The New Good

Exploring the Potential of Philosophy of Technology to Contribute to Human-Computer Interaction

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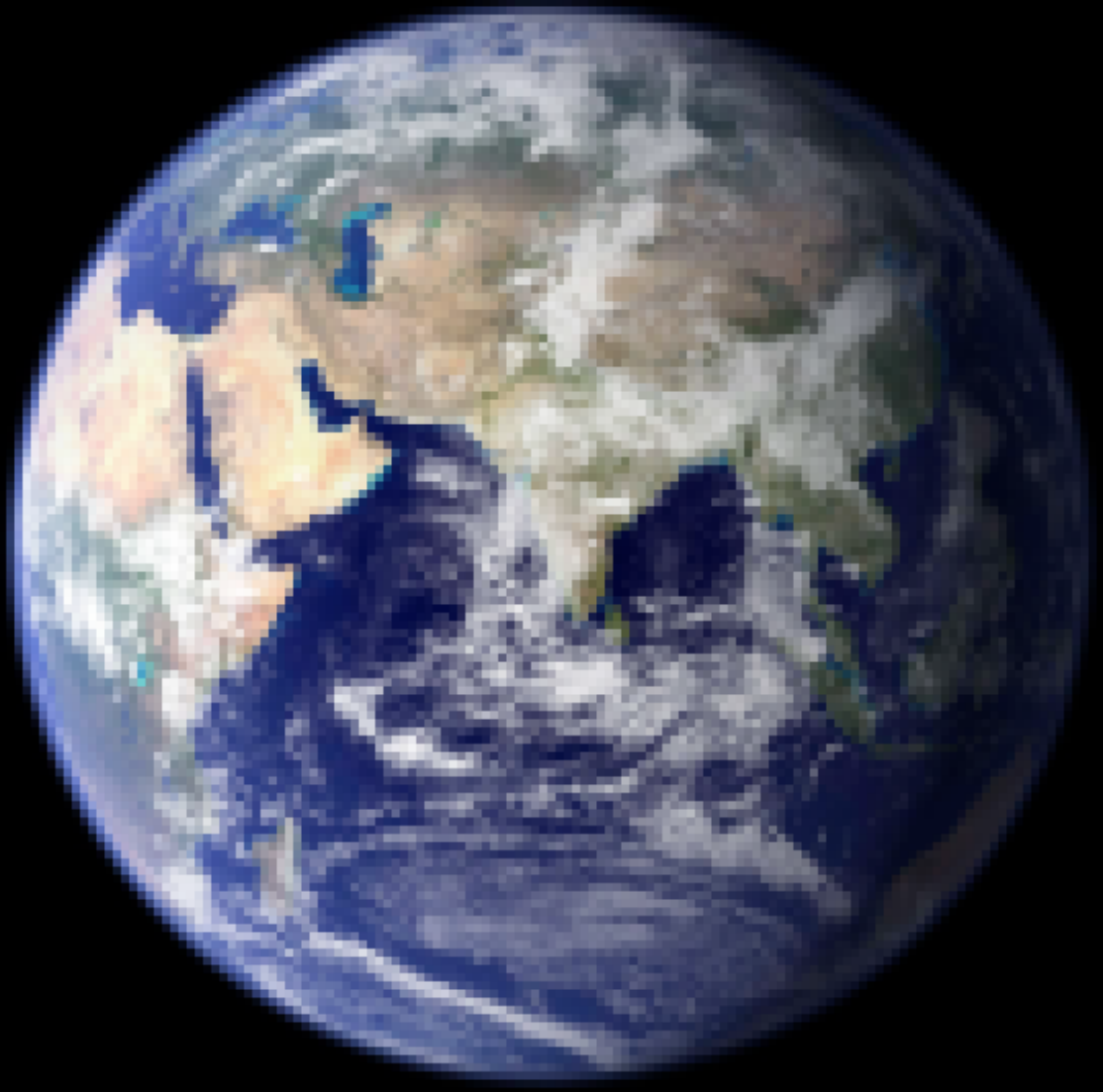

