THE G·A·O JOURNAL

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A CHALLENGE FOR YANKEE KNOW-HOW
New themes in competitiveness

SOVIET REFUGEES
The continuing dilemma

WOMEN IN THE MILITARY
Do combat exclusion laws make sense?

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C O N T E N T S

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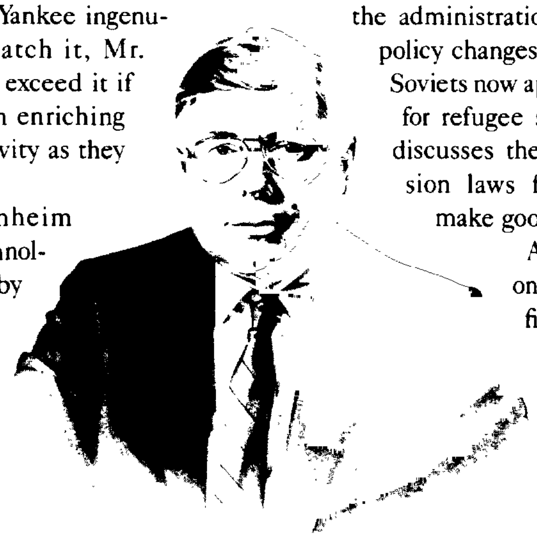
From the Comptroller General

Just how competitive—or noncompetitive—is the United States in the world marketplace? By now the issue has been so thoroughly hashed over that new thoughts on the matter seem hard to come by. Nevertheless, political economist Robert B. Reich shares a number of fresh perspectives with us in this issue's provocative interview, "An American Society in a Global Economy."

Mr. Reich believes there is no longer a single American economy in competition with the rest of the world. Therefore, "American economic competitiveness" is a no longer an issue but rather "an abstraction without meaning." Twenty percent of Americans, he says, are competing quite well in the global economy. But the other four-fifths are ill-prepared for competition and at risk of falling further behind. "We are not all in the same boat in such a way that, if the American economy does well, all of us rise together," he says. For that reason, he argues that it is up to the top fifth to help the lower four-fifths to become better equipped to compete. That means making the sort of long-term investments in education and infrastructure that the nation seems, in Mr. Reich's estimation, indisposed to make.

The second article in our focus on competitiveness is by Sheridan Tatsuno, author of *Created in Japan: From Imitators to World-Class Innovators*. He argues that we Americans are caught up in a myth: "We still cling to the cherished belief that the Japanese will never match our 'Yankee ingenuity.'" But they not only match it, Mr. Tatsuno says, they will soon exceed it if we are not as imaginative in enriching our own approaches to creativity as they have been in theirs.

GAO's Amy Lowen Manheim writes that much of the technology produced or sponsored by the U.S. government goes to waste. It's a marketing problem, she says: The government doesn't give much thought to the product it has to offer or to the customer who might buy it and make use of it. Ms. Manheim proposes that we think of technology not as high-tech goods but as the knowledge or information that underlies them, and that the government make that information more accessible to the private sector while it is still useful and commercially appealing. The private sector, she says, will take it from there.



While this issue of the *GAO Journal* is our second of the new decade, we could not resist publishing one final look back at the 1980s, particularly since the writer—E. Gerald Corrigan, President of the Federal Reserve Bank of New York—is so well qualified to remark upon them. In January of this year, Mr. Corrigan addressed the Reserve Bank of India on how our national and international economic systems held up through the 1980s, a decade in which "powerful forces—some technological, some political, and some competitive—were to radically transform the economic and financial setting in which governments, businesses, and households would have to manage their economic affairs." Out of the experiences of the volatile 1980s, Mr. Corrigan has drawn a number of lessons he feels will make the uncharted waters of the 1990s a little less dangerous.

Rounding out this issue's features are two articles by GAO staff on very timely and controversial topics. David R. Martin and Susan Gibbs discuss the administration's recent procedural and policy changes in response to the flood of Soviets now applying to the United States for refugee status. Beverly Bendekgey discusses the viability of combat exclusion laws for women. Both articles make good reading.

All in all, a varied issue and one in which we hope you will find something of interest. Let us know if there are ways in which we can do better.

Charles A. Bowsher

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NEW THEMES
IN COMPETITIVENESS

1

AN AMERICAN SOCIETY IN A GLOBAL ECONOMY

An Interview with Robert B. Reich

80% empty or 20% full?

Robert B. Reich is a professor of political economy at the John F. Kennedy School of Government at Harvard. He was director of policy planning at the Federal Trade Commission during the Carter administration. His books include The Next American Frontier, Tales of a New America, The Power of Public Ideas, and, due in February 1991 from Knopf, The Vanishing Nation. In March, GAO Journal managing editor Richard Smith and associate editor Deborah Signer visited Mr. Reich at his office in Cambridge, Massachusetts to ask his views on how the United States can make the most of its strengths in the world marketplace.

GAO JOURNAL: The United States has top-quality research facilities and scientists and puts a lot of money into research and development (R&D). With all these investments in creativity, why do we seem to have difficulty competing in the world market for high-technology products?

REICH: First of all, we continue to have a problem transforming the knowledge we gain in laboratories into concrete results in industry. Americans have tended to be very good at coming up with new ideas but very bad at creating the human organizations and manufacturing systems necessary for implementing them. A lot of our best new ideas migrate abroad more quickly and effectively than they are utilized here at home.

GAO JOURNAL: What could we do to better translate ideas into commercial products?

REICH: One obvious step is to improve the education and training of American workers. It is very difficult to translate new ideas from laboratory to factory when one out of five 18-year-olds is functionally illiterate and many people are unable to do simple computations. In addition, U.S. companies haven't made concerted efforts to invest in their production workers by providing them with on-the-job training. This is true even where workers do have an adequate secondary education on which to build.

One reason for this unwillingness to invest in employee training is the tendency of so-called "knowledge workers," such as software and computer designers and engineers, to move quickly from one organization to another. This tendency is endemic to American society, and tends to undermine any sense of loyalty between workers and managers. A few things could be done to address the problems: changing the tax laws so that pension benefits become vested even later than now, which would give workers an incentive to stay put; changing the laws covering executive bonuses so that executives would also tend to stay; and creating tax advantages for employers who offer on-the-job training.

But actions like these only tinker around the edges of a larger problem. Without a fundamental change in the entire culture of productive relationships, we won't be able to solve the problem of excessive employee mobility.

GAO JOURNAL: You've mentioned the lack of adequate education and training as one factor in this country's uneven record in commercializing new technologies. What other factors would you cite?

REICH: National defense is another piece of the puzzle. A lot of U.S. manufacturing in high-technology areas, including aerospace, microelectronics, and communication technologies, is intimately related to the defense industrial base. Although spin-offs from defense industries occurred regularly during the 1950s and 1960s, they are much less frequent today. Nevertheless, the defense industrial base still absorbs a great deal of our talent, our manufacturing facilities, and our national income.

