

Reviewed by: Henry Overduin
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The High Cost of High Tech:
The Dark Side of the Chip
Lenny Siegel and John Markoff
New York, Harper and Row, 1985

Non-scholarly, descriptive, comprehensive, factual, and up-to-date, this book destroys conventional wisdom about the social impact of microelectronics and computers, giving a detailed accounting of the second Industrial Revolution as it occurred in Silicon Valley (Santa Clara County, California), a place often seen as a model for post-mechanical development. Its chapters also deal eloquently with the global impact of the computer and microelectronics industries, focussing on such issues as the computer's effects on the arm's race, individual privacy and freedom, education, employment, two-way communications links such as the telephone and postal services, post-mechanical industrialization and the environment, the Asian assembly labour force, and the trading of information.

At the outset the authors take a realistic, commonsensical approach to their subject:

The 'electronic cottage' envisioned by futurists promises a range of computer-based services for the informational haves, from electronic mail to home banking. But the have-nots may find themselves stranded in their homes with no phones, decaying public libraries, and declining postal services. Like the car-less urban poor in America's central cities today, they will be locked out of the benefits of a remarkable new technology (p. 7).

Today the telecommunications network is being reorganized and rebuilt to meet the needs of a corporate-designed informational society.

As low-cost public informational services decline or disappear, a vast new stratum of informational poor emerges.

For most people "computer literacy" means the ability to use or program computers using the vernaculars and mathematics analytically and logically. Considering the larger question of literacy, Edmund Carpenter and Marshall McLuhan contend that each medium, be it print, radio, or TV, has a language of expression and an unique grammar, encompassing form, content, and an entire range of sensory, psychic, and social effects. Media literacy is thus a very complex matter, and computer literacy especially so, involving as it does knowledge of binary logic (0's and 1's), alphabetic and numeric programming languages, and various interfacing hardware components, as well as an awareness of the medium's perceptual, cognitive, and cultural effects.

Siegel and Markoff settle for a watered-down version of comprehensive computer literacy, "computer citizenship," which they define as "knowing enough about the social, political, environmental, and military implications of computer technology to make personal and public choices" (p. 12). In a book aimed at the general reader, this start is promising.

Noting that the second Industrial Revolution reduces human labour input to a marginal factor of production, the authors ask the question: "Today, in economic terms, what are people good for?"

Such a question demands answering at a time when computers are simultaneously restructuring existing employment, and creating structural unemployment. Siegel and Markoff quote labour scholars as saying that new technology will affect as many as 45 million jobs in the United States of which 25 million could be totally eliminated. If present trends continue, a large minority of workers "will find their jobs more challenging and better paid. The majority, however, will be trapped in low-skill, low-wage positions" (pp. 92-93).

Throughout the economy, "skilled middle-income work is gradually disappearing" (p. 105), a trend that "may destroy the social dream of a middle-class society. The new working poor--semi-skilled office, service, and production workers--are joining the gradually growing ranks of the *unemployed at the bottom of the economic ladder*" (pp. 105-06).

Workers face the extra stress of employers applying computer technology to increase the rate at which workers function. In short, we are rapidly heading towards electronic serfdom in an informational economy which has not reduced the average work week since the end of World War II.

Contending that the push to bring computers into the schools has become almost a fad, that basic skills are frequently neglected, and that the computer's teaching potential is underutilized (partially the result of a new medium put to old tasks such as programmed instruction), the authors state that "without a massive investment in software development and teacher training, microcomputers will bring little more than game-playing into the typical classroom" (p. 68). Even the LOGO programming language designed by Seymour Papert, a Piagetian and Whorfian educator, "is frequently used in classrooms as merely one more form of mechanization to permit teachers to carry a larger classroom load" (pp. 73-74).

The book concludes with a warning that the "dark side of the chip is winning" (p. 234). Although the birth of the microprocessor and the microcomputer in the 1970's seemed to liberate us from our 1960's fear of the mainframe computers of corporate, governmental, and university data-processing centres, to imbue microcomputers "with the magical ability of producing a necessarily brighter future is simply looking at the world through rose-coloured glasses" (p. 233).

The book provides us with much information about the economic, social, and environmental effects of the microelectronics industries, but little about the computer's sensory and psychic effects and its power as an interactive medium. (The section on videogames, for example, is weak.)

Occasionally, minor glaring errors occur, an example being the identification of 16K of random access memory as 16,000 bits (p. 192) instead of bytes (128,000 bits). Humanistically, one might quarrel with the author's assertion that "information has become a clearly defined commodity," (p. 204), and for substantiation and for interest a bibliography would have been useful. Generally, however, the book provides an excellent, lucid introduction to the present and imminent effects of computerization on civilization.

Reviewed by: R.D. Berg

World Broadcasting in the Age of the Satellite
W.J. Howell, Jr.
Ablex-Publishing Corporation, 1986
Norwood, New Jersey

World Broadcasting in the Age of the Satellite presents a comparative study of radio and television broadcasting throughout the world. It contains nine chapters divided into three major parts: I. Frames of Reference in World Broadcasting, II. Four Worlds of National Broadcasting, and III. Previewing and Reviewing World Broadcasting.

In the introductory chapter, Howell explains the major terms and concepts found in the book and the basis on which comparisons are