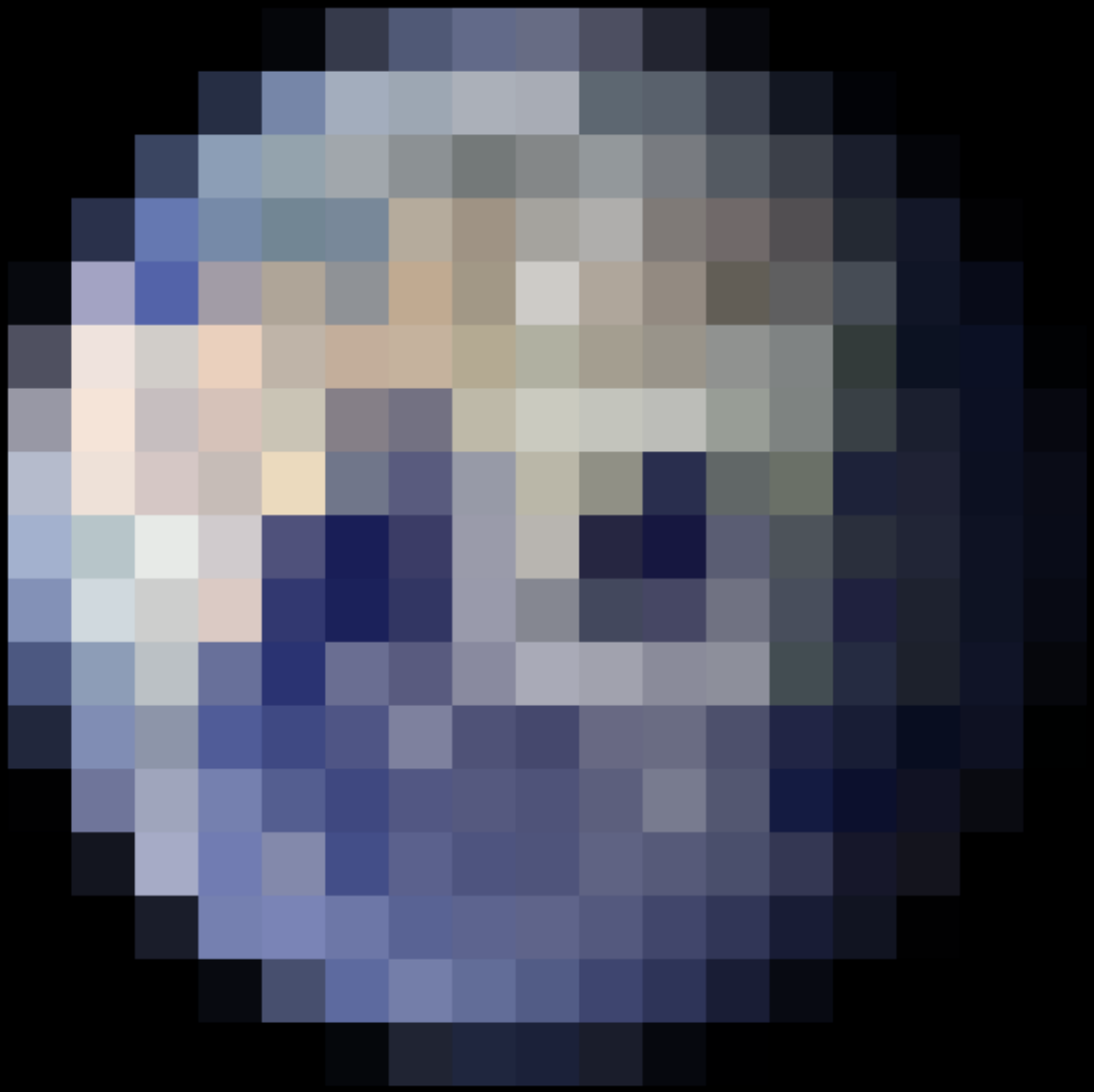

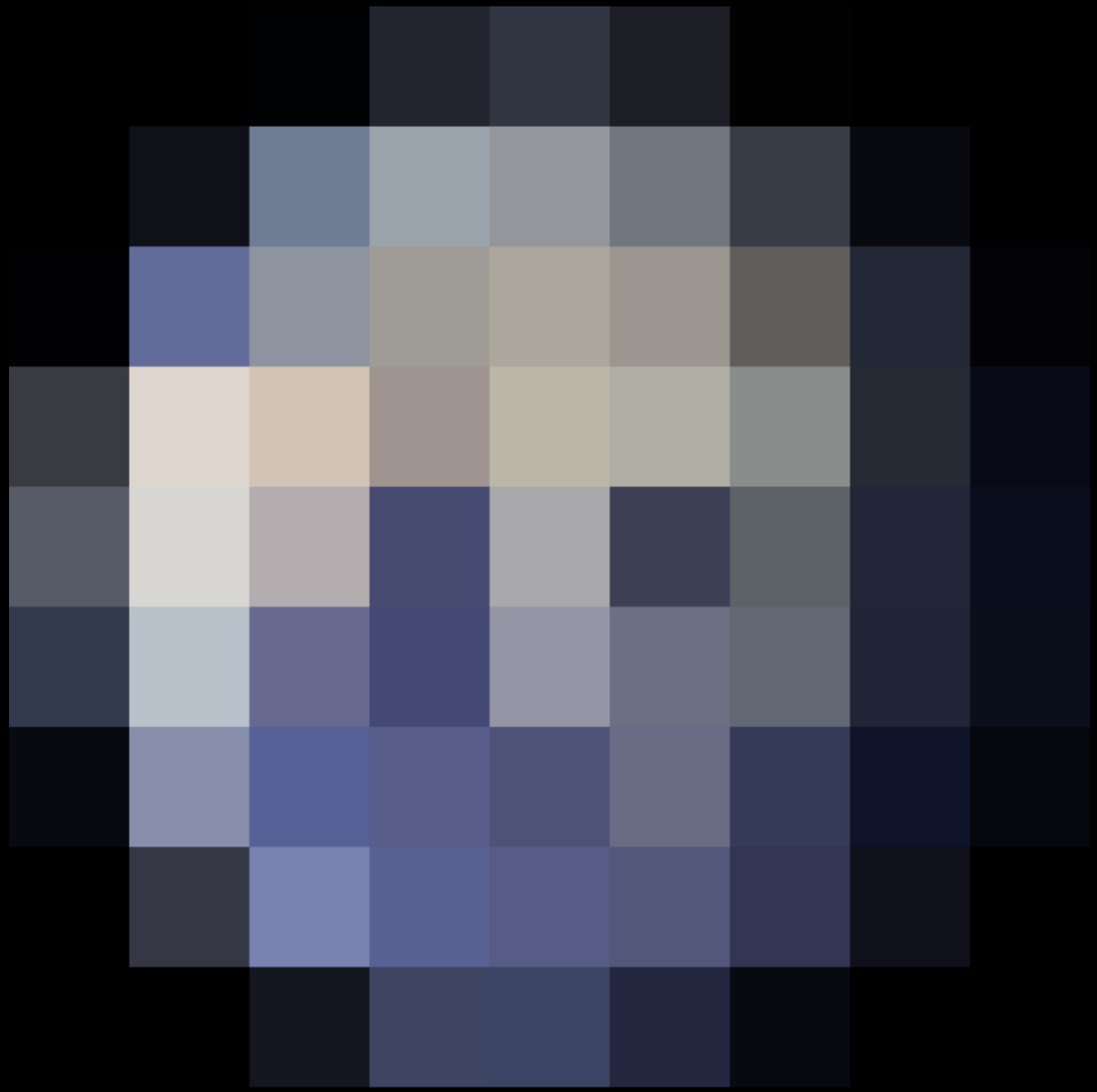

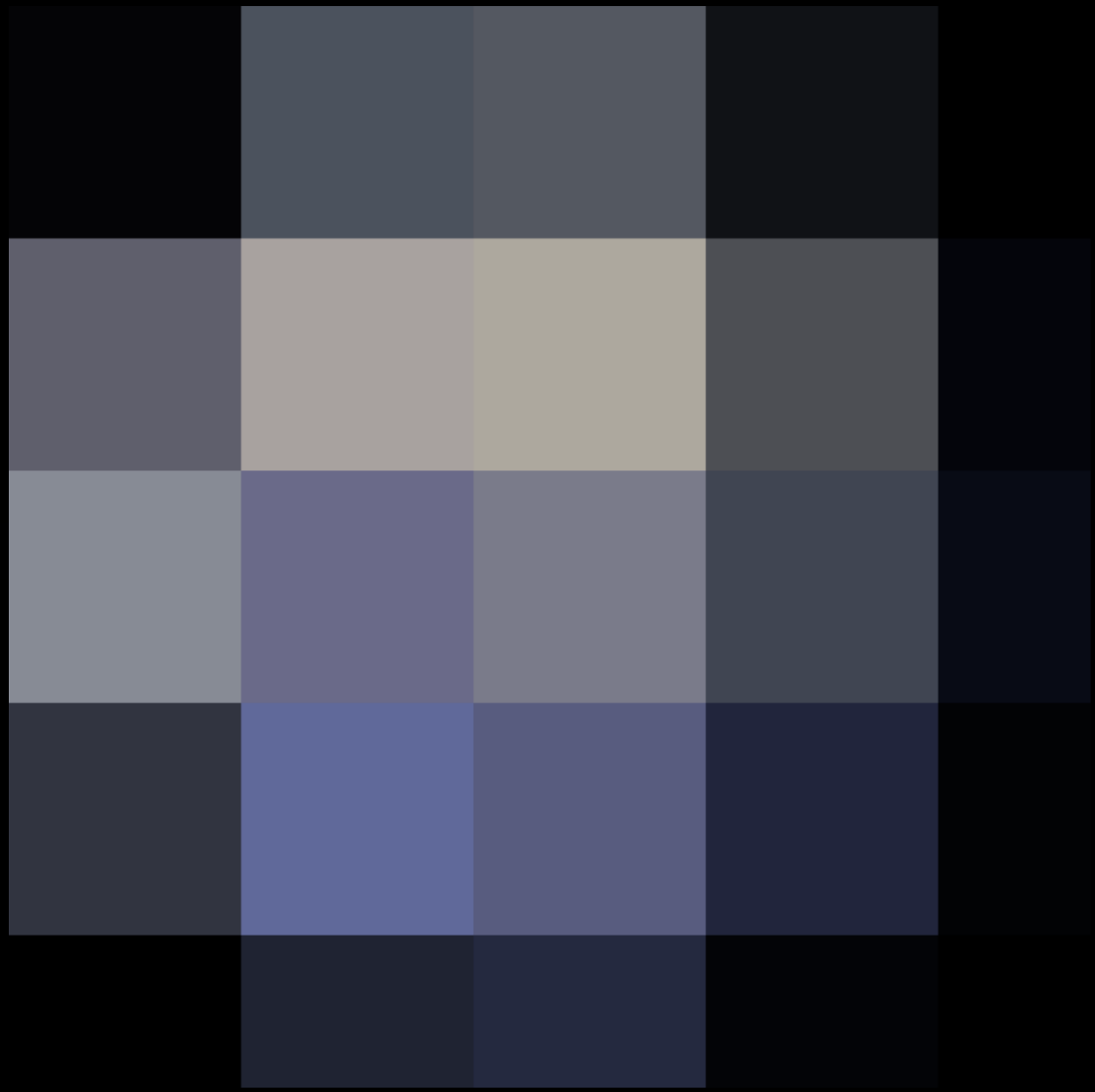

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  - It is becoming increasingly difficult to distinguish a ‘user experience’ from any other kind of experience
- The trend towards networked digital artifacts primarily interacting with each other and with computational power embedded in the environment blurs the concept of ‘user’
  - A crucial element of most methodological and theoretical approaches in HCI