GAO JOURNAL: Why are there fewer spin-offs from defense than there used to be?

is concerned with reliability, of course, but is willing to settle for a degree of reliability somewhat less than that required for making sure that precision-guided missiles reach a target 5,000 miles away. Consumers are also unwilling to pay the kinds of prices that the military tolerates—not just for the infamous $600 toilet seats but also for a lot of other paraphernalia.

In addition, the pressures of the highly competitive world market have in some cases forced civilian technology to move more quickly than military technology. This is true in such areas as high-definition television, liquid crystal displays, fiber optics, lasers, and light-sensing devices. When civilian technology is ahead of military technology, there's no opportunity for the traditional military-to-civilian spin-offs.

To get back to the question of why this country is slow to commercialize its new ideas—I think a third reason is that U.S. industries still tend to be organized according to a model of high-volume, standardized mass production. The old hierarchical arrangements are, by and large, still in place. Many American managers pay lip service to the buzzwords of modern management, such as decentralization and quality circles. Only rarely, however, are production systems truly decentralized, with responsibility pushed downward and greater emphasis placed on human capital. Yet this is precisely the kind of organizational change that's needed if we are to make the switch from mass production to higher value-added production, which emphasizes flexibility, quality, and customization.

GAO JOURNAL: Do you think that some sort of shift in values is necessary if America is to maintain its long-term economic health and prosperity?

REICH: Here we come to the nub of the issue. We talk about the American economy, and we use the pronoun "we." But actually, if you examine it closely, there is no longer an "American economy." There is no longer a monolithic issue called "U.S. competitiveness." There is no longer a "we."

The top 20 percent of Americans are competing quite well in the international economy. Their children are likely to do well also. The educational system for elite young Americans is the best in the world. The country's research scientists, engineers, investment bankers, lawyers, management consultants, film-makers, musicians, writers, publishers—those people whose job it is to manipulate abstract symbols—are doing well. As the global market becomes ever more integrated, these people's value increases. They can sell their designs, prototypes, formulas, and financial analyses all over the world.

So there is no reason for concern about this segment of the U.S. population. They are highly competitive and becoming more and more so.

There are two other categories of American workers, however, whose position is becoming more precarious. In one category are routine production workers engaged in global commerce—traditional blue-collar workers, for example, or the data processors working on global computer networks. These people are becoming less and less competitive because they must compete with individuals in other countries, the majority of whom would be delighted to work for a fraction of the wages that Americans make. Global corporations, whatever the nationality of their owners, tend to move routine work to where wages are lowest. As a result, within a short time there won't be much global routine work left in the United States.

That leaves the other category of workers—those who provide person-to-person services. These include hospital orderlies, retail sales clerks, restaurant employees, cab drivers, and—the fastest growing job category of all—security guards. None of these people is engaged in international competition. They compete for their jobs indirectly, against labor-saving machinery, but they don't compete directly with anyone else around the world. Instead, their earnings depend on the earnings of that top 20 percent of the American population. A cab driver in this country earns a lot more than a cab driver in a Third World nation only because the top 20 percent pull in wealth from the rest of the world and spend it here.

For the position of the bottom 80 percent to improve in any lasting and meaningful way, their productivity will have to increase. That's the only way they can compete against low-wage workers in other countries. And the only people who can afford to make the needed investments in the bottom 80 percent's productivity—investing in their education and training, and in the infrastructure necessary to bring the fruits of their labor to the world market—are those in the top 20 percent of the population. The question is: Are they willing to make those investments?

There is no reason to suppose that they will, because they are no longer dependent on the bottom 80 percent. Quite the reverse: The top fifth can extract from the bottom 80 percent all kinds of concessions, because the bottom 80 percent depend so much on the top 20 percent. The top 20 percent are cosmopolitan. Their fates are linked to the fate of the global economy, not uniquely to that of the national economy.

If present trends continue, there will be a widening gap between rich and poor—or, more accurately, between the rich and everybody else in this country. That will create grave problems.

GAO JOURNAL: Do you see any countervailing trends—any indication of increased willingness to make the investments that are needed?

REICH: This country's record over the past 15 years hasn't been good. What determines national economic progress in today's global economy? Almost every factor of production has become totally mobile. Money and technology move across national borders almost at the speed of an electronic impulse. A modern, up-to-date factory can be built anywhere around the world in a very short time. New ideas can travel to any spot on earth almost immediately.

The only two factors of production that are relatively immobile are people and infrastructure. And these are precisely the two areas in which there has been dwindling investment over the past decade and a half.

As I mentioned earlier, we have not adequately educated our young people. Per-pupil spending on primary and secondary education has increased over the past 15 years, but no faster than the per-pupil increases that occurred during the 1960s and early 1970s. At the same time, we can no longer count on a large pool of talented women willing to work as teachers for low pay, since too many other professional options have opened up to them. In other words, the free ride is over: If we want good teachers, we're going to have to pay for them. Yet teachers' salaries, adjusted for inflation, are only a bit higher in 1990 than they were in 1970. Finally, many of our schools are burdened by all sorts of social problems—drugs, crime, AIDS, child abuse, family disintegration. These are often the same schools that must rely on impoverished local tax bases for their support. Overall, then, the increases in education spending have been completely inadequate.

The story on infrastructure is equally discouraging. During the 1960s, the nation spent 2.4 percent of gross national product (GNP) on infrastructure. We now spend just a little over one percent of GNP. Roads are not being repaired. Bridges are collapsing. We have tremendous problems with sewage and waste treatment. Airports and major highways are clogged.

For both education and infrastructure, the federal government has, over the past 15 years, pushed responsibility back to the state and local levels. But poorer states and cities have not been able to shoulder this burden.

The irony is that investments in education and infrastructure are crucial to boosting this country's economic standing. If we had a top-notch infrastructure and a highly educated work force, U.S. productivity would be higher, and we could attract industry to this country much more effectively than we do.

GAO JOURNAL: Do you see the so-called peace dividend as an opportunity to channel more money into these areas?

REICH: Absolutely. If we were to reduce military spending by even the modest amount of 3 percent each year, by the end of 10 years we would have roughly half a trillion dollars to invest. If we were also to adopt a slightly more progressive tax schedule (a suggestion that even liberal Democrats are afraid to mention these days) so that those in the upper-income brackets were taxed to the same extent as they were 15 years ago, we would gain another trillion dollars over the decade to invest in education and infrastructure. Upper-income Americans are earning more than ever before, so a tax increase wouldn't lower their living standard; it would simply slow their living standard's rise. And over the 1990s, this country would gain $1 trillion.

Is it going to happen? Probably not, in the prevailing political environment. Politicians are already talking about using the peace dividend to cut the budget deficit, thereby reducing the need for additional taxes. As long as politicians think in these terms, as long as the top 20 percent remain unwilling to make the necessary investments in this country, the bottom 80 percent of Americans don't face a very attractive future.

