

Social Inequality and HCI: The View from Political Economy

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ABSTRACT

Massive changes in the economy and computing technology in recent years call for a close examination of their relationship. Changes include a broad range of topics and issues, some of which directly and crucially fall within the purview of HCI research and practice. We propose a perspective that engages issues of political economy, with a focus on social inequality. We introduce some of the history of concepts of this perspective, and discuss implications for HCI. We observe that practical and conceptual resources within HCI for considering political economy and inequality are emerging.

Author Keywords

Political economy; theory; HCI; inequality

ACM Classification Keywords

User/Machine Systems

INTRODUCTION

The remarkable innovations in the last decades in computing technology and in the broad range of computer-mediated applications have received informed, engaged, and receptive commentaries from within the HCI community. The embracing of these innovations is warranted, given the focus in HCI on enhancing and improving the human experience of and through computing. There have been parallel displacements in the economy, however, that have not received as much attention and critical scrutiny in HCI, such as growing income inequality (Fig. 1), and the spread of precarious forms of employment [59] including microwork and digitally mediated short-term contracts, as well as loss of jobs to automation [7]. Concern about growing income inequality has recently received widespread attention in mainstream media. The unexpected

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success of Thomas Piketty's *Capital in the Twenty-First Century*, a lengthy volume analyzing income inequality, has generated discussion of issues of inequality and political economy that had lain dormant, at least in a public sense, for decades. Economists including Nobel Prize winner Joseph Stiglitz have voiced concerns about unequal income distribution [61]. Empirical work documenting trends in income distribution [e.g., 54,63] is newly visible in mainstream discussions.

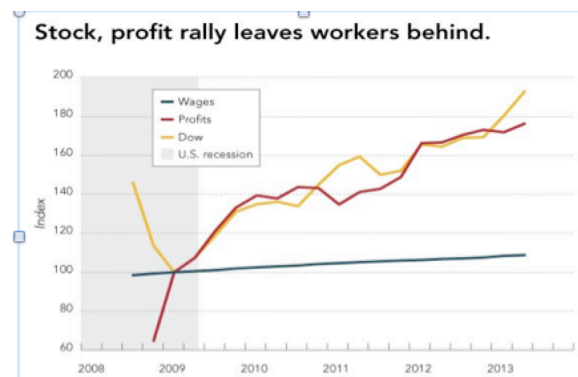


Figure 1. Wages (straight line) and profits, Dow index (ascending lines) since 2008, *Huffington Post*, data from St. Louis Federal Reserve Bank, 9/13/2013

These concerns and studies are pertinent to HCI. The depth and strength of the relationship between computing and political economy deserves more attention in the dominant discourse in HCI and neighboring disciplines such as human factors and social informatics. If we do not give attention to these matters, significant theoretical insights and practical lessons will be lost, impoverishing our understandings and engagements with technology, users, and, for that matter, with the world around us.

WHAT IS POLITICAL ECONOMY?

The meaning of "political economy" as a perspective and a mode of inquiry has changed over time. The industrial revolution of the 18th and 19th centuries, which turned agricultural economies into capitalist ones, introduced social, moral, and political questions about the division of labor, governance of the economy, and distribution of resources. These questions engaged leading figures such as

Adam Smith, David Ricardo, and John Stuart Mill as economists and moral philosophers. Karl Marx sought to answer the questions by examining the dynamics of socioeconomic change which he considered to be historical rather than “natural” and “objective.” Conceptualizing production and consumption as an integrated whole, for instance, Marx posited, “Production thus produces not only the object, but also the manner of consumption, not only objectively but also subjectively. Production thus creates the consumer...[It] not only supplies a material for the need, but it also supplies a need for the material...[It] produces the object of consumption, the manner of consumption and the motive of consumption” [39].

Applied to current circumstances, this insight invites us to critically examine a host of issues—for example, the common notion that the adoption of digital technologies is driven by “need.” In user-centered design, the idea of “user needs” indicates activities that could be served by technology. “Needs,” however, can take on characteristics of what Engeström called a “runaway object” [15]—that is, a thing that grows beyond its bounds in uncontrolled fashion. The idea of needs runs away when everything is portrayed as a need, and a more delicate language of wants, desires, diversions, distractions is erased. The slippage that results in everything being a need owes more to Marx’s observation that “production creates the consumer” than to actual need.

