Critical Dialogue in HCI: Principles as Places for Reflection

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Abstract

In this paper we argue that one of the major contributions of critical theory to HCI is a shift in principles that organize the selection of problems, methods, and phenomena that are considered by researchers and designers. We take this position to propose that a key area of research that is largely neglected in HCI is a systematic study of principles. More specifically we know little about the ways principles organize design activities and ultimately the experiences of people using products. We argue that an ongoing inquiry into principles is essential to transforming principles from dogmatic attachments to generative places for discovery and invention.

Keywords

Design, principles, criticism, interaction design

ACM Classification Keywords

H.1.2 User/Machine Systems; H.5.2 User Interfaces (Theory and Methods)

General Terms

Theory, Design

Introduction

In today's discussions of design, many designers are uneasy or unable to discuss principles as an aspect of their work. Aside from occasional calls to do the right thing (i.e. not to work for evil clients) or to undertake projects that use sustainable means or materials, designers prefer to talk about specialized subject matters or the methods and techniques that they undertake or develop in relation to those subject matters. This may be justified in contemporary culture. We are well aware that discussion of principles raises philosophical and political conflicts that are a source of many divisions in our time. Political divisions along liberal or conservative lines, religious differences, or the many doctrines developed within disciplines such as modernist or postmodernist movements within art and design are some examples. However, this does not mean that principles do not enter conversations and activities. We no longer talk about "good" and "right" but they enter our conversations implicitly. Usability, inclusion, reflection, engagement, social responsibility, and participation are some of the themes that we encounter often in design that speak to our concerns and ideals. These ideas enter design activities and shape our judgment about what products are and how they should be. Indeed, discussions of principles are even more relevant and necessary in contemporary culture where products are ever more powerful and influence every aspect of individual and social life.

Our interest in critical theory is rooted in a concern with the role of design and technology in society and recognition that the human-made world has become increasingly important in the ways people act and interact in the world. Critical Theory has offered a new perspective in HCI that shifts attention from the artifact to the people using the artifact [e.g., 1, 4, 9, 10]. As many have recognized the limitation of scientific approach to interaction design [e.g., 1, 2, 6, 7], one of the most important contributions of critical theory in HCI is a change of perspective to designing and critiquing interaction products. Most notably, critical theory shifts attention away from reductive interpretations of products as tools, and point toward the more nuanced and complex relationships of products and people. Thus products are recognized as a mediating human relations and relations between people and their environment and culture.

Principles

The premise of our position is that design is a deliberative and purposeful activity concerned with the identification of possible courses of action and judgment about the appropriate ones. Thus, similar to all deliberative action, design is guided by principles that enter its activities from the convictions of individual designers as well as disciplinary, social, and cultural values. Yet we know little about how principles organize design activities and the experiences of people using products. In this context, critical theory is of interest as it offers different principles than those traditionally dominant in HCI such as usability, efficiency, and satisfying needs.

It is important to note that in the context of this paper, what we mean by principles is not rules of thumb such as using a grid, or Miller's rule of 7. Oxford English Dictionary Online defines principle (n.) as origin, source; source of action [8]. This definition points to the ambiguity of principles that is also evident in the diversity of positions on the nature and function of principles from different philosophic traditions. Based

on this broad definition, principles range in their form and expression to include motives, desires, needs, goals, or ideals. As beginnings they might be deliberate or accidental, consciously pursued or unconsciously present. Principles give direction, meaning, and value to the activities of designing. They influence the identification and framing of problems, the choices of method, as well as the selection of functions for interaction products. In other words, principles organize the whole of the design activity, from the identification of problems to the deliberation of all possible courses of actions throughout the design process.

In this paper we take the position that the contribution of critical theory is potentially more than a change of perspective. An equally important contribution of critical theory to HCI is a transformation of principles that guide design activities, including the identification of problems, the selection of methods of investigation, as well as the ideals that the products of design pursue. It is also this shift in principles that enables critical theory to offer different judgments about interaction products. As others have noted, critical theory does not view humans as information processing systems. Rather, it views humans as active agents capable of imagination, interpretation, and expression. Thus, from the perspective of critical theory the concern of interaction products is not limited to satisfying needs or providing information. It includes topics such as freedom of expression and interpretation, or encounter and conversation.

We explore this shift of principle by examining a few examples that are informed by the critical positions to HCI [e.g., 5, 6, 7, 9]. For example, we examine the principles that set up the work of designers as

described in [6] where the authors describe the various conceptual design proposals for information appliances. In contrast to traditional scientific approaches in HCI, their work finds meaning and purpose in creative power of individuals. Thus novelty, surprise, encounter, diversions or insight turn to places for invention of series of conceptual design proposals. We similarly trace the shift of principles in other design activities that are informed by critical theory to show how a shift in principle is key in the ways they frame and form research and design in their work.

In addition, we look at how principles determine whether parts or wholes are taken as primary in the studies of systems including society and culture. For example, in scientific approaches in HCI, the primary importance is given to the parts, individual components of systems. Therefore, culture is considered to be composed of humans and their behaviors that are reduced to information processing units. We may similarly identify an emphasis on parts or wholes in the various critical approaches to HCI. Some of these theories emphasize individuals and their interpretations of the systems and the ways knowledge is constructed. Others take the environments of interaction including society and culture as primary and investigate how individuals and groups make meaning and act within these systems. This shifting focus between parts and wholes ultimately determines what phenomena are explored by the theory and ultimately the judgments that conjure.

The Conversation
This brief review would be the grounds to raise the following questions in the context of this workshop.

• What is the role and function of principles in design and research?

• How do principles direct design and research activities within HCI traditionally?

• What are principles in critical theory and how do they advance discussions of HCI?

• How might a systematic study of principles advance discussions in HCI?

Conclusion

Discussion of principles is important in that it provides a systematic way to critique interaction products. These principles serve as the basis of alternative hypotheses that shape inquiry. If taken as fixed and prescriptive they can be the cause of dogmatic attachments. Yet when taken as places that generate alternative hypotheses they become generative beginnings that form and inform inquiry. As Richard Buchanan notes, *the generative principles of design thinking are not doctrines in themselves. They are not categories in a systematic logic of design. Rather, they are master topics or placements—places of reflection where immediate impressions and the elements of nascent experience may be temporarily located for exploration, speculation, and innovative insight* [3]. It is in this view that we argue that a discussion of principles is key in advancing critical practices of HCI and provides ground for a pluralistic enterprise that is design and criticism.

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