GAO JOURNAL: So you wouldn't use the peace dividend to help bring down the budget deficit?

REICH: My views on this subject may border on blasphemy, but I don't consider the budget deficit in itself a major concern. For one thing, the budget deficit is now down to roughly 1.5 percent of GNP—about where it has always been, historically.

But even if the deficit were larger, I would still urge that we increase expenditures on infrastructure and education for the simple reason that they represent investments in future productivity. The same principle applies here as it would in any business: It's perfectly appropriate to go into debt to invest in future capacity to produce wealth. Later on, when your wealth has increased, the debt will be easier to pay off. If this country invests adequately in infrastructure and human capital, corporations will see it as an attractive place to invest: They will bring higher value-added jobs here that will increase U.S. wealth. And paying off the budget deficit won't be such a burden.

GAO JOURNAL: Let's talk a bit now about the international scene. Since World War II, the United States has paid for a large share of the defense of its allies—particularly Japan and West Germany, which have emerged as America's main economic competitors. To what extent has this allocation of the defense burden contributed to America's current economic problems?

REICH: We should not blame the Japanese or the Europeans for not taking on more of the collective defense burden. After all, it was we who insisted on maintaining a certain level of defense. We also wanted to maintain a position of leadership among our allies, and this entailed paying a large share of the defense costs.

Surely the military buildup this country began in the late 1970s has played a part in our current predicament. We would not be so deeply in debt, and we wouldn't have neglected infrastructure and human capital to such a large extent, had we not spent a trillion dollars increasing our armaments over the past decade. In some people's view, of course, these investments in defense are what brought the Soviets to their knees. That seems to me a highly dubious proposition. The Soviet economy was gradually collapsing anyway, and Gorbachev had few options. It's hard to say what would have happened if there hadn't been a Gorbachev—but there is certainly no reason to believe that our arms buildup created him.

GAO JOURNAL: What opportunities for new investment does the opening in Eastern Europe create?

REICH: Global companies are going to invest substantially in Eastern Europe because the region is right at the edge of Western Europe, which, after 1992, will be a booming, integrated market. Eastern Europe will, in some ways, be to Western Europe what Mexico is to the United States—a source of inexpensive labor for high-volume production. Not just inexpensive labor, but also relatively skilled labor. So I wouldn't be surprised if the next three years saw an extraordinary influx of capital into Eastern Europe.

This capital will come from the savings of the rest of the world, particularly from West Europeans, Japanese, and Americans. This will mean less global capital to go around. As a result, Latin America will probably suffer, as foreign investments there decline. Also, interest rates in Western Europe, Japan, and the United States may rise.

GAO JOURNAL: America is often compared unfavorably with Japan in its corporate management, government-business relations, worker skills, and so on. Do you think there are ways in which this country should emulate Japan?

REICH: Certainly there are things we can learn from the Japanese. Anybody who says otherwise is guilty of a kind of ethnocentrism that can only hurt us in the long term.

But it's inaccurate to say that the Japanese are fundamentally different from us. If you look at America in the 1950s, you see many of the same cultural attributes that exist in modern-day Japan. Remember "The Man in the Grey Flannel Suit"—the other-directed person, the organization man (it was always a man), the faceless individual who worked long hours all his life for the same firm?

Well, that description very much fits the Japanese "salary man" of today.

The dominant leadership generation in Japan came of age during and after the Second World War, when Japan was devastated and when savings and hard work were the only possible means of improving one's status in life.

This mentality is very similar to that of Americans who grew up during the Depression, who became the grey-flannel men of the 1950s. But once a country's living standard reaches a certain level, a lot of people, particularly young people, lose patience with the idea of deferring gratification. That certainly happened in America, beginning in the 1960s.

On the basis of that experience, it's reasonable to anticipate that 20 years from now Japan will look very different. Most young Japanese face a different world than the one their parents knew. Consequently, they may not be content to be organization men who defer gratification.

GAO JOURNAL: You've written about something you call collective entrepreneurialism—a system under which major innovations are made more by teams of people than by individuals acting in isolation. Why is collective entrepreneurialism becoming more important? What kind of shift will it take in current American patterns of work, management, and creativity for this new system to stick?

REICH: Traditionally, Americans equate entrepreneurialism with individualism: We imagine the maverick inventor who comes up with a breakthrough invention in his garage. But that is not, by and large, the way improvements are made in products or processes or sales and marketing techniques. At the heart of the most effective modern enterprise are teams of anywhere from three to thirty people, whose collective skills and insights are greater than the sum of their individual skills and insights.

Why are teams necessary? Because modern technologies are too complicated for solitary individuals to absorb all the needed information and make innovations on their own. Skills and information from all sorts of areas—manufacturing, engineering, design engineering, fabrication, sales, international relations, foreign languages—have to be blended to meet the complex demands of creating and marketing a product in today's global economy. There may be in the United States today one or two Thomas Jefferson-like characters who can combine all these skills in one brain, but that's quite rare.

What concerns me is that the image of the lone entrepreneur remains in America's collective mythology. We are suspicious of collective entrepreneurialism. Consequently, we tend to offer enormous psychic, social, and financial rewards to individuals who look like they made the crucial difference, when in fact behind every cowboy entrepreneur is a team of individuals who really deserve much of the credit.

Many U.S. companies would get better performances from their employees if they developed ways of celebrating group initiative rather than spotlighting individual accomplishment.

GAO JOURNAL: How could they do that?

REICH: The simplest way is alter compensation systems so that a portion of an individual's salary or wages is based not on what he or she did but on what his or her group accomplished. At the very least, individuals should not be singled out for special awards that put them in competition with others, thereby creating a disincentive to collaborate.

On a broader social level, America needs a new set of myths or stories about noteworthy achievements. Our entrepreneurial stories focus on creative individuals—the lone cowboys. We don't tell enough stories, either in the press or within individual companies, about entrepreneurial groups—teams of people who make major breakthroughs.

GAO JOURNAL: Does American culture have precedents for such stories?

REICH: Certainly. Think of frontier culture. Our mythic frontier is inhabited by a bunch of solitary cowboys; but actual frontier life required collective work, such as barn raisings and quilting bees. If communities didn't work together closely, individuals would perish.

Team sports is another area in which we understand that the group must function as a team. If somebody starts acting on his or her own, the whole team suffers.

GAO JOURNAL: What changes do you see in America's role in the world, given that the world situation itself is changing so rapidly?

REICH: Undoubtedly we are moving from a bipolar world to a multipolar world. Superpower politics are becoming a thing of the past.

This is a result partly of the proliferation of weapons of fierce destruction, which diffuses power into many arenas around the world. There is now less risk of a superpower confrontation that would annihilate all of mankind, but there is more risk of a lot of small-scale conflicts that could cause considerable local destruction.

