

## Chapter 1

# Introduction

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Since the dawn of civilization, new technologies—from the plow to the locomotive to the computer—have transformed human lives. These changes have often been for the better, but occasionally also for the worse. No matter what the consequence, these changes have always been irrevocable and pervasive. Today's new technologies, from the well-connected computer to the digital communication infrastructure, are no exception. They are dramatically changing the way we work, play and live. This book explores how these real changes have helped create our virtual world. It also examines the impact of these changes on individuals, organizations and society.

## FOCUS AND CONTRIBUTIONS

The central theme of the book is the interplay of the ubiquity of the virtual environment (in which we work, play and live) and our evolving interactions in this changed context. Time-honored interaction techniques—such as looking a person in the eye or judging an adversary based on the strength of the handshake—are not relevant in the virtual world. New rules are at work. We make purchases without looking at the products (much less the salesperson), we meet people without ever seeing them and we even fall in love with people we have never met. What are the unexpected consequences of such interactions? Will we gain time or lose our privacy? Will our private and public institutions prosper or perish? Will society advance to new levels as proponents claim or will people lose their humanity as detractors suggest?

These are just a few questions that this book addresses.

Specifically, this book is designed to make the following four contributions:

- Address the challenges of events and technologies that are fundamentally changing how we work, play and live,
- Provoke an informed debate about how we should deal with such changes,
- Serve as a source of information about the individual, organizational, and social implications of new technologies, and
- Assist policy makers, researchers, academicians and analysts involved in the design, implementation, evaluation and use of communication and computing technologies.

## **CATALYSTS AND CONSEQUENCES**

Fueling the emergence of our virtual world are dramatic advances in information technology, coupled with our insatiable appetite for faster, cheaper and more efficient ways to work and play. Other catalysts for change include the convergence of communication and computing technologies, the mega-mergers of giant firms in these industries, the exponential growth of the Internet, the decline in hardware costs, and the emergence of a technology-savvy populace. The symptoms of change are everywhere:

- In 1994, computers outsold TV sets for the first time in U.S. history.
- In 1999, the venerable Sears Catalog, the last bastion of the paper-based mail-order catalogs, went virtual.
- A year later, bestselling author Stephen King “published” a book online, scaring traditional publishers and delighting his fans.
- The word “Napsterization” was added to our lexicon signifying the fact that music is now traded freely on the Web—again, to the delight of users and the chagrin of traditional retail chains and recording artists.
- Current estimates are that at least 5 million desktop video cameras are sold annually in the U.S. These cameras have been put to a wide variety of uses: from enabling corporate conferences to showing babies being delivered to peeking at voyeur-cams.
- Professions are getting virtual makeovers: Teachers are teaching courses online, doctors are diagnosing ailments from thousands of miles away, and architects are redesigning houses without ever stepping inside them.
- Special interest groups meet in cyberspace via listservs, chat rooms, and newsgroups. These encounters range from productive to pleasant to perilous.

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