

A Gilded Cage

by Charlotte Low Allen

"All mental revolutions are attended by catastrophe."

—W. Winwood Reade

Microcosm: The Quantum Revolution in Economics and Technology

by George Gilder

New York: Simon and Schuster;

383 pp., \$19.95

George Gilder's strength as a writer is his ability to create vivid mythic archetypes saturated with his own romantic feelings. He is not comfortable with ideas unless they are strong, simple ideas that lend themselves to vivid evocation of feeling rather than complex rumination: the lure and mystery of women, the bonds of family, the love of God. His best books are the three he wrote during the 1970's: *Sexual Suicide* (reissued in 1986 as *Men and Marriage*), *Naked Nomads*, and *Visible Man*. All three books were essentially about the same subject: the laser-fast speed with which men disintegrate, bringing down the social order with them, when they do not marry or stay married. Gilder's specific target was the surge in the divorce rate that accompanied the simultaneous sexual and feminist revolutions. During the 1970's, the divorce-to-marriage ratio rose to one-to-two, where it remains to this day, bringing with it such phenomena as the feminization of poverty and the CEO's Second Wife, that glitzy creature who replaces in the life of a powerful man the woman who bore his children.

Visible Man focused on one particular aspect of this familial decay, the breakdown of the black family and the surge in antisocial behavior by black males that has accompanied it. All three books theorized that the best way to channel male aggression—ever ready to display itself in the form of

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crime, drug and alcohol abuse, suicide, and pointless tableaux of virility instead of regular work—is to give men a positive role, that of patriarch of a traditional family. If he can be The Boss, a man will gladly cherish his wife and support his children. As the only parent with the physical strength and presence to discipline growing boys, he



will ensure that they, too, grow up to be productive members of society and good fathers. Naturally, feminists loathed these ideas, partly because Gilder forecast that, when women achieve critical numbers in men's professions, or, worse, become men's bosses, the men, deprived of patriarchal rewards, will simply drop out. The profession will lose status—a prophecy that has already come true in such fields as teaching, social work, and in some branches of law and medicine.

In 1981, Gilder published *Wealth and Poverty*, an encomium to the free enterprise system. Like his earlier books, it bucked conventional liberal wisdom, this time the accumulated wisdom of the Carter years. Gilder touted Adam Smith, with his theory that wealth springs from creative enterprise; Say's Law, that supply creates demand; and Joseph Schumpeter's definition of capitalism as creative destruction.

Wealth and Poverty invested free enterprise with all the romantic feeling that Gilder had earlier conferred on the patriarchal family. It tended to idealize the money-making impulse, which Smith had more realistically viewed as a form of self-love that happened to yield social benefits. Gilder, as ever, preferred the simple archetype to Smith's more subtle, more interesting assessment of businessmen and what makes them tick. Entrepreneurs display "heroic creativity," Gilder wrote, characterizing their efforts as "forms of devotion." *Wealth and Poverty*, an encapsulation of the supply-side policies that fueled the first Reagan administration, was a huge best-seller.

Gilder's next book, *The Spirit of Enterprise*, published in 1984, was a rewrite of *Wealth and Poverty*, with more about Adam Smith and Joseph Schumpeter. By this time, Gilder's

editor, Midge Decter at Basic Books, who observers say took a strong hand in helping Gilder shape both *Visible Man* and *Wealth and Poverty* out of longer, more ecstatic manuscripts, had left. The Gilder flair for the extravagant overstatement, which had seemed a mere tic in *Wealth and Poverty*, burgeoned floridly. He equated capitalism with the teachings of Christ. "Do unto others as you would have them do unto you" and "Give and you shall be given unto" are the central rules of the life of enterprise," he wrote. The book largely consisted of flattering two-dimensional portraits of entrepreneurs he admired, interspersed with tendentious flailings at the tax system and the industrial-policy liberals who haunted the early 1980's. Gilder's literary style acquired a dense, amphetaminized quality, pushing avalanches of detail at readers in every paragraph.

The book jacket for *The Spirit of Enterprise* notified readers that Gilder had taken a job as semiconductors editor for *RElease 1.0* magazine, a computer journal, and that a Gilder history of the semiconductor industry would be forthcoming the next year. Indeed, a full third of *The Spirit of Enterprise*—the most feverish and least readable third—is devoted to computer entrepreneurs and microchips. *Microcosm* is Gilder's promised microchip history, although four years have elapsed since its promised due date. It is a kind of continuation of *The Spirit of Enterprise*, that is to say, it is in some ways yet another rewrite of *Wealth and Poverty*. Smith, Say's Law, and Schumpeter's creative destruction all duly make their appearances in *Microcosm*. So do all of Gilder's worst stylistic traits in this, the longest, most ambitious, and most maniacal of his books.