An uncritical notion of needs deflects attention from problems such as inequality and sustainability that could be addressed with more nuanced concepts. Recent critical thinking in HCI such as sustainable HCI [4,6,12,28,31], undesign [1, 48], and repair [27,37] has upended taken-for-granted assumptions about consumers with deep pockets who continue to spend without regard for financial and environmental concerns. Studies of homeless [35, 73] and low-income people [13] explicitly address those who are not conventional middle class consumers and must contend with the realities of life on the low end of the income spectrum. In “simple living” groups [22], people choose to spend little, creating lifestyles and practices that could inform design for a broader range of users. Atypical HCI projects such as those investigating barter [33] and timebanking [2] explore solutions pertinent to redistributing wealth more equitably. These approaches and empirical studies suggest that “motives of consumption,” as Marx said, are social productions, not givens, and we should see them as such, with all their implications for our research.

This discussion of needs is a single example of the leverage we might gain from engaging concepts from studies of political economy. Other recent HCI developments such as crisis informatics [44], collapse computing [65], and ICT4D [46,55,66], while far from the norm in HCI, indicate that now is a good time to consider political economy and social inequality in our work. These areas are not self-contained research problems or design projects, but endeavors linked

to the larger arena of the political economy and modes of income distribution. If, for example, repair is to be one means toward sustainability and management of material possessions, then core contradictions such as cycles of product obsolescence implemented to increase profit must be considered in design [69]. The advent and importance of developments such as 3D printing and maker culture [51] render questions of political economy even more pressing. What does a world look like in which repair and local manufacture could truly be design goals in HCI? Reducing reliance on corporate production would fundamentally change society, entailing radically new economic arrangements. Will the maker movement be co-opted by the larger economy or retain its roots in DIY culture? Questions such as this can be meaningfully addressed from the perspective of political economy.

The moral and historical perspective of Marx’s political economy was challenged by those who sought to build a science of economics on the model of mathematical sciences, giving birth to the discipline of economics that has come to be associated with neoclassical economics [38,60]. In their desire to create a rigorous science indifferent to moral values and political interests, however, neoclassicists have, in fact, contributed to the establishment of a particular socioeconomic order. The discipline of economics has performatively created the markets it posits as natural entities. Markets have come to seem so natural that we do not, as an everyday matter of course, call into question their ontological status and possible variations [36]. Yet the markets of today are not givens any more than needs are, and it is questionable whether they function as the level playing fields of exchange and competition claimed by neoclassical economists. Stiglitz wrote of his Nobel Prize winning research on markets with imperfect information:

My research on the economics of information showed that whenever information is imperfect, in particular when there are information asymmetries—where some individuals know something that others do not (in other words, always)—the reason that the invisible hand seems invisible is that it is not there. Without appropriate government regulation and intervention, markets do not lead to economic efficiency. [61]

Recent work in HCI is picking up on these themes; for example, in a study of Amazon Mechanical Turk, Silberman [58] wrote: “[T]he notion that an ‘invisible hand’ guides the actions of narrowly self-interested actors to lead to the greatest good for all is, regrettably, an appealing but ultimately misleading fiction” (see also [26] on asymmetries of labor relations in Amazon Mechanical Turk). Commentators such as Morozov [41] observe that large corporations are amassing control of basic infrastructures of commerce, communication, healthcare, and education, yet are not subject to regulations such as the Freedom of Information Act.

The narrow focus of neoclassicism on economic behavior has been, in turn, challenged by thinkers on different points of the political spectrum, giving rise to a new era in the study of political economy. On the right, neoliberal economists have expanded the classicist horizon to argue that markets provide the best way of organizing not only the economy, but human affairs in general—individual labor, health, security, and even a “marketplace of ideas” [8,71]. On the left, neo-Marxists discuss the impact of finance capitalism and globalization on issues of class, labor, and inequality [23]. In between, institutional [19,40], feminist [24,47], and ecological [16] political economists have focused on issues such as power and influence, domestic labor, and the environment. Institutionalists, for instance, have drawn attention to issues of heterogeneity of interests, political constraints, and power, showing how politics influences economic decisions and policies, typically giving them a sub-optimal character. A positive version of this view seeks to design political institutions to achieve economic objectives under existing political constraints.

