

SIMULATION AND ITS DISCONTENTS

SHERRY TURKLE

With additional essays by
**William J. Clancey, Stefan Helmreich, Yanni A. Loukissas,
and Natasha Myers**

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PREFACE AND ACKNOWLEDGMENTS

For Susan Sontag, “to collect photographs is to collect the world.”¹ She spoke about the “grandiose” result of the photographic enterprise: it provides the sense that we “hold the whole world in our heads.”² Simulation takes us further into our representations. We no longer need to keep the world in our “mind’s eye.” We build it, step into it, manipulate it. If photography is a new way of seeing, simulation is that and more: a new way of living, both a change of lens and a change of location.

“Simulation and Its Discontents” draws on two ethnographic studies for which I was principal investigator. The first, sponsored by the MIT provost’s office, explored the introduction of intensive computing into educational practice at MIT in the mid-1980s; the second, a National Science Foundation study twenty years later, investigated simulation and visualization in contemporary science, engineering, and design.³ “Simulation and Its Discontents” is

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followed by four case studies, under the rubric “Sites of Simulation.” Two of the cases, those by Yanni A. Loukissas and Natasha Myers, grew out of the NSF study of simulation and visualization; the cases by Stefan Helmreich and William J. Clancey were commissioned for this book. Together, we give voice to how scientists, engineers, and designers have responded to simulation and visualization technologies as these became central to their work over the past twenty-five years.⁴

I gratefully acknowledge my colleagues who collaborated on the studies of the mid-1980s and mid-2000s. My coprincipal investigator on the study of educational computing at MIT was Donald Schön. From 1983 to 1987 we worked with research assistants Brenda Nielsen (who did fieldwork in the Department of Architecture, Chemistry, and Physics), M. Stella Orsini (who did fieldwork in the Department of Architecture and Chemistry), and Wim Overmeer (who did fieldwork in the Department of Civil Engineering). On the second study, from 2002-2005, I worked with coprincipal investigators Joseph Dumit, Hugh Gusterson, David Mindell, and Susan Silbey. This study was part of the research effort of the MIT Initiative on Technology and Self. Gusterson contributed materials on nuclear weapons design, Mindell on the history of aviation. Mindell supervised Arne Hessenbruch, a research assistant who helped establish an overview of our project. Dumit and Silbey supervised Natasha Myers, a research assistant, in her case study of the life sciences; I worked with research assistant Yanni A. Loukissas on a case study of architecture. The NSF research was integral to Loukissas’s and Myers’s dissertation projects. I am particularly in debt to these two talented scholars who were involved in every aspect of researching and writing the NSF final report.

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In addition to field research, the NSF project supported two workshops on simulation and visualization in the professions, one in Fall 2003 and one in Spring 2005. Each brought together scientists, engineers, and designers from a range of disciplines. I thank the informants from the 1980s and the 2000s, those who allowed us to watch them at work, those who shared their thoughts in individual interviews, and those who participated in workshop discussions. In “Simulation and Its Discontents” all have been given anonymity. Where a name appears, it is a pseudonym. All of the case study material follows this policy as well.

My work on simulation and contemporary professional life has also been supported by the MIT Program in Science, Technology, and Society; the Mitchell Kapor Foundation; the Intel Corporation; and the Kurzweil Foundation through their support of the MIT Initiative on Technology and Self. This volume owes a debt to the collegial life of the Initiative, to the MIT Program in Science, Technology, and Society, and to the MIT Media Laboratory. I gratefully acknowledge the contributions of Anita Say Chan, Jennifer Ferng, William D. Friedberg, William J. Mitchell, William Porter, Rachel Prentice, and Susan Yee. Ferng worked as a research assistant on developing the history of simulation in architectural practice; Prentice documented the first MIT workshop of simulation and visualization in Fall 2003; Friedberg provided an insightful critical reading; Chan, Mitchell, Porter, and Yee helped me to think through the tension between doing and doubting that became central to my thinking.

Kelly Gray brought this volume her tenacity and talent; she is that ideal reader—interested, knowledgeable, and critical—that every author hopes to find. This is the fourth in a series of MIT Press

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books that grew out of work at the Initiative on Technology and Self. Gray was committed to the Initiative and this ambitious publication project from the very start; both are in her debt.

I thank Judith Spitzer and Grace Costa for providing the administrative support that enabled me to do my best work. And I am grateful to the wonderful people at the MIT Press who have worked with me through the Initiative's publication project—Deborah Cantor-Adams, Erin Hasley, and Robert Prior. With this book, Margy Avery, Erin Shoudy, and Sharon Deacon Warne joined this group of colleagues who always make things better.

When I first dreamed of an Initiative on Technology and Self at MIT, my daughter Rebecca was eight. As I write these words, she is applying to college. Having her in my life as the Initiative flourished has been a great gift. I often tell the story of Rebecca, at eight, sailing with me on a postcard-blue Mediterranean, shouting “Look, Mommy, a jellyfish! It’s so realistic!” as she compared what she saw in the water to the simulation of sea creatures she had so often seen on her computer at home. For Rebecca and her friends, simulation is second nature. I wanted to write a book that would make it seem rather less so, reminding them that it brings new ways to see and to forget.

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