Parts of *Microcosm* are far from dull. Its best chapters are the first two, in which Gilder clearly and elegantly explains the basic principles of quantum physics that lie at the heart of the idea of miniaturizing electronic circuitry. The "quantum revolution" that is the subject of Gilder's book has made possible the personal computer via the microprocessor—essentially a computer on a single chip—the hand-held calculator, the digital watch, and the chips now embedded in telephone sys-

tems, automobiles, household appliances, office equipment, fax machines, and so forth. The developments in chip design that lie behind all this sophisticated new information technology emanated mostly from the fertile brain of Carver Mead, a computer science professor at the California Institute of Technology who did the basic physics research on electron tunneling, launched several generations of students, and was the guiding light behind several pioneering Silicon Valley companies.

Gilder believes that, as chip design becomes more sophisticated and it becomes possible to pack ever more circuits onto a single sliver of silicon, microprocessors will one day completely replace the powerful high-speed supercomputers produced by industry giants such as Cray Research and IBM. For Gilder, the costly Cray machines, which rely on fast-moving metal switches and wires rather than slow-moving silicon circuits—a macrocosmic rather than a microcosmic approach to computing, as he would say—are objects of contempt. He describes the innards of the Cray as "a madman's pasta of tangled wires."

That description, sad to say, also fits Gilder's prose as the book plunges "deeper into the microcosm," as he puts it. After those first elegant explanations of quantum theory and how it applies to microcircuitry, *Microcosm* quickly deteriorates into a feverish, confusing, technical-jargon-laden mess. In chapters packed as densely with information as a 64K memory chip, Gilder overloads readers with company names, details of chip design processes, and nano-tidbits of biographical data, all in no apparent chronological order. Nor is there any other order. Gilder never hesitates to refer to an arcane scientific process dozens or even hundreds of pages before describing it.

For example, *Microcosm* contains five references to the exploits of a mysterious company called Xicor (spelled "Xicon" in Gilder's index). Although we learn that Xicor (or Xicon) was founded by an Israeli émigré named Raphael Klein, Gilder never tells us when Klein got started, where the company is located, how many employees it has, or what it does.

To Gilder's computer-buff readers at *RElease 1.0*, the saga of Xicor with all its technical baggage may make perfect sense, but to this lay reader it seems disorganized, disorienting, and not very interesting. Xicor is but one of scores of microchip companies whose fortunes Gilder relays in the same tangled fashion. *Microcosm* is thus completely useless as business history. It is also useless as entrepreneur hagiography, the genre Gilder developed in *The Spirit of Enterprise*. Except for a few figures like Carver Mead, the characters in *Microcosm* are not even two-dimensional; they are mere names, like Raphael Klein.

Occasionally, Gilder strives for flamboyant Tom Wolfe-like descriptions, such as that of Jerry Sanders, head of Advanced Micro Designs, who shows up at a company sales conference at Waikiki Beach tricked out like King Kamehameha, flanked by his Barbie-doll girlfriend, and showering his audience with gold watches that the men dare not pick up. "What is this? Approaching the podium, white-haired and with a gilded crown. He is draped in frangipani leis, royal in a radiant velveteen robe, open to show a grizzled chest and a French bathing thong above tapering sun-rouged legs." But Gilder lacks Wolfe's imagination and, more important, Wolfe's interest in the people he writes about, except insofar as they serve to make a point. Sanders, like Klein, simply fades away, as does Advanced Micro Designs.

A reader who would like a coherent thumbnail history of the microchip industry along with its leading figures and companies and chief technological advances would do far better to read Gilder's five-page article about the industry in the October 23, 1989, issue of *Forbes* rather than this 383-page book. The article is written in plain English and includes photographs of many of the men whose names crop up in *Microcosm*. Gilder has an egalitarian's hatred of the beautiful, so he enjoys describing computer types as "unappealingly small, fat, or callow, all the nerds and wonks disdained at the senior prom or the Ivy League cotillion." It is a relief to see that his silicon pioneers are in fact pleasant-looking, highly intelligent-looking men.

