BACKGROUND BOOKS

Futurology tends to make scholars queasy. They generally prefer to leave the forecasting trade to science-fiction scribblers, freelance prognosticators, and other untenured sorts. Social scientists somberly agree that their work must have "predictive value," but actual predictions, apart from economists' exercises in number crunching, are few. It is unique, then, to find somebody from the scholarly world who not only has tried his hand at prediction but is in a position to act: Secretary of Labor Robert Reich.

The former Harvard professor cannot be faulted for pulling his punches. "We are living through a transformation that will rearrange the politics of the coming century," he begins **The Work of Nations** (Knopf, 1991). "There will be no *national* products or technologies, no national corporations, no national industries." In Reich's new world aborning, the wealth of nations depends upon workers who develop the strategic problem-solving, problem-identifying, and brokering skills driving today's high-value production. These "symbolic analysts," as Reich calls them, include engineers and management consultants as well as film editors and architects.

The United States excels at producing symbolic analysts, Reich says. What worries him is the fate of the remaining four-fifths of the population—and the prospect that the symbolic analysts, finding more in common with their counterparts overseas than with their fellow Americans, will quietly retreat to their own affluent exurban communities. The answer, Reich argues, is to equip more Americans to *apply* symbolic analysis, to prepare the grocery-store checkout clerk, for example, to help manage inventory. In Reich's view, that will require massive new spending on education, training, nutrition, and health care.

Joel Kotkin's **Tribes: How Race, Religion, and Identity Determine Success in the New Global Economy** (Random, 1991) also depicts a world in which nation-states hardly matter. Kotkin, a Senior Fellow at the Center for the New West in Denver, argues that several quintessentially cosmopolitan, globally dispersed ethnic groups or "tribes"—the Jews, Japanese, Indians, "Anglo-Americans," and Chinese—are uniquely positioned to succeed in this new world. "It is likely such dispersed peoples—and their worldwide business and cultural networks—will increasingly shape the economic destiny of mankind," Kotkin predicts.

While Reich and Kotkin see the new world economy as an interconnected "global web," traditional "armed camp" metaphors persist in Lester Thurow's **Head to Head: The Coming Economic Battle Among Japan, Europe, and America** (Morrow, 1992) and Paul Kennedy's **Preparing For The Twenty-First Century** (Random, 1993). To Thurow and Kennedy, knowledge, technology, and skills are important but not decisive. Institutions, beliefs, political policies—and national differences—matter a great deal. Thurow, dean of MIT's Sloan School of Management, argues that Americans and their companies must change their ways—concentrating on production instead of consumption, for example, and maximizing market share rather than profits. Kennedy's book, which expands upon his much-discussed (if seldom read) *The Rise and Fall of the Great Powers* (1987), is a compendium of worldwide economic, demographic, and technological trends, surprising in neither its content nor the ambiguity of its predictions.

The history of transformations on the scale of today's suggests that such modesty may be wise. How could those who lived through the subtle, centuries-long emergence of capitalism detailed in Fernand Braudel's three-volume **Civilization and Capitalism, 15th–18th Centuries** (Harper, 1983–85) have realized what they were creating when they expanded medieval fair markets or petitioned their sovereigns for charters to send out trading ships? Like Braudel's medieval traders, we are confronted today by many small but significant choices, most of them involving uses of the computer and other new information technologies.

In **The Age of the Smart Machine: The Future of Work and Power** (Basic, 1988), for example, Shoshana Zuboff of Harvard Business School stresses that computerizing the workplace can lead down two very different paths. Using the new technology only to automate existing jobs will further depersonalize work. Going beyond automation to create what Zuboff calls "informating," however, holds out the promise of empowering workers with knowledge of the production process and the ability to participate in its management.

At several paper mills Zuboff studied, workers not so long ago operated a single piece of equipment on a production line, dipping their hands into the pulp to gauge its progress. Today, however,

they do their jobs from computer control rooms. Where the transition to "informating" is succeeding, these workers are no longer merely repeating routine tasks; they are analyzing data, which encourages them "to notice, to think, to explore, to experiment, to improve."

Likewise in the schools, writes Sherry Turkle, an MIT sociologist, there are important choices to be made. If computers are used only as tools to implement conventional teaching methods, their potential will be squandered. But if students are allowed to adapt computers to their own learning styles, the machines may become arenas for exploration and self-expression, more akin to musical instruments than to hammers. "The question is not what the computer will be like in the future," Turkle argues in **The Second Self: Computers and the Human Spirit** (Simon & Schuster, 1984), "but what will *we* be like?"

Most speculation focuses more on technology than on people. Stewart Brand looks at the future of "idiosyncratic systems" in **The Media Lab: Inventing the Future at MIT** (Viking, 1987). These include electronic newspapers that customize themselves to fit a reader's tastes, and educational software that molds itself to a child's learning style. Brand, the founder of *The Whole Earth Catalog*, sees in such technology the hope of "connecting, diversifying, [and] increasing human complexity rather than reducing it."

A different kind of liberation is hoped for by George Gilder, who sees a global network of interactive telecomputers linked by fiber optics as the key to a rebirth of American individualism. "Through this crystal web," he writes in **Life After Television** (Norton, 1992), "we can reclaim our culture from the centralized influence of mass media. We can liberate our imaginations from programs regulated by bureaucrats, chosen by a small elite of broadcasting professionals, and governed by the need to target the lowest common denominators of public interests."

There are some, however, who see the alternatives posed by the likes of Gilder, Turkle, and Zuboff as no alternatives at all. All of the "choices," argues Neil Postman in **Technopoly: The Surrender of Culture to Technology** (Knopf, 1992), are dictated by technology and deflect consideration of the uses to which technology and knowledge are to be put. "Self-directed" computer learning, for example, is offered as a wonderful humanistic panacea, but it could spell the end of cooperative group learning in the classroom.

Postman, chairman of the department of communication arts at New York University, regards such naive computer worship as a symptom of "Technopoly," a state of culture and of mind in which "culture seeks its authorization in technology, finds its satisfactions in technology, and takes its orders from technology." Technopoly "casts aside all traditional narratives and symbols that suggest stability and orderliness, and tells, instead, of a life of skills, technical expertise, and the ecstasy of consumption." Signs of technology's dominion, Postman maintains, are everywhere—from the doctor's office, where technology encourages physicians to treat patients as inanimate objects, to the classroom, where children are classified according to their scores on intelligence tests.

Postman's antidote is a new curriculum based on "the transcendent belief that humanity's destiny is the discovery of knowledge"—through both the arts and the sciences, and not only for the sake of technological progress but to conquer "loneliness, ignorance, and disorder."

Benjamin Barber, a Rutgers University political scientist, sees a Technopoly-like "McWorld tied together by technology, ecology, communications, and commerce" as one of two possible global futures. The other, even gloomier, is "Jihad," the "retribalization" of large portions of the post-Cold War world and an eruption of the great sectarian plagues, war and civil strife. In an article in the *Atlantic* (March 1992) based on his forthcoming book, Barber suggests that neither of these forces—one that integrates and homogenizes, another that divides and tribalizes—needs or promotes democracy. The real challenge of the 21st century, he insists, is political: to preserve democracy.

Perhaps this suggests why scholars shy away from prognostication. The future may bring the diminution of traditional politics, à la Reich, or its violent reassertion, as in Barber's Jihad. One thinker's dawning era of humanistic promise may look to another like dread Technopoly. Imagining the future, it seems, is less important than interrogating it in order to understand the present.