Another factor is the rapid integration of the global economy. As I mentioned before, it is now possible for money, ideas, technology, new inventions, equipment, and factories to move almost effortlessly around the globe. This diffuses economic power.

It also means that American corporations are less and less connected to this country. Many of our major companies have larger operations and have more sales outside the United States than inside it. They are concerned about the U.S. economy only insofar as it is a major market for them. I am not calling into question the patriotism of U.S. corporate executives; I am simply pointing out that, as executives, their primary concern is to ensure a good return on their shareholders' investments. If an American corporate executive were to sacrifice shareholder interests for the sake of some abstract national goal, that executive would be liable for breach of fiduciary obligation to the shareholder—or at least would be subject to a hostile takeover by executives who are more mindful of their shareholders' interests.

In a global economy, therefore, U.S.-owned corporations have the same level of concern for this country that foreign-owned corporations do. These global corporations—whatever the nationality of their owners—will invest in this country and bring good jobs here only if we have the human capital and the infrastructure that can attract them. They are not uniquely connected to any single nation. They will undertake production and provide services all over the globe, pursue R&D all over the world, employ workers in many different nations. Their shareholders will be citizens of many nations. Even their top officers will be multinational.

The question of ownership becomes moot. That foreign investors own companies operating in the United States doesn't mean that the foreigners *con-*

trol them. Bruce Springsteen and Madonna are both under contract to the Japanese, but the idea that they are somehow controlled by the Japanese is obviously absurd. Biotechnology researchers who used to work for Genentech, a U.S. company, now work for Roche, a Swiss company. Is their work any less valuable than it was before? Certainly not. Are their paychecks smaller than before? No. Nothing has changed except that they now have a bit more money for research.

This is the story all over the country. Foreign ownership is not only harmless, but in fact, it's probably necessary.

In this kind of world, what is the role of the nation-state? Is the very idea of the nation-state passé? After all, it is not a very old idea: It was the 18th century that really saw the birth of nationalism as we understand it today. Before then, there was no sense that nations were in any way responsible for the economic well-being of their citizens, or that the common man had a stake in national economic growth. These concepts developed during the 18th and 19th centuries, when high-volume mass production pitted nation against nation as they competed for limited markets.

So it's not as though nation-states have existed forever or will exist forever. Over the next 50 to 100 years, we may be witnessing the end of the nation-state as we have come to know it.

GAO JOURNAL: Do you foresee the world reaching a point at which it doesn't make sense to talk about "American economic competitiveness"?

REICH: We have already reached that point. The idea of American economic competitiveness is an abstraction without meaning, partly because, as I've said, the top 20 percent of Americans are gaining in competitiveness while everyone else is losing. There is no longer an American economy that intermediates between individuals and the world economy. We are not all in the same boat in such a way that, if the American economy does well, all of us rise together. We are in a global economy, a global labor market, a global corporate state. Were it not for the facts that we have a common currency, that the government keeps a lot of national economic statistics, and that our politicians like to either congratulate themselves or blame other politicians for how the national economy is doing, we wouldn't even talk about the "American" economy.

But even though we are not an economy, we are, presumably, a society—a political community. We have common ties and a common culture. The unresolved issue, to my way of thinking, is whether we are enough of a political community that those who are best able to sacrifice for the community will choose to do so. What obligations do we owe one another as citizens, even though we have grown less dependent on one another as economic actors? This is the major question we face as a nation. •

Sheridan M. Tatsuno

JAPAN'S MOVE TOWARD CREATIVITY

Having mastered quality assurance, the Japanese are now eyeing America's last bastions of expertise—basic research and breakthrough thinking.

SINCE WORLD WAR II, we Americans have lost much of our international competitiveness to Japan and other countries because of our complacency, neglect of export markets, and just plain arrogance. In the 1950s and 1960s, we overlooked Japanese quality improvements because, according to the prevailing wisdom, the Japanese made cheap, shoddy products that were mere imitations of ours. That dangerous myth cost us thousands of companies and millions of jobs.

Just as most Americans overlooked Japan's emphasis on quality improvement during the 1950s, today they are unaware of the actions the Japanese are taking to foster and apply their creativity.

Today, we labor under another myth: that the Japanese are copycats incapable of creative thought. Business articles and government reports pound home the message that Japanese companies are good only at mass production and that the United States still leads in basic research and innovative product development. Although Sony's Walkman and Mazda's Miata may dazzle us, we still cling to the cherished belief that the Japanese will never match our "Yankee ingenuity."

Unfortunately, we may be deluding ourselves. And that delusion may be our undoing in the 1990s. Just as most Americans overlooked Japan's emphasis on quality improvement during the 1950s, today most Americans are still unaware of the actions the Japanese are taking to foster their creativity. Having mastered quality assurance, Japanese companies are now eyeing America's last bastions of expertise—basic research and breakthrough thinking.

What are the signs of Japan's shift to creativity? Consider the following:

- Between 1978 and 1989, according to the U.S. Patent Office, the Japanese share of patents registered in the United States doubled, from 10.5 percent to 21.1 percent.
- In 1988, a National Science Foundation study found that, since 1976, Japanese patents had been cited more often than patents awarded to Americans. These types of citations are one indicator of a patent's innovativeness.
- At the International Solid State Circuits Conference—the Olympics of semiconductor research—the U.S. share of technical papers declined from 61 percent in 1981 to 49 percent this year. Over the same period, Japan's share climbed from 25

