Points of View

Mundane Technologies and Community Informatics

David Nemer, University of Virginia, *nemer@virginia.edu*

Mundane Technologies and Community Informatics

Abstract

In this short paper, I explore how my academic journey through Social Informatics (SI) and Science and Technology Studies (STS) has guided me toward the field of Community Informatics (CI), emphasizing the critical distinctions among these disciplines. While SI and STS primarily address the theoretical dimensions of science and technology within various institutional and cultural contexts, CI centers on the practical applications of Information and Communication Technology (ICT) within specific communities. Bringing this interdisciplinary foundation and drawing on a decade of critical ethnographic research, I present the framework of "Mundane Technology," which investigates how marginalized individuals appropriate everyday technologies to navigate and resist systemic oppression. This framework, which was originally introduced in my book "Technology of the Oppressed" (2022, MIT Press), is grounded in a decolonial perspective and enhances our understanding of how ordinary artifacts, processes, and spaces contribute to the agency and aspirations of oppressed communities. This framework also critiques traditional utilitarian approaches in Information Systems and ICT for Development, advocating for a shift towards recognizing the intangible benefits of technology in marginalized contexts. Ultimately, it underscores the importance of incorporating these narratives into CI research, reinforcing democratic values and expanding the scope of technology studies to include the voices and experiences of those historically excluded from power and representation.

Keywords: Mundane Technology; Appropriation; Oppressed.

Introduction: From Social Informatics to Community Informatics

My introduction to *Community Informatics* (CI) came in 2011, during my first year as a PhD student at Indiana University. My program track was *Social Informatics* (SI), which would later be rebranded as *Computing, Culture, and Society*. Although the track was rooted in the *Science and Technology Studies* (STS) tradition, it followed Rob Kling's definition of *Social Informatics*: "the body of research that examines the social aspects of computerization […] the interdisciplinary study of the design, uses, and consequences of information technologies, accounting for their interaction with institutional and cultural contexts" (Kling, 2007, p. 205). According to Michael Gurstein (2007, p. 43), while SI focuses on the "research and study" of the "societal aspects of computerization," CI emphasizes the "practice of the use of ICT in a social context" and explores "how ICT is used in specific, concrete, identifiable communities." Although SI and CI have since evolved to share similarities in research and practice, at the time of my studies, I felt that SI and STS lacked the practical, community-focused aspect that CI provided.

The SI and STS literature provided a theoretical foundation for my research. However, it was the CI literature, particularly articles from *The Journal of Community Informatics*, that equipped me with practical tools for my project, which focused on understanding digital

inequalities in Brazil's favelas—impoverished settlements typically located on hillsides or at city outskirts. This interdisciplinary foundation has been essential throughout my academic career and played a pivotal role in my research and writing of *Technology of the Oppressed: Inequity and the Digital Mundane in Favelas of Brazil*—a 10-year critical ethnographic study centered on the Territory of Good, Brazil. In the book, I develop a decolonial framework called *Mundane Technology*, which serves as an analytical lens to examine how information technologies can function both as instruments of oppression and as tools for resistance. My aim in this short paper is to introduce *Mundane Technology* as a framework within CI, extending CI's scope to encompass the struggle for equity and freedom through everyday technological engagements.

Mundane Technology as a Community Informatics Framework

According to Michael Gurstein (2007), the purpose and goal of CI research is:

> "*to document (within the context of ICT) these areas of conflict and resistance; identify those areas of small victory (where autonomous community-enabling activities and objectives are realized); determine those strategies which have achieved success; and suggest means for replicating, reproducing and extending these. Additionally, the opportunity for appropriating, integrating and repurposing existing technology as community supports while equally facilitating the development of technologies which in their very design reflect the specific ontology of communities presents very significant challenges and opportunities for CI researchers*" (p. 39).

This is precisely what the framework I developed in *Technology of the Oppressed*, called *Mundane Technology* (Nemer, 2022), seeks to illuminate and accomplish. Since CI literature and practice, among other disciplines, informed my work, I feel a responsibility to contribute back to CI by offering this framework.

I did not create the term *Mundane Technology*—it has been explored by other scholars interested in the everyday roles of technology. Paul Dourish et al. (2010) define mundane technologies as those that are widely used and familiar, such as smartphones, text messaging, email, and word-processing tools. Mike Michael (2003) describes *Mundane Technologies* as those whose novelty has faded; these technologies are seamlessly integrated into daily routines and have become ordinary aspects of life. Studying mundane technologies, he argues, allows us to examine how they shape and reflect everyday experiences, reinforcing local techno-social arrangements. Trevor Pinch (2010) and David Edgerton (2011) advocate shifting focus from studies centered on technological innovation to those on mundane technologies, as these have become so central to daily life that their sociological and anthropological significance is often overlooked. Similarly, Payal Arora (2019) encourages a focus on technologies that empower marginalized communities by enabling leisure, self-expression, safer political engagement, and more—rather than seeking novelty and innovation from Silicon Valley.