This constellation of views shows the diversity of perspectives on political economy. Whether right, left, or center, their shared premise is that modern social life cannot be understood in reductionist and mechanistic terms of “pure” economics because modern life is permeated with issues, questions, and predicaments that have a strong political economy character. In this manner, a political economy perspective seeks to understand phenomena within the purview of sociohistorical developments, socioeconomic systems, legal and regulatory frameworks, environmental impacts, and government policies and agendas.

A political economy perspective challenges normative practice, and may make us feel “deviant and guilt-ridden” as Knowles and Eriksson said of the quandary of working in sustainable HCI [32]. When confronted with disturbing realities such as inequality and environmental decline, we may find solace in the idea that the free market will sort things out. Critical engagement with thinkers such as Stiglitz who cast doubt on this notion provides an important perspective. Globally, considerable evidence suggests that markets have not worked: huge numbers of people remain impoverished and we are in a downward spiral environmentally [25]. In the United States, home of a comparatively unregulated market, forty million people live below the poverty line and over two million are incarcerated. A working market should not produce these outcomes. Political economy for HCI includes developing broader understandings of whether and how technology can and should challenge market practices that have led to poor outcomes.

To this end, it is useful to look to other intellectual traditions to deepen capacity to address larger problems. In a discussion of sustainable HCI, Pargman and Raghavan [45] “leverage[d] prominent ecological thinking from

outside of computer science to inform what sustainability means in the context of computing.” For research engaging political economy and social inequality, thinkers such as Piketty [50], Stiglitz [61], Gorz [20], Boltanski and Chiapello [5], Harvey [23], Suarez-Villa [62,63], Ostrom [43], Weber [71], Caffentzis [9], Sennett [57] and others can inform our understanding. When it’s all a bit much, the dark humor of Bob Black’s vintage *The Abolition of Work* [3] provides critique with comedy!

IMPLICATIONS FOR HCI

Without a political economy perspective, we might end up in Kirman et al.’s sardonically rendered version of an HCI future in which the community “[devoted itself to] huge amounts of incremental user experience research which focused on generating minor improvements to interfaces...[that] had the specific result of encouraging humans to spend less time thinking about the fact that they were using technology, and more time...consuming” [30]. If we follow this route, our research “risks irrelevance,” as Wong said [74]. Below we discuss how to bring political economy into our work through historicizing, contextualizing, and politicizing.

1. *Historicizing*: Theories in HCI have come a long way since Card, Moran and Newell theorized fixed and stable attributes underpinning human-computer interaction [10]. As foundational as this work was for establishing the importance of theory for HCI, its limitations led HCI toward situated analyses with a more historicist bent, which gave rise to self-reflective accounts of the field with an eye to paradigmatic changes [21]. Despite the shift, however, most HCI has remained somewhat narcissist, looking itself in the mirror, but not seeing too far beyond. To overcome this tendency, we must keep in mind that the capitalist system has re-invented itself a number of times in the last century or so, changing drastically along the way [5, 23, 70], and that parallel changes in computing have occurred. HCI can be better understood from the perspective of these changes. Conceptual and practical resources for historicized perspectives are emergent in approaches such as ICT4D [66], sustainable HCI [4,7,28,42,45,69], collapse computing [65], crisis informatics [44] and value-sensitive design [17].

2. *Contextualizing*: The situated perspective expanded the horizon of HCI theories, taking practitioners and their accounts of technology use outside usability labs. This development is to be acknowledged and admired. However, the scope here is often somewhat narrow. “Situations” or “situated practice” are intended to consider the local, and while this move is valuable, it will not get us to issues that lie outside a local context that is too tightly construed [29]. Work in areas such as crisis informatics [44] and ICTD [46, 66] have necessarily engaged broader modes of contextualizing, with positive results.

