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# Ethnography, Genealogy, and Political Economy in the Post-Market Era of Free & Open-Source Software

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## ACM Reference Format:

Dorothy Howard and R. Stuart Geiger. 2019. Ethnography, Genealogy, and Political Economy in the Post-Market Era of Free & Open-Source Software. In *Proceedings of CSCW '19 Extended Abstracts*. ACM, New York, NY, USA, 6 pages. <https://doi.org/10.1145/nnnnnnn.nnnnnnn>

## Introduction

Free software, open-source software, and the model of “peer production” [1] are well-trodden research areas within CSCW and related fields, with many articles exploring dynamics of collaboration, organizational structures, and other relevant issues to these communities [7, 12, 28]. Many F/OSS projects were explicitly founded with a particular set of values by people who were part of broader activist-driven movements, many of which explicitly sought to challenge more dominant modes of digital production and ownership [3, 15]. Yet much research in CSCW, HCI, organization science, and computational social science takes these projects out of their particular historically-contingent political-economic context, instead offering more general theories of affordances, motivation, collaboration, and innovation. This move is perhaps common because it makes studies of these projects generalizable to other major sites of CSCW research, which notably did not emerge from these same

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*CSCW '19 Extended Abstracts, Nov 09 - August 13, 2019, Austin, TX, USA*

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ACM ISBN 978-x-xxxx-xxxx-x/YY/MM.

<https://doi.org/10.1145/nnnnnnn.nnnnnnn>

movements — and in many cases were the kinds of proprietary systems that F/OSS and peer-production platforms were organizing against.

Given this trend, we ask: when conducting research that is generally framed as being about the present, how do we keep the historical context in view? This question is particularly important as it relates to building knowledge about CSCW systems that were established within particular political-economic visions, traditions, discourses, organizations, notions of work, and layers of built infrastructure. The methodological issues we raise also play out in the study of any organization or system that has existed for many decades or has a particular orientation to the long-term, which is an aspect other CSCW scholars have explored [14, 17, 20, 21]. When we are conducting studies of specific behaviors, motivations, and incentives for individuals, it is often unclear if we are also investigating the heavy weight of political economy in their lives. This is perhaps similar to the elision that occurs when we find ourselves unsure if we are conducting an ethnographic interview or oral history.

We are broadly interested in this issue, as it also intersects with CSCW's own intellectual history. One major framing of CSCW as a field is that it first mobilized in the mid-1980s as a multi-disciplinary field around the concept of group activity, whose findings were quite useful for those developing computing applications. Another history is that CSCW emerged explicitly as an alternative to more Taylorist and management-focused research in management and information systems (MIS) and human-computer interaction (HCI). In this framing, “cooperative” (and even “work”) signifies a particular focus on sociality and workers — particularly in its more European traditions [13, 25]. For example, the emergence of Scandinavian participatory design movement in trade union contexts and its prioritization of user-involvement speaks to the embeddedness of these traditions of thought, research, and making in political economy and geography [26]. But why are some contexts of CSCW research — such as participatory design — read through a multitude of political and historical contexts, while others are not subject to the same treatment?

F/OSS and peer-production arguably occupy crucial roles in CSCW in-action, not just as a kind of ‘model organism’ for studying collaboration. Frishberg et al. suggest that open source so embodies core foci of classic CSCW values, such that, “open source developers are actually in the trenches using CSCW methods and practices because they have no other choice.” [9] While these projects are indeed useful model organisms, they are also collectively a site of politics rendered through the design of sociotechnical practices, as open source emerged as an alternative to proprietary licenses and closed development [2, 15]. How might the broader CSCW community benefit from keeping questions of political economy close at hand? And in doing so, what is the role of history — and particularly a genealogical take [8] — in helping us reconcile the embeddedness of systems of thought within material conditions and political economy?