While I borrow the notion of *Mundane Technologies*, I broaden it to encompass more than just digital tools. In my use, the term refers to the ways in which marginalized individuals appropriate everyday technologies—encompassing artifacts, processes, and spaces—to counter

oppression in their daily lives. *Mundane Technologies* include the ordinary, often nonproductive actions and aspirations that people pursue. This framework offers a decolonial perspective on how individuals assert their agency, develop self-awareness, and adapt technologies to move toward the quality of life they seek.

Mundane Technologies, drawing on Ron Eglash's (2004) concepts, focus on how people on the margins of technological and social power use resources and knowledge from mainstream technoscience to create their own forms of sociotechnical production. These peripheral settings are often overlooked in technology studies, as they fall outside major economic, technological, and political hubs (Takhteyev, 2012). Examining technology use in favelas offers insights into the significance of place and demonstrates how technology acquires relevance in contemporary society without assuming that elite users are the primary drivers. In this way, *Mundane Technologies*—as reappropriations of everyday tools—illustrate how people outside power centers reinterpret, adapt, and reinvent technology to seek liberation from oppression. Framing *Mundane Technologies* as acts of appropriation opens new pathways for studying culture and technology and reinforces the relevance of democratic values- especially in CI.

In Information Systems and Information Communication Technology for Development (ICTD), early research has largely shaped technology design around utilitarian purposes. These assumptions about technology's role and its users in the Global South are often derived from Global North perspectives. While digital technologies in the Global North are typically valued for enhancing communicative efficiency, their value in Global South communities has predominantly been assessed through quantifiable socioeconomic impacts. However, it is challenging to separate practical utility from intangible benefits. Recently, these fields have seen a shift, with an increasing body of research critiquing its traditional utilitarian approach. Incorporating the concept of *Mundane Technology* into this discourse supports a deeper understanding of how these technologies are used and adapted in everyday life.

Amartya Sen (2001) acknowledges the significance of economic growth in community development but argues that evaluating "intangible" impacts provides a foundation for a more comprehensive understanding of human well-being. Similarly, Paulo Freire (2000) contends that it is impossible to define a person or their potential without considering the moral dimensions of humanity—just as we cannot adopt a neutral view of technology's role in society. For Freire, morality encompasses values such as freedom, happiness, and social well-being. In line with *Community Informatics* (CI) literature, it is essential to include the stories of marginalized groups who foster civic participation, education, freedom, and safety, resisting oppression stemming from social and racial inequality, censorship, tyranny, poverty, and gender discrimination. By focusing on *Mundane Technologies*, I argue for expanding beyond utilitarian views of technology. Everyday practices observed in favelas and other marginalized settings highlight the often-overlooked significance of technology in various aspects of life. These practices contribute to a richer understanding of how marginalized individuals navigate and shape their daily technology use, even as they endure the effects of systemic oppression.

Conclusion

In considering the impact and relevance of Community Informatics (CI), *Mundane Technology* offers a vital framework. *Mundane Technology* emphasizes how marginalized communities creatively repurpose everyday technologies to navigate and counteract social and economic inequalities. CI's value lies in recognizing and supporting these grassroots practices—understanding that meaningful technological integration cannot be imposed from the top down but must grow from local needs, knowledge, and lived experiences. This approach aligns with CI's commitment to "bottom-up implementation" and the use of technology to enhance social bonds and community well-being.

CI matters not only because it systematizes community-driven uses of technology but also because it captures the significance of these mundane, everyday appropriations. By documenting and analyzing these practices, CI provides a roadmap for achieving more effective, equitable, and sustainable technology integration. Without this focus, technological interventions risk being superficial, replicating past mistakes, and overlooking the nuanced ways communities utilize ICT to enrich their lives. *Mundane Technology* thus extends CI's mission by underscoring the importance of everyday acts of resilience and agency. Together, they foster a more inclusive and resilient society—one that prioritizes social development, learning from the margins, and building upon community struggles.

References

Arora, P. (2019). *The next billion users: Digital life beyond the West*. Harvard University Press.

Dourish, P., Graham, C., Randall, D., & Rouncefield, M. (2010). Theme issue on social interaction and mundane technologies. *Personal and Ubiquitous Computing*, *14*, 171–180.

Edgerton, D. (2007). *The shock of the old: Technology and global history since 1900*. Oxford University Press.

Eglash, R. (Ed.). (2004). *Appropriating technology: Vernacular science and social power*. University of Minnesota Press.

Gurstein, M. (2007). *What is community informatics (and why does it matter)?* (Vol. 2). Polimetrica.

Kling, R. (2007). What is social informatics and why does it matter?. *The Information Society*, *23*(4), 205–220.

Michael, M. (2003). Between the mundane and the exotic: time for a different sociotechnical stuff. *Time & Society*, *12*(1), 127–143.

Pinch, T. (2010). The invisible technologies of Goffman's sociology from the merry-go-round to the internet. *Technology and culture*, *51*(2), 409–424.

Nemer, D. (2022). *Technology of the Oppressed: inequity and the digital mundane in favelas of Brazil*. MIT Press.

Sen, A. (2001). *Development as Freedom*. Oxford University Press.

Takhteyev, Y. (2012). *Coding places: Software practice in a South American city*. MIT Press.