Complexity

Complexity

- The problems with which HCI are concerned have grown considerably in complexity
- Increased complexity has shifted the *kinds* of investigation we are involved with
  - from dealing with relatively well-defined, controlled problems to open-ended situations, what has been termed ‘wicked problems’ in design research (Rittel & Webber, 1973)
- Traditional approaches in HCI tend to find wicked problems intrinsically difficult
  - raise ethical and moral concerns that are on a level above efforts of design, use, and evaluation
  - challenge old truths in the field regarding its scope, purpose and aim
  - threaten HCI’s largely implicit notion of good and bad

A Brief Historical Background

HCI's 'First Wave'

- Through the term usability, traditional HCI has taught us that interactive systems should be designed to be *effective*, *efficient*, *engaging*, *error tolerant*, and *easy to learn*
    - a collective term for a particular set of ideas about the relationships between users, analysts, designers, artifacts, and context
- Goal was to improve interactive artifacts by making them more useful
    - achieved through maximizing usability metrics
    - theoretical foundation in information processing; predicative models
    - methodological foundation in cognitive psychology; experiments
- A shared technical terminology, a set of techniques, methods, and tools, and not least *a communal sense of for what to strive*

First Wave's 'Good'

- The purpose of this paper is *not* to complain about usability
  - Few would probably disagree to the argument that usability thinking has come to improve the software industry over the years
- What is interesting here is the underlying notion or vision, i.e. to make interactive artifacts more useful, as well as the often implicit concept of 'good' when it comes to usability studies
- Here, 'good' is often reduced to signify those designs that show high levels of usability
  - measurable, quantifiable, analyzable, and—not the least—publishable in academic journals and conference proceedings and presentable to industry boards and committees

HCI's 'Second Wave'

- HCI came to a theoretical 'crisis' towards the end of the 1980s
  - questions were raised as to why the theories and approaches imported from cognitive psychology were neither conceptually influential nor useful in the rapidly expanding practice of designing computers and interfaces
- More encompassing theories and associated methodological approaches were proposed in the early 1990s
  - including participatory design, ethnography and ethnomethodology, phenomenology, ecological psychology, distributed and external cognition, activity theory
- Focus shifted from solving specific tasks to particular work settings and issues of context
  - such as teams collaborating using a variety of applications
  - predicative models, rigid guidelines, and systematic testing were largely abandoned in favor of actively working together with users in participatory workshops, various forms of prototyping endeavors, and though contextual inquiry

Second Wave's 'Good'

- When it comes to second wave HCI, the concept of a 'good design' becomes a little hazier
    - Participatory design, for instance, brings to the table the challenge of also incorporating political issues, labor and power relations
- Yet, with its focus on well-defined professional teams with specific tasks at hand, on their particular work context, and on groupware as a typical solution, the concept of 'good' becomes whatever enhances the group work process
- Usability remained as an underlying theme, as second wave HCI tended to stress the human side rather than the technological side

HCI's 'Third Wave'

- As computing and digital technologies started to become ubiquitous in our daily lives during the end of the 1990s, the boundaries between public and private, work and leisure, started to blur significantly
    - Interactive technologies now truly changed from being tools for work to something through which the world could be experienced and explored
- To remain relevant, HCI felt the need to broaden its scope: it needed to study and design for technology use in a much wider variety of contexts

HCI's 'Third Wave' (II)