### **The Political Economy of F/OSS**

Political economy is an interdisciplinary approach to the role of politics, economics, and law in social processes, with a lineage too complex to detail here [11, 19]. In contemporary media, culture, and communication studies, scholars draw from political economy to ask questions about how capitalism configures global structures of power, centralization, connectivity, temporality and access [10, 27], and processes in which information, communication, and technology are mobilized by the engines of digital capitalism [18, 23, 24, 31]. Others have touched on the capitalist extraction of value from volunteer labor, and the ways the Internet has bolstered economies of unwaged, digital labor through participatory and collaborative cultures of content and code production [5, 29]

Many have begun to explore various dimensions of political economy in CSCW. In recent “future of work” conversations in CSCW, there has been growing recognition that studying global labor markets and politics is crucial. Increasing attention has also been paid to how power is rendered through sociotechnical systems through work focusing on social justice and participatory methods and modes of making [4, 22]. F/OSS and peer-production is not typically considered in “future of work” scholarship, but we do notice how such projects are often presented as idealized forms of labor, valorized in the same discourses. For example, Tkacz [30] critiques how examples of open-source software and Wikipedia are (mis-)appropriated to argue for particular transformations of economy and politics.

In addition, the kinds of ongoing structural transformations around employment and labor — particularly around contract and on-demand work — intersect with our findings of volunteer maintainers. Existing work has examined the deep ties between free and open source communities and for-profit companies in the history of computing, communication, and software engineering. Birkinbine has described how F/OSS communities managed their relationships with corporate actors during the corporate acquisition of the OpenSolaris OS, MySQL, OpenOffice, and various productivity software after Oracle acquired Sun Microsystems. [2] One intriguing avenue is investigating changes in the configuration of collaboration and reliance in OS as part of changes in a labor market, and the effects of that labor market on maintainers’ lives.

### **The Genealogies of Open Source as Told Through Political Economy**

We are also interested in bringing this growing area of CSCW scholarship into conversation with more genealogical approaches to political economy [8, 32]. The work of maintaining F/OSS and peer-production projects is deeply ingrained in global, political, and economic realities and cannot be divorced from those conditions. In studying F/OSS maintenance, we cannot ignore political economy, especially given how conversations about “sustainability” are prevalent in these communities. In any interview, questions we may ask about “motivations” become about funding structures and

maintainers' relationship to various entities with major stakes in the global economy — most notably for-profit companies, but also increasingly universities and researchers funded by public and private grants. Many sectors of the economy are increasingly relying on these projects. Their often-volunteer maintainers are either being hired or funded by those who rely on them, or if they are not, the unfunded still-volunteers are increasingly asking if they should be.

These issues are as old as F/OSS movements (or even public goods in general). Similarly, the long distinction between free software and open source is a core tension in these communities, which some of our participants frequently reference. One of the current issues we are observing in the F/OSS-wide discussions about “sustainability” is the extent to which older copyleft licenses developed in the early 1990s era of desktop software are in need of dramatic revision in today's era of cloud computing. Some of our interviewees have been involved in these projects for some time — which also raises a methodological issue, as it can be unclear if we are doing a contemporaneous interview or an oral history — and have developed their own political economic glosses or folk theories on these complex situations and social worlds. How ought we treat such discourses in our studies?

While there is good reason to incorporate a historical context within any contemporary-focused research, the issues being raised in our case seem particularly demanding of a deeper genealogical political economy approach. This can be illustrated by a question often raised by our participants, which is why Microsoft — long considered an enemy of open source — has seemingly embraced it, most notably by acquiring the dominant open-source software platform GitHub. In unpacking this, we must trace how the cloud-based software/hardware stack that powers contemporary surveillance capitalism [33] is built upon a complex ecosystem of decades of freely-licensed software code. In addition, there have been decades of organizational, cultural, and discursive shifts in systems administration and software/data engineering based specifically around the openness of software code. Microsoft Azure, Amazon Web Services, and Google Cloud are all based not only on existing stacks of openly-licensed software, but also practices that rely on such openness as a mechanism to automate deployment and scaling of arbitrarily-configured software and hardware infrastructure.

Scholarship about the dynamics of sociality, politics, or economics can help us understand how we can incorporate political economy into present-day research, which may even be possible in more quantitative or systems-building work. For example, historians of computing have recently investigated the concept of ‘durability’ in software engineering [16], as a paradigm for evolution or change within software ecologies, and as a “feature of its insertion into a social, economic and cultural field of intention and expectation where it becomes differently” [6]. Another mode of doing political economy could be to ask how aspects of code or software engineering (such as durability, technical debt, or reproducibility) are affected by politics, economics, and history — questions which offer promising beginnings to expand our understanding of the complexity of sociotechnical systems.

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