3. *Politicizing*: Last but not least, theorizing in HCI should not shy away from incorporating politics in its conceptual

apparatus. We believe that the pressure to be “apolitical” in one’s views and theories is just another way of silencing dissenting voices, in the same manner that any mention of class difference is frowned upon as “class warfare” by those politicians who are most combatant in protecting the class interests of the powerful and the privileged. Technologies are inherently political [64,67,68,72], as are design choices, and pretending otherwise is not going to erase politics from HCI. These issues have been discussed as far back as the early 1990s, although not yet made central. The issue of “representation,” for example, is problematized by focusing “on the centrality of interpretation in the conduct of work, and on the fact that development of computer-based applications requires the collaboration...of a variety of distinct communities, workers with different skills using different representational frameworks—users, analysts, developers, programmers” [52]. Going forward, we can sharpen these insights to a finer critical edge to explicitly position analysis within concerns of political economy.

EXPANDING OUR AMBITIONS

The larger ambition of taking account of political economy and social inequality is to foster human well-being. Indeed, the theme of this year’s CHI Conference is #chi4good. We are moving, in somewhat disjointed but productive fashion, toward this ambition. Recent HCI research problematizes, for example, the uncompensated human labor involved in many computational systems [14], the “self-evident ethical and moral ambiguities” of crowdsourcing [30], conflicts in landlord/tenant relationships [13], and the US government’s food policies [56]. A step toward expanding ambitions is to ask more expansive questions. When designing technology, we could ask, “Which social class benefits from this technology, and might be there a way to work toward balancing benefits for different social classes more equitably?” We might ask why there are so few HCI studies of labor and trade unions and whether we should do some. We might consider why HCI can be seen as “huge amounts of incremental user experience research” [30] and why studies such as Dillahunt’s [11] are relatively rare. Can we investigate technologies that encourage more equitable distribution of wealth such as public benefit corporations and employee owned companies?

Are design approaches that scale up to concerns of political economy and social inequality simply too large to be tractable? In fact, proposals such as “multi-lifespan information system design” embrace this scale. Value-centered design “begins with the identification of categories of problems...unlikely to be solved within a single human lifespan” [18]. Sustainability research critiques presentist tendencies, and engages temporally sensitive approaches such as life cycle analysis [37,69]. Participatory design highlights the centrality of politics [53].

It is imperative that we build up our field with the support of theory [see 34,49] to invoke, in a principled way, broader criteria for design for human well-being. Stetsenko

observes that lack of theory creates a vacuum into which bad theories rush [59], impoverishing analysis and leaving us forever in the realm of the inconsequential.

Our suggestions here follow a path outlined in 1990 in Jonathan Grudin’s seminal CHI paper, “The Computer Reaches Out: The Historical Continuity of Interface Design” [21]. Grudin argued that as we expand analysis outward, each new level informs the previous level. He noted, “For example, the optimal design of features such as function key placement, command name abbreviation, and menu defaulting requires specific knowledge about users’ work practices and environment.” We expect that concerns of political economy and inequality will follow a similar trajectory, informing other levels of analysis, and continuing to broaden the purview of what is “HCI.”

CONCLUSION

While approaches such as critical theory, feminism, and anthropology are close in spirit to what we have discussed, none provides theories of social class or the extraction of economic value through digital technology. In our view, they underemphasize specific issues of political economy that we think are important such as changing labor relations, ownership of the means of production (from which power flows), and the ways in which a digitized political economy impacts the rest of life (health, education, environment, governance, etc.). Everywhere we go, we hit the wall of the dominant socioeconomic system. Despite our best intentions as designers, technologists, and users, the conditions produced by the dominant political economy cannot be wished away. The energy and optimism of the HCI community can be leveraged for the challenges before us. Dillahunt reminds us that, “HCI researchers and technologists [not only] have the ability to shine a light on society’s problems, but to provide platforms that enable individuals and groups to act on today’s problems” [12]. In many ways, we in the CHI community are in an advantageous position. Digital technology is the signature accomplishment of the 20th and 21st centuries, present in every aspect of the economy, polity, and ordinary life. In HCI, we understand the technology, and have assembled a community that takes people and their activities, problems, and aspirations seriously. Furnished with sharp design skills, a well-oiled culture of interdisciplinary collaboration, a contingent of researchers trained in rigorous practices of social science, and the savvy can-do orientation of engineering, we possess a unique resource not to be squandered on un-serious research. The progress of HCI since its start in the early 1980s is astonishing. It is time to attain the next level of success for HCI, taking seriously the political economy in which we all participate and the increasing problems of inequality that continue to daunt us.

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