“Knowledge Embodied in Artifacts”: A Problem in Design Epistemology

Among the most exciting developments in HCI research today is the rise of designerly approaches to research: research through design, practice-based research, constructive design, etc. In a 1994 article seeking to establish such an agenda, Christopher Frayling used the provocative phrase, “knowledge embodied in artifacts,” to capture this research’s defining feature. As the HCI community has discovered, however, understanding, accessing, and legitimating “knowledge embodied in artifacts” has been challenging. It is not always clear how highly particularized objects are supposed to generalize, how they contribute to theory development, or how they might be applied by others.

I argue that practitioners of these approaches have often shoehorned their work into social scientific frameworks of rigor, validity, and generalizability. Instead, design-oriented HCI researchers should pursue a more expansive understanding of “HCI research” to support “knowledge embodied in artifacts” as a mode of design research. So, rather than locating intellectual validity and generalizability in propositions, formal arguments, and theoretical paraphrase, we should locate them literally as they are embodied in artifacts themselves. This entails engaging designed artifacts as such, that is, analytically understanding features such as intertextuality (quoting, references, allusions), composition (whole-part coherences), concrete universals (such as design patterns), themes and variations, and polysemy (semantic density, allegory, satire). All of that in turn presupposes new modes of presenting design-oriented HCI research, a process already begun with Pictorials.

Jeffrey Bardzell is a Professor of Informatics and Director of the HCI/Design program in the School of Informatics, Computing, and Engineering at Indiana University—Bloomington. His research contributes to design theory and investigations of social innovation, with emphases on critical design, design criticism, creativity and innovation, and intimate experiences. A common thread throughout this work is the use of aesthetics—including the history of criticism, critical theory, and analytic aesthetics—to understand how concepts, materials, forms, ideologies, experiential qualities, and creative processes achieve coherence in design objects. He is co-editor of Critical Theory and Interaction Design (MIT Press, 2018) and co-author of Humanistic HCI (Morgan & Claypool, 2015). Bardzell’s work is funded by the National Science Foundation and the Intel Science and Technology Center for Social Computing.