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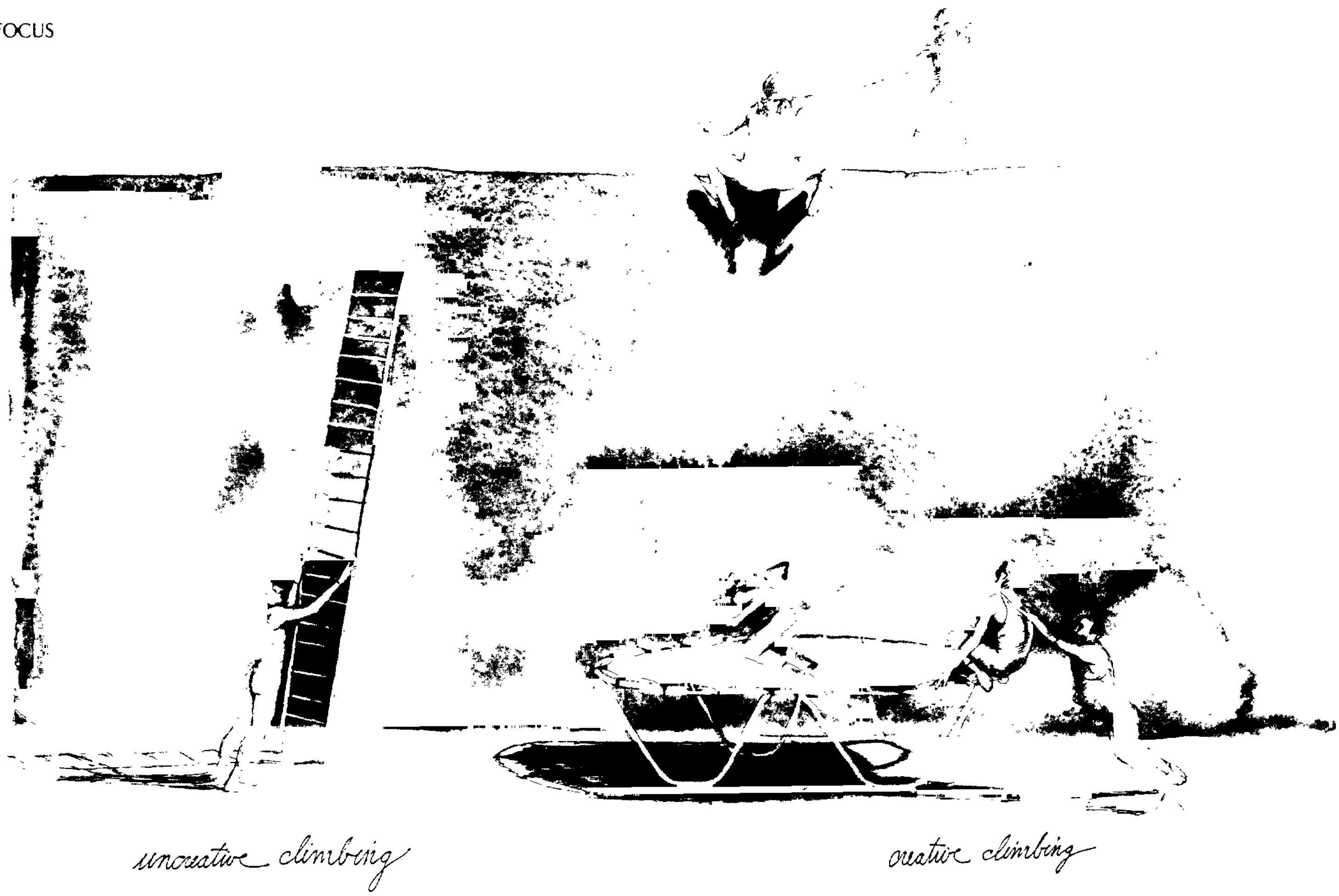

• In high-definition television (HDTV), the United States is trailing Japan and Europe in developing broadcasting standards, equipment hardware, and a transmission infrastructure. One hour of daily HDTV programming is already available in Japan and large-screen HDTVs are being introduced into factories, hospitals, museums, civic auditoriums, video bars and restaurants, and shopping malls in selected Japanese cities.

Wherever one looks—in fashion, architecture, car electronics, construction technology—Japanese creativity is blossoming. Yet Americans still persist in believing that the Japanese lack creativity.

• At international trade shows, Japanese companies are trend-setters in industrial design, audio-video equipment, computerized language translation, bullet trains, car navigation systems, advanced robots, and factory automation. Tokyo is the source of many new product ideas, such as vacuum tube bullet trains, ergonomic keyboards, ceramic paper, music-playing robots, and

Wherever one looks—in fashion, architecture, car electronics, construction technology, expert systems, and neural network computing—Japanese creativity is blossoming. Yet Americans still persist in believing that the Japanese lack creativity. Why is this? Why have we been so blind to Japan's massive buildup in creative research and product development? How are the Japanese pursuing the elusive notion of creativity? And what are the implications for U.S.-Japan trade relations in the 1990s?

Shifting paradigms

Perhaps the biggest obstacle now facing Americans—indeed, all people—is outdated thinking. Americans are still mentally imprisoned by past habits and attitudes. Therefore, experts and laymen alike were unprepared for the fall of the Berlin Wall and the decline of communism in Eastern Europe. In U.S.-Japan relations, we were surprised by the assertiveness reflected in the recent book, *A* attitude surfaced in Tokyo years ago. Japan is an economic and technological superpower, yet most Americans still treat it as a "little brother."

Akio Morita, chairman of Sony, has offered a warning about the narrowness of this country's postwar, "Pax Americana" thinking: "If you go through life convinced that your way is always best, all the new ideas in the world will pass you by. Americans tend to think that the American system is the way things should work all around the world, but they should not be blind and deaf to how things are done in other countries."[1]

Westerners tend to focus heavily on the generation of breakthrough ideas, which we regard as the ultimate proof of creativity. Anything short of these spectacular leaps is considered "ho-hum" science.

America's general inability to recognize Japan's burgeoning creativity is symptomatic of the kind of paradigm shift that Thomas Kuhn described in his landmark 1962 book, *The Structure of Scientific Revolutions.*[2] Kuhn challenged the prevailing view that scientific progress is a simple process of making discoveries and accumulating knowledge. Instead, he argued, discoveries only have meaning within a "paradigm," or worldview, which is based on common assumptions about the problems being considered. Paradigms are usually implicit and unarticulated; their influence is pervasive, affecting the way people perceive, think about, analyze, and respond to their environments. As long as both the underlying assumptions and the environment remain unchanged, paradigms serve as useful frameworks for analyzing and solving problems. But when the world changes rapidly, as is happening today, the paradigms need to shift as well. If people apply outdated paradigms to changing situations, they can end up with distorted perceptions and inappropriate responses.

To a large extent, Americans are currently stuck at this phase—holding onto paradigms that no longer match reality. This is true of American views about creativity. Generally, Western creativity is rapid-fire, awe-inspiring, and often engenders the kind of zeal associated with religious faith. Westerners delight in dramatic displays of individual genius. We tend to focus heavily on one phase of the creative process: the generation of breakthrough ideas, which we regard as the ultimate proof of creativity. Anything short of these spectacular leaps is considered "ho-hum" science.

Although Western creativity has unleashed many new ideas, its linear, rational bias has led to many political and economic dead ends. No longer are big solutions or big projects adequate to solve the complex global problems that face us. We are like baseball players trying to win the game by hitting only grand slams—overlooking the fact that, to hit a grand slam, you have to fill the bases first. Our "big breakthrough" mentality overlooks the more subtle, less visible forms of creativity that Japan is increasingly turning to its advantage.

A cyclical approach

Individualism, frontier exploration, and personal freedom—so valued in America—are not highly esteemed in Japanese society. Instead, emphasis is placed on group cohesion and constant improvement—values with roots in the three centuries of isolationism so strongly enforced during the Tokugawa Period (1600-1868). From a very young age, Japanese are taught to master and improve their lot, whether it be a menial job or a tiny plot of land. The greatest acclaim is given to work that is highly polished and refined, such as bonsai plants. The refinement of old ideas may not strike Westerners as particularly creative, but in world markets it can have powerful results. Witness the overwhelming success of the Sony Walkman, which is nothing more than the refinement of two old ideas—portability and stereo sound.