- How one would study and design for people that were not at work, who did not appear in distinguishable groups, who did not have clear tasks at hand, and who may have a completely different culture than yourself, was not entirely clear
- To find ways of tackling these new challenges (and to break with the theories and methodologies of the second wave), HCI became rapidly interested in issues such as *meaning*, *complexity*, *culture*, *emotion*, *lived experiences*, *engagement*, *motivation*, and *experience*
    - including Research through Design, Critical Design, Ludic Design, Reflective Design, Value-sensitive Design (VSD), and Value-Centered Design, and others
- It reacted against the second wave's strong commitment to users (and the lack of emphasis on the designer) in favor of a more design-oriented stance
    - exploratory, interpretative, playful, ambiguous, and (at times) with an activist attitude

An ‘agitational artefact’ (ParaSITE, Michael Rakowitz)

Third Wave's 'Good'

- When it comes to third wave HCI, the notion of 'good' is far from obvious
  - There are often no easily distinguishable user groups to support (and to get feedback from)
  - Because of the blending of public and private (as well as work and leisure), any 'tasks' to support are hard to find
  - The purpose of third-wave designs often remain somewhat unclear

Is There a Need for a 'New Good?'

Is There a Need for a 'New Good?' (II)

- What currently appears lacking, especially in the light of recent third wave approaches, is a more explicit notion about what it is HCI now strives for as a field
  - "HCI will not become a true discipline until it develops, expresses, discusses, agrees and integrates a set of core values" (Cockton, 2004)
- What is the 'new good' that replaces the maximizing of usability metrics and improving group work processes?
  - Put bluntly, what constitutes a good user experience?

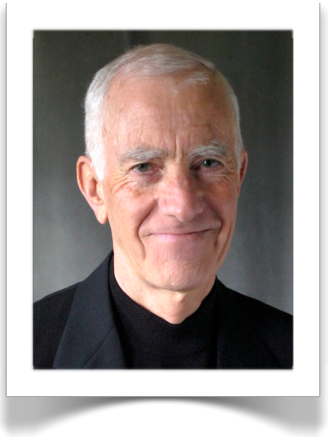
But is There a 'New Good', Really?

- The answer might be that HCI has developed to a point where shared visions are neither possible nor required
  - Given the broad scope of current HCI, maybe 'good' has to be relativistic, i.e. come in many forms, always depending on the particularities of the design situation
- A major argument of this work is that while we might not arrive at a single distinguishable 'good' for current HCI, there is a danger in not systematically and critically examine the underlying vision of what we do as we might then implicitly or explicitly come to inherit earlier visions
  - such as usability, group work, direct manipulation, the disappearing computer, etc.
  - in designing for developing countries; homeless; disabled; etc, the notion of 'good' often outsourced to a third party

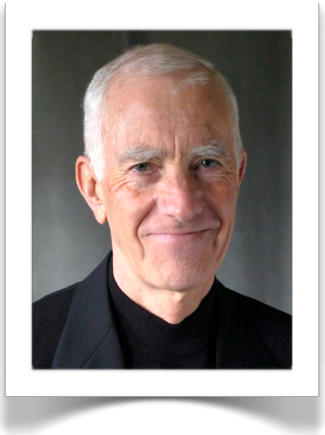
Philosophy of Technology

Two Philosophies of Technology

- Given the questions that the notion of 'good' seem to raise in third wave HCI, it might be useful to have alternative frameworks that can help us address these challenges
- We propose the possibility of drawing on *the philosophy of technology* as a way to help us better articulate, understand, and illuminate the concept of 'good' in relation to technology
- In the paper, we look in some detail at two contemporary philosophies of technology for inspiration:
  - Albert Borgmann's (1984; 1992; 1999; 2000) theory of the *device paradigm*
  - Don Ihde's (1979; 1983; 1990; 1993) notion of *the non-neutrality of technology-mediated experience*



