
Preface

Back in the late eighties when I finished my Ph.D. in linguistics, I began to teach graduate courses in natural language processing (NLP) in a computer science department. As a visiting professor without any formal training in computing, I used the tools I had learned from formal linguistics to build my own understanding of computers and computing. I was then struggling to learn enough about my students' backgrounds, so that I could share my vision of NLP with them before I started to talk about scientific and technical issues. Because my students and I came from very different academic traditions, we explored all possible connections in what we knew. There was a lot of intellectual excitement in finding analogies and contrasts, and this is how this book started. Of course I was not aware of what was really happening then, just as I may probably not be aware of what is really happening now.

After some years teaching NLP and other topics in artificial intelligence, I learned to cross-examine theories springing from different disciplines and started to find my way in computer science. I realized that I had been using a kind of intuitive semiotic analysis to interpret a field that was new to me and to teach concepts from a new field to students trained in computer science. So I decided to explore semiotics methodically. I thought that this way of teaching and learning could be used to build not only scholarly accounts of theories and relations among them, but also very naïve accounts of how complicated things work. And this led me into human-computer interaction (HCI), and into applying semiotics to try to tell users what computer programs mean and how they can be used.

This book is about sense making and how HCI can be designed not only to help users understand computers, but in fact to help them come closer to understanding *computing*. Computing is playing with signs. Every program or system is like a game. You can only play if you can make sense of the rules. And once you learn

the rules, you immediately begin to see how rules can be changed and how the game can be adapted to many different play situations.

At the heart of every game is *communication* and how the players agree to represent and interpret their moves. This is the essence of semiotic engineering—a theory of HCI, where communication between designers and users at interaction time is the focus of investigation. Designers must somehow be *there* to tell users how to play with the signs they have invented, so that the game can start. The theory makes many connections among concepts borrowed from semiotics and computer science and produces a different account of HCI if compared to existing theories of cognitive breed. Hopefully it will help designers communicate their vision to users in much easier ways. And maybe then users will begin to understand *designs*, and not just struggle to learn which controls to activate.

I have many people to thank for having come this far. In particular, I am thankful to Terry Winograd for having invited me to be a visiting researcher at the Center for the Study of Language and Information (CSLI), where I learned the foundations of HCI and started to shape the thoughts presented in this book. I am also very thankful to Tom Carey, who patiently listened to the ongoing semiotic engineering story in its early years and showed me where I could go with it. Don Norman asked me many difficult questions on different occasions and helped me to see what makes theories differ from one another. Ben Shneiderman pushed me into thinking about why and how semiotic engineering is expected to affect the quality of HCI products and, ultimately, the user's experience. Ben has also been incredibly supportive in helping me find my way in book writing. Jenny Preece generously commented on many of my papers and on the complete manuscript. She often called my attention to where and how I should try to make my work more readable. More than a helpful colleague, Jenny has been a dear friend, encouraging me to keep on trying when promising roads occasionally turned out to be dead ends.

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“sign” of love, and I am lucky that I can just go on interpreting this sign forever, in truly “unlimited semiosis.”

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