In fact, the Japanese often refer to the creative process as the reincarnation of ideas—a cyclical process. Old ideas never die but are transformed into new ones. Although they may lie quietly for years or even centuries, a new development may trigger their reappearance in the world. For example, many of the ideas sketched out by Leonardo da Vinci and H. G. Wells—such as the helicopter and the submarine—could not be realized in their times and had to wait until the necessary technology had been developed. As the Japanese have long known, it is worth reviewing and recycling old ideas from time to time because recent developments may have renewed their potential.

The cycle of creativity can be divided into five phases. In the first, *idea recycling*, new uses are found for old and existing ideas. When existing ideas are inadequate, however, new ideas are sought—the second phase, *idea exploration*. The third phase is *idea cultivation*, when new ideas are "seeded" and "incubated." This can lead to the fourth phase, *idea generation*, in which new breakthrough ideas occur. Finally, there is *idea refinement*, during which new ideas are improved and adapted to the changing environment.

Western creativity is clearly stronger in searching for new ideas, in cultivating them, and in generating breakthroughs (the second, third, and fourth phases). Westerners have traditionally excelled in pursuing basic research and exploring new scientific frontiers—activities that require maximum intellectual curiosity and adventurousness. By contrast, the Japanese are not so given to exploration, and are strong in recycling, cultivating and refining ideas (the first, third, and fifth phases).

Japanese companies have shown a tremendous knack for refining ideas and technologies. They often take seminal ideas overlooked or dismissed by skeptical Westerners and transform them into something entirely different.

But whereas the Japanese recognize their weaknesses in basic research and breakthrough thinking and are trying to strengthen their skills in these areas, we Americans tend to believe we have a monopoly on creativity and disregard the areas of Japanese strength—the recycling and refinement of ideas. If this myopia continues, Japanese companies could succeed in their drive to master all phases of creativity, and U.S. companies could end up being left behind. The impact on U.S. economic competitiveness in the 21st century would be devastating.

Commercializing ideas

Japanese companies have shown a tremendous knack for refining ideas and technologies. They often take seminal ideas overlooked or dismissed by skeptical Westerners and gradually transform them into something entirely different. The videotape recorder, for example, was pioneered by Ampex, a U.S. company, but it was Sony and Matsushita that turned it into a mass consumer product. Given that the commercialization of new technologies is one area in which U.S. companies have begun to fall behind, it may be useful to examine some of the Japanese techniques for refining ideas into commercial products.

One approach is miniaturization, as reflected in the compact, lightweight radios, cameras, televisions, and automobiles that Japan has produced and marketed so successfully. For new products and services, the Japanese always pursue a variety of miniaturization strategies, which they view as powerful tools for reducing costs and opening up new markets. In the early 1980s, for instance, Plus and Company developed a handheld copier called the Copy-Jack for businesspeople and students. And during the mid-1980s, Murata, Canon, and Ricoh introduced small, desk-top facsimile machines.

Another Japanese approach to refining ideas is simplification. Whereas Americans often develop complex, large-scale solutions to problems, the Japanese constantly reduce the complexity of products to a bare minimum. They streamline the design, reduce the number of parts, and simplify the inner workings. One example is Fujitu Photo Film's disposable camera. To reduce costs and weight, a paper box design was used and the lens system was simplified by eliminating the focusing and diaphragm devices. The result was a compact, colorful, and simple-to-use paper box camera that now sells in stores worldwide.

Japan's skills in commercialization represent a strength the United States should study and emulate. For that is exactly how Japan is responding to America's strengths. Japanese companies are now experimenting with more than 100 creativity techniques designed to improve Japan's record in one of its areas of weakness—the development of breakthrough ideas. Half of these techniques, such as "brainstorming" and "synectics" (a method of problem-solving that relies on metaphor and analogy), were introduced from the United States during the 1950s and 1960s. The other half are new methods developed in Japan.

Promoting creativity

Because breakthrough thinking is not a Japanese hallmark, these creativity techniques are being custom-designed to fit Japanese culture and overcome the obstacles it presents to the generation of new ideas. The Mitsubishi brainstorming method, for example, takes advantage of the Japanese preference for structure and order. In this method, participants are given a chance to warm up by writing down their ideas for 15 minutes. To prevent more aggressive or vocal people from dominating the group, each person is asked to read his or her ideas aloud. While each participant explains the background and content of his or her ideas, others write them onto "idea maps."

Japan is approaching creativity just as it studied quality control 30 years ago—deliberately and systematically.

Another approach is the MY Method (named for Yasuo Matsumura), used by the Japan Management Association to train managers in creative brainstorming and management planning design. This method employs a diagram inspired by the lotus blossom. A central theme is written in the middle of the diagram. Participants are asked to think of related ideas or applications of the first idea; these are written in the surrounding "petals." For example, if the central theme is superconductivity, the related ideas might include such commercial applications as magnetic levitation trains, energy storage, electrical transmission, and computer board wiring. These ideas can then serve as the trigger for another round of new, more specialized ideas. When the concepts become highly technical, further brainstorming may be done by groups of experts. The Japanese have found that this method can help companies diversify into new products and technologies.

These are just a few of the dozens of creativity techniques being explored by Japanese companies. Japan is approaching creativity just as it studied quality control 30 years ago—deliberately and systematically. Japanese companies are forging their own distinctive style of creativity—a subtle blend of Japanese-style group creativity and Western-style individual creativity. Mazda's Miata sports car is a classic example of this new hybrid. The basic concept and body styling were developed in Mazda's U.S. design center in Irvine, California; the dashboard displays in Frankfurt, West Germany; and the car electronics and interior design in Yokohama. If the result is any indication of Japan's emerging creativity, the United States may be in for some rude awakenings.

U.S.-Japan trade relations

The Japanese are poised at the leading edge in field after field, from high-definition television to automobiles. During the 1990s, given their momentum and strong R&D funding, the Japanese will surpass the United States in a dozen crucial emerging technologies. When the impacts of this "Sputnik 2" are felt by U.S. industries, the political reaction in the West will be deafening. What should U.S. companies be prepared for?

First, unless U.S. companies reconsider their views of creativity, they will continue to lose global market share. Japanese companies will increasingly challenge existing U.S. industries, such as software, biotechnology, and medical electronics, and could dominate next-generation fields, such as bioelectronics, biocommunications, optocomputing, marine electronics, automated biotechnology manufacturing, and automated telephone translation software.

