includes the "LAN House" – a privately-owned small business that also provides similar technological opportunities for residents – in his definition of CTCs (and as a Mundane Technology), though their formal recognition as CTCs has been contested in Brazilian popular media because of their creation by and for *favela* residents.

The drug cartels that occupy the governmental vacuum of the *favelas* are frequently in conflict with one another, creating an unsafe environment for residents to travel through. However, in the words of a telecenter agent, "The cartel doesn't allow any of their members to come here [the telecenter/CTC]; they understand that this is for the community and don't want anything happening in here" (Ibid, 66). *Favela* residents make use of this designation of the CTC as a "safe space" not only to use technology, but to socialize with and learn from one another, subsequently promoting community solidarity.

Despite the drawbacks of the CTC model as identified in this chapter, Nemer argues that CTCs as a Mundane Technology are highly beneficial to residents, and advocates their propagation as part of an effort to increase "socio-digital inclusion" (Ibid, 80). Though, as he previously mentioned in this same chapter, Brazil's bureaucracy is incredibly slow, often purposefully so as to increase the lower-classes' reliance on (or vulnerability to) governmental decisions. While the implementation of the CTCs themselves was a governmental initiative, the centers are incredibly underfunded and often struggle to meet users' technological needs. Assistance of Brazil's government – at least in its current form – may not be enough to facilitate equitable inclusion for the *favelado* population, the labor of which the state regularly seeks to exploit.

Part four, "Social Media for Survival" examines the specific ways in which *favelado* use of social media differs from normative expectations. Through his ethnographic research, Nemer found that *favela* residents primarily use Facebook to communicate with friends and family members online – in itself mundane, but the ways through which they did so were uniquely adapted to their lived realities. One example is the act of taking a selfie, often considered a gesture of vanity, becoming a method of communicating vital information: that the subject is

alive and safe. Leo, a thirteen year-old resident explained to Nemer: “I always post photos of myself to show my mom where I am and that I’m OK. … She always checks her [Facebook] at work during her breaks” (Ibid, 93). Nemer also elaborates on the selfie’s ability to humanize the subject in their own eyes; as resident Neuza describes “I upload my photos on [Facebook] so I can [... s]ee who I truly am . . . that I’m not just a *favelada*” (Ibid, 92).

While these uses of social media are both subversive and empowering, it did raise an additional concern from me about the *favela* residents’ safety in relation to their digital literacy skills. As Nemer notes, for many *favelados*, “Facebook *was* the internet” (Ibid, 83). Due to limited instruction at the CTC or otherwise, most residents did not have a full(er) comprehension of the internet and its services at large, including functions as primary as email. Social media services such as Facebook offer their services free of charge because their business model revolves around predatory data extraction. As *favela* residents often have no other way to communicate with distant friends or family members, they are essentially forced into becoming, as Nothias in Nemer describes, “largely nonconsenting subjects of digital experiments” (Ibid, 85). As Benjamin (2019) describes, the large-scale collection and consolidation of personal user data helps streamline the marginalization process, facilitating the discriminatory action against vulnerable persons both on and offline based on algorithmic decisions determined from their personal data (7-8).

In part five, “Proud Faveladas,” Nemer examines the specific issues faced by female residents of the *favelas* (and in the larger context of the sexism interwoven in Brazilian societal norms), and how Mundane Technology can be a coping mechanism for them. This examination includes how the discomfort women feel in public spaces due to threat of violence and sexual assault extends to the “public spaces” of the internet as well. The online sexual harassment that

the women and girls Nemer spoke to faced daily made them unable to engage with many of the more beneficial aspects of social media services, such as community building. A method that *faveladas* used to avoid online harassment was "gender masking" (Nemer 2022, 117), or creating public-facing identities online where their gender presentation was either neutral or masculine in order to engage in community conversations.

While this strategy helps the *faveladas* shield themselves from oppressive forces in the short-term, digital technologies seem to only have further made women in the *favelas* vulnerable to targeted harassment. The "gender masking" adaptation does not feel like a liberating breakthrough, instead more like a defense mechanism created out of necessity – a coping mechanism, as directly described by Nemer (Ibid, 117). He writes that in order to dismantle sexism at a societal level, "placing the burden on women alone will not work" (Ibid, 119), men must also learn and become involved in the feminist cause. But the conundrum on how technology can assist in this process is left unsolved.

