

3 TECHNOLOGY

About this chapter

- What are the technical characteristics of the computer, the Internet and other digital media that people who do not have a technical background should know in order to understand the social aspects of their use and the effects discussed in the remainder of this book? The first characteristics are a number of technical foundations for the network society such as micro-electronics, digitalization, the store and forward principle, the layered organization of networks and new connections.
- On top of these foundations a number of important current trends are described: the convergence of all information and communication networks (telephony, broadcasting and the Internet); the miniaturization of digital media devices; the embedding and the merging of these media into everyday-life; the turn to mobile, wireless and broadband connections; and finally the rise of cloud computing.

TECHNICAL FOUNDATIONS OF THE NETWORK SOCIETY

Micro-electronics

The technical foundations of the network society and the second communications revolution were prepared in five revolutionary developments all happening in the last part of the 20th century. The first, and most important, development was a series of successive revolutions in micro-electronics. It led to five generations of computers in the last 25–30 years of the 20th century. This series was characterized mainly by a miniaturization of parts. The most important breakthrough was the invention of the integrated semiconductor, a chip consisting of hundreds of thousands of connections on a plate with a surface of just a few square millimetres.