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SUSTAINABILITY WITHIN HCI WITHIN SOCIETY: IMPROVISATIONS, INTERCONNECTIONS AND IMAGINATIONS

What is the place of HCI within society, and thereby, within sustainability? In their own ways, the chapters in this section take stock of this relationship and together they deliver a mixed status report: at once marked by a sense of progress and ongoing promise but also of frustration and limitation. In doing, they revisit the different roles that HCI has defined for itself with respect to sustainability. Roedl, Odom and Blevis discuss the progress made in working with sustainability as a consideration *in* the design of digital products, namely, by aiming to prolong their longevity and challenge the speed of invention and disposal. In contrast, Clear and Comber focus on how to design *for* sustainable ways of living, more broadly defined. This familiar distinction (Mankoff et al., 2007; Hilty and Aebischer, 2014) of, on the one hand, “reducing computing’s own footprint” and, on the other, supporting a “positive socio-economic transformation” is discussed by Mann and Bates, who lament what they see as a persistent lack of engagement within HCI to support such a societal transition.

When it comes to the sustainability implications that unfold as products are taken up and used, these approaches are not as distinct as they might appear. The separation of what technologies are *for* from their direct environmental footprint is somewhat artificial: that is, without having established and without sustaining some kind of role for such products within practices, there would not be a direct environmental footprint at all. However, I agree that sustainability in design and sustainability through design are very different in terms of their implications for HCI and the type of research it carries out. One approach remains within hitherto familiar co-ordinates, defining itself by reference to the design of digital products and the situated interactions users have with them. The other marks a potentially radical departure, taking as its focus, not technologies themselves, but ways of living and processes of social change. In de-centring digital technologies and users, the challenge of sustainability is also emerging as a challenge, and opportunity, for HCI to define and re-define the distinctiveness of its work (Pierce et al., 2013). I am intrigued by the divergent futures this seems to imply for HCI, so in this short commentary I focus mostly on the chapters that discuss this challenge (Clear and Comber, Mann and Bates).

IMPROVISATIONS

Clear and Comber review and elaborate a framework for design research to facilitate sustainable social practices, taking those practices as the unit of design. This draws on Kuijer et al. (2013) to advocate a process of necessarily radical change achieved through a “crisis of routine” and a series of “improvised performances”. In doing, Clear and Comber point towards an agenda for “transdisciplinary design research” that moves away from an *a priori* computer-based framing of ‘problems’ and ‘solutions’. If we extend their analysis and consider HCI research to consist in a set of practices, this response to the challenges of sustainability could also be seen to represent a crisis of routine for HCI, and the related development of new methods, frameworks and concepts, as a kind of improvised response to de-centring its long-established focus.

Mann and Bates also seek to re-define and extend the hitherto traditional boundaries of the field by arguing that HCI concerns the “relationship between computers and society”. Whilst HCI is often thought of as an interdisciplinary field rather than a discipline in its own right, these moves imply a shifting balance between computer science and other disciplines like sociology and design research. This raises many questions. For instance, amongst other fields that also address the relationship between computers and society (in sociology, STS, organisational and internet studies, and technology governance) what makes HCI distinctive? Is it an explicit aim to ‘design’ (and re-design) aspects of this relationship? In other words, how do HCI researchers undertake to mediate the relationship between computers and society: through what kind of research? And what does this imply for “improvisations” in the mixture of methods, theories and objectives that are drawn from across connecting disciplines?

INTERCONNECTIONS

Building on Clear and Comber's discussion, the distinctiveness of HCI might be formulated and investigated as a question of how it, as a set of practices, is immersed in the massively varied and interlinked plenum of social practices that constitute society (Schatzki, 2012). For instance, Clear and Comber discuss the notion that "stakeholders" are "invested in the configuration of the various elements that make up everyday practices". That is, even though stakeholders are not always visible or present at sites of performance (for instance, when cooking is done, or when commuting takes place), they have nevertheless contribute to shaping those activities (perhaps, by providing certain kinds of products or investments in infrastructures) and have interests in sustaining (or altering) how practices are organised. Clear and Comber do not explicitly position HCI researchers as stakeholders in everyday practices, but others have, in asking how design and everyday practices interconnect as part of an ecology of practices (Disalvo et al., 2013).

Indeed, it is worth asking this question more generally: in which practices might HCI *already* be considered a "stakeholder"? That is, how has HCI already made contributions to shaping the ways that practices beyond its own community are organised?

This is likely to implicate a broad array of practices in addition to those which are designed for, including commercial innovation and production, governance and other research communities with which HCI interacts. Like HCI and the 'everyday' practices it often designs for, these practices are also part of society: not separate from or acting upon it, as if from outside. And through these 'indirect' interconnections with other practices HCI research may already be giving shape to the more and less sustainable futures that are emerging across these complex systems of practice.

This implies a reflexive awareness for those strands of HCI that are serious about contributing to sustainable transitions that engages with the unfolding implications of its work. This is not quite as straightforward as assessing all HCI research on sustainability criteria, as Mann and Bates suggest, since both low- and high-ranking research may have an equivalent (lack of) interconnection within this wider system of practice and thereby similar implications for sustainability. Instead, it implies a more thorough engagement with understanding, and potential innovation in, the ways that HCI research interconnects with wider practices in society, including other disciplines (through what it draws on and through its research 'outputs'). It implies greater clarity of what it might mean to do research and design at the interface(s) between 'society' and 'computers', whilst accepting that computers are part of society. It implies thinking about what ideas and principles about design and technology are being developed and how they might 'circulate' amongst other practices, and not simply as 'final' products based on experimental objects or lines of code. This may ultimately call for new kinds of imagination.

IMAGINATIONS

Clear and Comber suggest that, when it comes to the complexities, obduracies and multiplicity of stakeholders involved in social practices, design fictions may be a more promising output for HCI, than technological 'solutions'. I am unfamiliar with this approach but I am intrigued by what kind of research it implies. By what methods are design fictions developed and then 'used'? To what extent do these fictions focus on technologies? In what ways can they be transdisciplinary? And are they pure fictional speculations or seen as "plausible future systems" that are "qualitatively possible, in terms of the possible co-emergence and interaction amongst the multiple elements that constitute them" (Tyfield et al., 2016: 3); that is, might they share qualities with scenarios developed to explore social futures. In short, what kinds of social and/or technological imaginations do they develop?

In sum, the chapters in this section together paint a portrait of field that is, in part, re-imagining itself and improvising in its methods and theoretical foundations as it grapples with the challenges of sustainability. As it does so, there may be chances to interconnect with other disciplines in different ways, particularly ones that are also responding to the challenges of sustainability and re-imagining how their research may contribute to shaping social, and not merely technological, futures (Urry, 2016; Kuijer and Spurling, 2017).

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