It is clear that Gilder's chief interest is not really the computer industry at

all, but his own platform. As the book moves on to its final chapters, the silicon chip becomes a mere metaphor, a taking-off point for Gilder's discussion of what he calls "the law of microcosm," which, naturally, happens to be coterminous with his particular libertarian view of the free enterprise system. As Gilder argues with some cogency, increasingly sophisticated microchips will lead to increasingly sophisticated personal computers, inexorably consigning centralized data-processing systems, including the Crays, to technical obsolescence and oblivion. It is a neo-Jeffersonian vision of equality, in which every man will be not a self-sufficient yeoman farmer, but a self-sufficient entrepreneur. "Rather than pushing decisions upward through the hierarchy, the power of microelectronics pulls them remorselessly down to the individual," Gilder writes.

There is some question about whether everyone actually wants to be an entrepreneur. The American market for home computers has flattened over the past few years even as the machines themselves have become more elaborate and desirable, partly because most people can't figure out what to do with them besides play games. But this is only the beginning. Next will follow what Gilder calls the "global quantum economy" in which national boundaries, bugaboo of "the bureaucrats," will wither away like the state in Marx's *Communist Manifesto*. "Across increasingly meaningless lines on the map, entrepreneurs rush huge and turbulent streams of capital, manufacturing components, product sub-assemblies, in-process inventories, research and development projects, royalties, advertising treatments, software programs, pattern generator tapes, technology licenses, circuit board schematics, and managerial ideas," he writes breathlessly.

Again, Gilder's microchip entrepreneurs have not exactly been enthusiastic about the roles he has assigned them as quantum internationalists (nor would the politics of most of them go over well at the Cato Institute; most are typical academic-style liberal Democrats). Although microchip technology is primarily an American development, during the mid-1980's Japan became the world's leading mass producer of

microchips, capitalizing on its corporatist economic system and highly disciplined work force—all ideal for the building of the large factories necessary to turn out the small chips. Defying the "remorseless" law of the microcosm, virtually all of Silicon Valley lobbied for the 1986 semiconductor agreement in which Japan agreed to stop "dumping" chips in the States. The protectionist action may have been unwise, for Gilder makes a persuasive argument that the American semiconductor industry can hold its own in the design and manufacture of customized chips. He also cannot resist heaping scorn on the "silicon patriarchs," as he calls them, who, true to human nature instead of the law of the microcosm, used their political leverage to maintain their markets.


Both *Wealth and Poverty* and *The Spirit of Enterprise* had their enemies lists—Carter-era regulocrats in the former, industrial-policy boosters in the latter. The enemies in *Microcosm* seem to be an array of protectionists, free-trade opponents, and other meddling bureaucrats. In fact, the list is much longer than that. Not subtitled "The Quantum Revolution" for nothing, Gilder's book is a true revolutionary document, summoning both inexorable historical forces (the law of the microcosm) as Marx did, and brute human will (the "liberation" that will flow as people emancipate themselves from nation-states) as Lenin did. "The era of the microcosm is the epoch of free men and women scaling the hierarchies of faith and truth seeking the sources of light," he writes.

The enemy is thus all traditional loyalties that have bound men and women to their native lands, their ethnic roots, their religions. The enemy is the entire material, palpable world that displays itself to the senses in the macrocosm rather than to the mind of the microcosm—in short, the world in which we actually live and die. "Matter" may be illusory, with emptiness and moving electrons at its very heart, but it certainly feels real enough when we sit down to a meal, feel tired at the end of a day's work, shiver in the cold, embrace our children, or mourn the dead.

Gilder is contemptuous of the past. His view of millenia of human civiliza-

tion is straight out of Cecil B. De Mille's *The Ten Commandments*: "human masses pushing and pulling on massive objects at the behest of armed rulers." He is indifferent to the beauties of nature, dismissive of what he refers to as a "preindustrial vision of an ecological Eden." He is deaf to music and blind to art. In one passage he glowingly describes an electronic synthesizer that he says will send the piano "the way of the harpsichord" (Rosalind Tureck, call your office). In another passage, he compares the map of a microchip to Notre Dame Cathedral.

Anyone who disagrees with Gilder on any of these points is a victim of "materialist superstition," a "doomsayer," a "Cassandra" (a mythological reference he constantly misuses, forgetting that Cassandra's curse was to prophesy the truth). For in the end, Gilder writes, the law of the microcosm will give mankind limitless power and freedom, engineering the "overthrow of matter through the primal powers of mind and spirit." We will presumably someday live in an entirely microcosmic world—Honey, I shrunk us, so to speak—and perhaps, he hints, even attain immortality as "the mind transcends every entropic trap." This is Shirley MacLaine stuff, but Gilder seems serious.