Albert Borgmann



Albert Borgmann

- Theory of the ‘Device Paradigm’
  - Reconsiders the often-assumed correspondence between ‘useful’ and ‘good’
    - while particular technologies may be both useful and good, some technologies that are useful for some purposes might be harmful in a broader context
- *Things*
    - require our presence, patience, endurance, skill, and some amount of resoluteness
- *Devices*
    - appealingly glamorous technologies, useful for a limited purpose
    - provide commodities, only one aspect of the original thing it replaces
- We need to carefully nurture the focal things and practices that are currently threatened by thoughtless employment of technology

Don Ihde

Don Ihde

- Analyses the non-neutrality of technologically mediated experience
  - While technologies mediate our experience of the world, they "transform experience, however subtly, and that is one root of their non-neutrality" (Ihde, 1990, p. 49)
- Technologies appear in between humans and the world and change our experiences, amplifying some aspects while reducing others
- Three major types of human-technology-world relations:
  - *embodiment*, *hermeneutical*, and *alterity*
- Technologies are *multistable*
  - they can be embodied in various ways for various purposes

HCI and Philosophy of Technology

Discussion

- The bulk of Borgmann's and Ihde's work is contemporary with the shift from first to second wave HCI (late 1980s to mid-1990s)
- Yet, there has actually been very little interaction between PoT and HCI
  - This is rather surprising given HCI's willingness to adopt and adapt theories, ideas and concepts from other fields (!)
- Only in recent years a very modest body of literature in HCI has started to discuss their ideas
  - For example, Fallman 2004; 2007; 2010; Leshed et al. 2008; Odom et al. 2009; Pierce 2009

Discussion (II)

- Compared with many other philosophers, Borgmann and Ihde appear attractive to HCI in that they deal directly with today's technologies in a straightforward way
    - not primarily with the existential effects of 'Technology' (cf. Heidegger)
- Both authors have also chosen to communicate their philosophical ideas in a legible form, rendering them fairly easy to understand without extensive philosophical training
    - cf. Heidegger (!)
- At the same time, they sustain strong links to earlier philosophy
    - for instance in Borgmann's case with the dystopian undertones of Heidegger and Ihde's somewhat instrumental approach and the pragmatism of Dewey
- This roots their thinking firmly within a larger philosophical setting

The Non-Neutrality of Technology

- Borgmann and Ihde show that technologies are not neutral means for realizing human ends but actively help to shape our experiences of the world
- Technologies are not just tools at our disposal but can rather be seen as inducement, often so strong that people find themselves unable to refuse it
    - Twitter feeds, Facebook, Web pages, GPS navigation systems, Digital cameras, MP3 players, etc., are not technologies that we can individually be understood as good or bad
    - when in use, these artifacts coalesce into culture—into a way of life
- This points to the moral and ethical capacity of the technologies we design *as a field*, which has remained a largely deemphasized perspective in HCI
    - "As designers, we are helping to shape ethical and moral decisions and practices, i.e. 'materializing morality'" (Verbeek, 2008)
    - Participatory design and Value-sensitive Design (VSD)

HCI and Philosophy of Technology

- So, what role could Philosophy of Technology play in current HCI research and design?

HCI and Philosophy of Technology

- *Offer New Perspectives*
  - Theories such as Borgmann's device paradigm offer new perspectives on the role of values in technology design that tend to operate on a different level than those suggested by first, second, and third wave HCI approaches
- *Connect specific values with a larger philosophical discourse*
  - As today's philosophers of technology deal with the same technologies as we do in HCI, we have through them access to a vast history of thinking around ethics and technology and to the different philosophical strands particular ideas belong

HCI and Philosophy of Technology

- *Stimulate continued critical reflection on values and ethics in design*
  - Mainstream HCI tends to rather thoughtlessly connect technological development with societal progress and 'the good life'. Theories from philosophy of technology are often inherently reformist in nature and thus tend to stimulate critical reflection on values and ethics in technological development
- *Provide guidance concerning how to incorporate specific values in design*
  - Theories from philosophy of technology may provide guidance as to how specific values might be incorporated into design even if they are not explicitly design-oriented. For instance, how a number of specific values seem to foster engagement with reality (Borgmann)

Thanks!

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