Part six, "Geographies of the Oppressed" further examines how the physical boundaries to access in the "real world" are reestablished and sometimes accentuated in the realm of the digital. One example he uses is the *favelados'* participation (or lack thereof) in the 2013 June Journeys (*Jornadas de Junho*) protest movement that gained popularity nationwide. Nemer attended a major protest in Vitória but did not see anyone from the *favelas* there, nor were any of the residents of the *favelas* he talked to afterwards aware of a major protest occurring. The June Journeys movement was largely organized in online spaces like Facebook, but Nemer found that these spaces were segregated by race and class just as the city of Vitória is physically divided. The upper and middle-class residents, predominantly white, determined the scope and demands of the protest in spaces separated from the lower-class, predominantly Black *favelados*.

Nemer examines the challenges of desegregating these spaces (both physical and digital), often a burden placed on the affected marginalized group(s). He asserts that the mere presence of technological opportunity does not in itself allow for the crossing of social boundaries. Nemer instead posits that persistent "daily actions" (Ibid, 139) and use of Mundane Technologies are important contributing factors to the gradual dissolution of oppressive barriers. It is difficult to tell from his research if these strategies are indeed successful in changing the social environment online due to its nature as heavily demarcated and self-selecting, taking cues from and amplifying the social boundaries of the "real world."

Parts seven and eight "Technology of the Oppressor" and "Technology of Hope," Nemer situates his ethnographic research within the political climate of Brazil, as well as how both the *favelados* and us the readers can maintain hope during this turbulent period. Nemer specifically examines how technology played a role in the 2018 presidential election of far-right Jair Bolsonaro. The popularity of Bolsonaro's campaign was bolstered in part by an extensive infrastructure of human propagandists on the messaging app WhatsApp (owned by Facebook/Meta), used by about 96 percent of Brazilians in their daily communications (Ibid, 148, see also: Wooley 2024). Nemer argues that this use of technology does *not* meet his definition of Mundane Technology because it is an adaptation of technology that encourages users to continue to uphold the conditions that oppress them, instead of providing an opportunity for liberation.

Nemer concludes by paraphrasing Freire's claim that "just to hope is to hope in vain," contextualizing it within his work as "just to *use* technology is to use technology in vain" (Ibid, 166). Hope instead comes from *how* and to what ends we use technology to overcome obstacles in our life – both in the immediate and wider social contexts.

Throughout this book, Nemer has emphasized that Mundane Technology is a *temporary* solution to alleviate *favela* residents from the oppressive conditions they face in their everyday lives. While the examples and solutions he provides are certainly enlightening as to how technology can contribute to positive individual and collective social change, they are all both simultaneously productively and unproductively situated within the context of the immediate. To elaborate, the examples of Mundane Technology provided by Nemer are a form of liberatory praxis in large part because of the highly specified temporal and spatial conditions in which they are enacted. As a resident of the Global North in vastly different living conditions, how can I enact strategies of liberation via usage of Mundane Technology as it exists in an entirely different context of privilege?

While effective in the short-term, what is the extent to which Mundane Technology can be truly revolutionary when it contains all user actions within the restrictions determined by the oppressor? When will the day come when using Mundane Technology will no longer be sufficient in mitigating the harms caused by failures of larger social and political institutions, if that day has not already arrived? This issue in bridging the gap between knowing and doing is a common predicament of revolutionary thought and theory. Though in the case of the Mundane Technology framework we are given an immediate and convenient method of action because digital technologies are already so embedded in our everyday lives. What and how those actions will ultimately amount to remains yet to be seen.

Technology of the Oppressed does an incredible job at situating the reader within the specific socioeconomic conditions that inform both the technological oppression and grounds for liberation of the *favela* resident. I found it compelling to be able to learn from both Nemer and directly from the *favelados* themselves how they perceive these often harrowing conditions.

Nemer's framework of Mundane Technology is not just theoretical, but consciously practiced by *favela* residents in their everyday lives. Learning about these methods through this embodied practice allows us the reader with the much needed glimmer of hope in the information darkness of the realm of digital technology.

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