In addition, current American attitudes toward intellectual property and patent protection could severely hurt U.S. industries in the future. Americans now assume that U.S. technology is the best in the world and that we must protect these family jewels. But already, Japanese companies hold a virtual monopoly on dynamic RAMs (random access memory chips), liquid crystal displays, photomasks, and large TV screens; and they may soon achieve breakthroughs in next-generation industries, eventually surpassing the United States in technology development. At that point, U.S. intellectual property laws could be used to deny America access to Japanese companies' technologies. U.S. companies will become increasingly dependent upon their Japanese competitors for key technologies, and could be forced to trade their own technologies or pay large royalties to Japanese firms.

Finally, Japanese technologies will increasingly form the backbone for U.S. military security. "Black boxes" for military avionics, for example, contain a high percentage of Japanese electronics. If Japanese companies were to decide not to share their technologies with U.S. aerospace companies, U.S. military security could be severely compromised. Already, Japanese firms are often reluctant to share their technologies with the Pentagon because of U.S. restrictions on "dual use"—the use of military technologies in commercial products. Many companies would prefer not to handcuff themselves by selling their technology to the Pentagon; all too often, this means a loss of potential commercial profits.

Improving American competitiveness

The federal government, state and local governments, and U.S. corporations should take a variety of actions now to try to improve this country's competitiveness vis-à-vis Japan. But in many ways, Americans are ill-equipped to take up the challenge. First, we need to do some catch-up work to enable us to operate more effectively in today's global economy.

In addition to heightening American awareness of foreign cultures, the nation can also take steps geared toward boosting the private sector's international competitiveness.

For one thing, Americans need to increase their knowledge of foreign languages, cultures, and societies. Public education is an area to work on, certainly, but we also need to implement more exchange programs: Young people, manufacturers, managers, engineers, and top executives could all benefit from a more hands-on, working knowledge of foreign countries. If U.S. companies better understood the Japanese housewife, for example, they would have much more success in selling her their products.

In addition to heightening American awareness of foreign cultures, this country can also take steps geared specifically toward boosting the private sector's international competitiveness. One such action would be to establish international business development libraries in all major industrial centers. Through books, tapes, software, on-line databases, and faxes, these libraries could provide business, economic, technological, and cultural information to companies seeking to export products or services. Furthermore, instead of abandoning the Socrates Project, a program that is providing invaluable technology assessments for the Defense Department, the federal government should make it available on-line to private companies through the Commerce Department on a user-fee basis.

Already, the Commerce Department is working with Japan and other countries to organize international business development and export promotion conferences. Newsletters, video- and audiotaped programs, live radio broadcasting, and newspaper coverage of these business seminars should be made widely available. Commerce should work with the Japan External Trade Organization (JETRO) to publish lists of industrial associations, funding sources, schedules of trade shows and technical seminars, and small businesses seeking foreign partners. It should also help the venture capital and investment banking community to identify over-the-counter (OTC) financing opportunities overseas for U.S. companies. When OTC markets are weak or nonexistent, the American venture capital industry could work with foreign governments to suggest OTC policy guidelines.

There are innumerable other steps that could be taken: more collaborative design projects involving American and foreign corporations; more collaboration among national governments to address such problems as poverty, hunger, and environmental degradation; more sister city and sister region programs between the United States and other countries to increase cultural awareness. Fortunately, the United States is blessed with a rich multicultural heritage that, if properly tapped, can prove a great advantage in the international economy. American businesspeople and entrepreneurs should be equipped to operate as freely in the world economy as Yankee clipper ships did 200 years ago when they sailed the globe in search of trading opportunities. •

1. Akio Morita, *Made in Japan* (New York: E.P. Dutton, 1986), p. 257.
2. Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962).

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NEW THEMES IN COMPETITIVENESS

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Amy Lowen Manheim

THE NEED FOR A STRATEGIC MARKETING PLAN FOR U.S. TECHNOLOGY

Like any product, government-sponsored technology needs to be sold properly if it's to do well.

DURING THE 1960s, the National Aeronautics and Space Administration (NASA) worked with a Massachusetts-based company to develop a process that allowed a reflective metal film coating to be applied to different materials. The process had applications within the space program, but it also had commercial applications from which this company was able to profit. The result? The company, which started in 1964 with 16 employees and annual sales just under $100,000, today employs 55 and has annual sales of around $20 million. Its patents have expired, but while they were in effect the company did receive licensing fees. And now this particular technology that the company developed—familiar in such consumer products as shiny metallic potato chip bags and the "space blankets" used by outdoor enthusiasts—is responsible for an annual market of somewhere between $750 million and $1 billion.[1] Not only has this company benefited from government sponsorship of its technology development, so also has the U.S. market-based economy as a whole.

Government-sponsored technology often does not meet the private sector's needs and therefore cannot be sold or used. Sometimes, technology that the private sector could use ends up languishing in a laboratory, on a drawing board, or in the thickets of the federal bureaucracy.

In fiscal year 1991, the federal government will spend nearly $70 billion on research and development (R&D). The above example suggests the positive effects these expenditures can have: Technology developed under government sponsorship may be used both in government programs and by the private sector, where it can generate new wealth that benefits the entire U.S. economy. But, unfortunately, this is a best-case scenario; all too often, various factors cause real events to follow a different path. For example, sometimes the technology that is produced does not meet the private sector's needs and therefore cannot be sold or used. In other cases, technology that the private sector *could* use ends up languishing in a laboratory, on a drawing board, or in the thickets of the federal bureaucracy. Every time this happens, the United States loses opportunities to increase its economic wealth and improve its international competitiveness though the sale of new products.