Although the religious beliefs he expresses in *Microcosm* read like pure New Age gnosticism, positing matter as an illusion and mind as the only reality, Gilder has claimed to be an evangelical Christian and his publisher describes him as an associate of a church in Tyngham, Massachusetts. Part of *Microcosm* seems to be an effort to offer a definitive scientific proof of the existence of God, a variant of the classic argument from design. "In this unifying search is the secret of reconciliation of science and religion," he writes. Perhaps, but this claim to find God in a computer chip may be the ultimate materialism, insisting that He cannot exist unless He somehow manifests Himself in creation. Meanwhile, I think it's going to be a long while before we escape the curse and the blessing of the microcosm, where our bodies decay and die, but where we can learn humility. 

Walk in Beauty, Walk in Fear

by Gregory McNamee

"Step into the shoes of him who lures the enemy to death."

—from the Navajo Enemy Way

Talking God
by Tony Hillerman
New York: Harper & Row;
239 pp., \$17.95

On a windswept bluff high above the reddish-brown San Juan River, four states—Arizona, New Mexico, Utah, and Colorado—converge. Visitors to the area come to play a game of twister at the Four Corners Monument, contorting themselves so that each of their limbs touches a different state. Then, remarking upon the windswept, sandy desolation of the place, they hurry off to the greener ground of the Rockies or the populous Grand Canyon. For most of them, there is not much to see, not much reason to linger on this arid plateau. But to the Navajo Indians who inhabit it, the Four Corners country, bounded by four sacred mountains of abalone, white shell, turquoise, and redstone, is a land of peerless beauty, exalted in song and story as "the center of the earth."

The *Diné Bike'yah*, the Navajo nation, is also a terrifying place, populated by millions of mischief-working ghosts, by witches and were-animals; for in death, the Navajo believe, one's soul flies from the body, leaving behind not only the mortal shell but also any good characteristics one may have had in life. Only the newborn and the very old are spared this fate; their souls merely vanish into the void. The rest, victims of alcohol poisoning, of Kit Carson's bullets, of ancient famines and plagues, of poverty and despair and sickness, wander the land, tormenting the living—who in turn practice a complex body of ritual to ward off malevolent spirits, and who until very recently were known to lynch suspected witches. From this en-

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chanted landscape, among the fearful living and the restless dead, novelist and former police-beat reporter Tony Hillerman has drawn the material for a nearly dozen popular mysteries published in the last twenty years—as well as the wherewithal of detective fiction.

Hillerman's fame came slowly. In the middle 1960's, he has said, he was inspired to write about the *Diné*—"the people," as the Navajo call themselves—after an incident in Chinle Wash, at the mouth of Canyon de Chelly. While sitting on its banks, he heard a whistling sound that made him think of Kokopelli, the humpbacked, flute-playing god of the prehistoric Anasazi who had occupied the country before the invading Navajo arrived from Canada in the 13th century. The whistling turned out to have been the tinkling of bells from a flock of sheep, the sound distorted by the weathered sandstone walls of the canyon. It was epiphany enough. "That day," Hillerman has written, "I decided I would try to communicate my feelings for the Navajo and their sacred land."

For the first few years, this gifted

convert preached to the choir. Hillerman's books enjoyed only cult status, devoured by an eager handful of river-runners and desert rats—and even a few Navajo—in the high country of New Mexico and northern Arizona. These readers spread the word to anyone who would listen; in the late 1970's, one could hear Hillerman touted in Flagstaff bars and Albuquerque sporting-good shops, but could rarely find his novels in bookstores. With such a small audience Hillerman's first mystery, *The Blessing Way* (1970), died a quick death; his second book, *The Fly on the Wall*, was remaindered almost immediately after its release. (Now that the genial Hillerman, in his early 60's and retired from teaching and journalism, has made it to the big time, his entire body of work is in print.) But in the last few years, each of his books—standard police procedurals tempered by ethnological observation—has been released to wider and wider reception, first throughout the West, and lately east of the Hundredth Meridian. His most recent novel, *Talking God*, has occupied a spot on the best-seller list of *The New York Times* since its publication in the spring of 1989, clinching its author's nationwide reputation. Robert Redford, having bought film rights to all the author's books, is now producing *The Dark Wind*, due for release in 1990. But despite his newfound fame, Hillerman still thinks of his fans as a cadre of "desert rats and anthropologists."

The Blessing Way is vintage, even archetypal Hillerman; in its pages emerge the fictional patterns and one of the two protagonists that Hillerman has employed ever since. It spins the tale of the seemingly supernatural murder of one Luis Horseman, a Many Ruins Canyon Navajo on the run from a "Navajo Wolf"—that is, a warlock able to metamorphose into any number of animals. Just which animal