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A word about technology

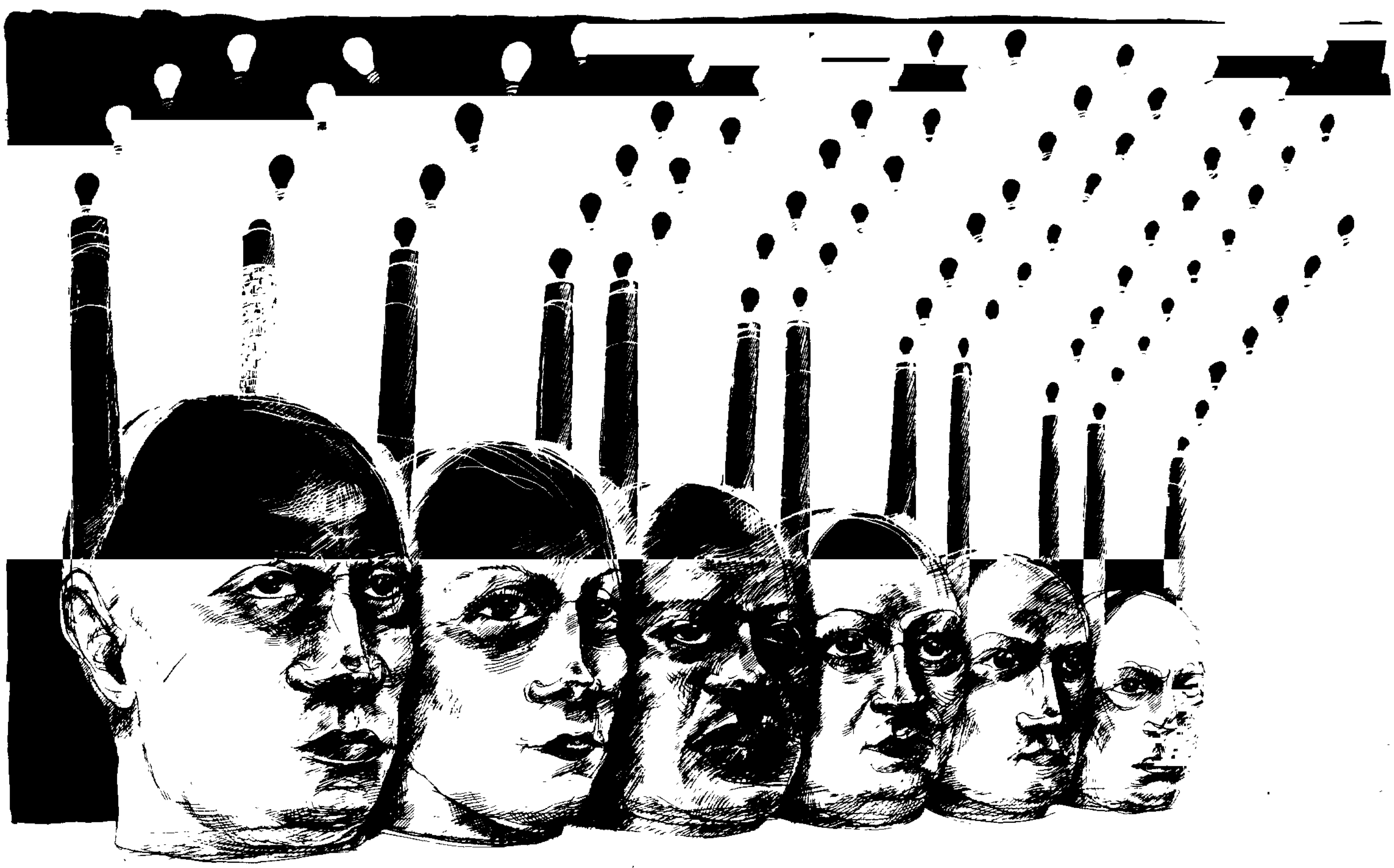
First, what is technology? Technology is *not* a computer chip or a hypersonic plane. Rather, technology is knowledge—the information that enables us to produce these things. Computer chips, for example, are based on an understanding of how electrical impulses move through gallium arsenide crystals. And hypersonic planes are made possible, in part, by the knowledge of how much energy liquid or solid fuels produce under different atmospheric conditions.

Technology is produced when human creativity is applied to research and development. In both basic and applied research, the technology that emerges is knowledge that may not yet have commercial applications. In development, the technology consists of answers to practical questions, such as how to make something behave in a new or different way to better satisfy some consumer need.

Another point: Technology lives and dies. It has a life cycle, and at any point can be classified as new or mature. If a company does not commercialize technology at the appropriate stage in its life cycle, when its commercial potential is at a maximum, the technology's economic value begins to dwindle, since competing companies may then develop similar technology and capture a significant share of the market in question.

Federally sponsored technology

In this country, technology is produced both in private settings, such as university and corporate laboratories, and in laboratories run by federal agencies, such as the National Institutes of Health (NIH), the Department of Energy, NASA, and the Department of Defense (DOD). In addition, federal agencies



Ideas that got away

routinely channel financial support to nongovernmental organizations through grants and contracts. The federal government has also initiated a number of policy and regulatory efforts to get federally sponsored technology into the hands of private-sector companies.

But all is not well with the way the government manages the technology that it produces or sponsors. One problem lies in the process by which technology is transferred from the government to the private sector. Another stems from the government's funding priorities. Although the United States has superb facilities for scientific research, military R&D tends to dominate the federal budget, crowding out R&D with broader potential economic benefit. The less financial support the government gives to the sponsorship and production of technology through R&D contracts and grants, the less technology American companies will have at their disposal to manufacture internationally competitive goods and services.

The inspiration for some solutions to these problems can be found in the principles of strategic market planning—the use of effective product design, pricing, and promotion and distribution to encourage customers to buy a particular product. No less than education, law enforcement, and national defense, technology is a public good—a product produced or sponsored by the government for the benefit of the American people. More so than other public goods, technology needs to be marketed properly or it will go to waste.

No less than education, law enforcement, and national defense, technology is a public good—a product produced or sponsored by the government for the benefit of the American people. More so than other public goods, it needs to be marketed properly or it will go to waste.

If one acknowledges that the government is the producer and technology is the product, then the private sector becomes the customer. In our free-market economy, most commercial applications of new technologies during the development stage—including those produced with federal support—are accomplished in the private sector. The private sector must adopt and commercialize technology—"buy" it, if you will—if technology is to yield economic and social benefits.

What the government needs is to streamline the transfer of government-sponsored technology to the private sector. The first step toward such a strategic marketing plan would be to refine our concept of technology as a product.

Technology: the "product"

Private-sector marketers design products to confer a "bundle of benefits"—to meet customers' needs in a particular way. But in the federal government, there seems to be some confusion about the form in which technology is most useful to the private sector. This has led to a problem in timing: Rarely are government efforts to transfer a given technology to the private sector made at a sufficiently early stage in that technology's life. Once again, technology is not a videocassette recorder or a communications satellite; it is the *knowledge*, the information, that underlies these applications. For this kind of "naked" technology to be transformed into a commercially successful product, it must first be "clothed" in consumers' needs.

Generally, our economy handles this transition efficiently. During basic and applied research, a given technology remains in the form of knowledge. The research scientists and engineers who work with it at these stages speak a language of inquiry and experimentation. Farther along, as the technology enters the development and manufacturing stages, it is passed to private-sector manufacturers who concern themselves with assessing customer markets and maximizing the return on investment. All this is as it should be: Scientists would have no more idea of how to match commercial product with consumer demand than manufacturers would of how to conduct open-ended laboratory research.

Unfortunately, federal programs sometimes work differently, getting research scientists involved in developing and building models and prototypes of products for which, it is hoped, there will eventually be some commercial application. This runs counter to the usual, and more efficient, division of labor. It can lead to wasted effort and wasted time.

One case to consider is the National Aero-Space Plane (NASP) program. Guided by political and military considerations, DOD and NASA have decided to build the X-30, an experimental flight vehicle capable of reaching Mach 25 (25 times the speed of sound). Such high speeds are necessary because the NASP program is charged with developing technology for three different aircraft: a space launch vehicle; a military vehicle capable of flying offensive, defensive, combat, and reconnaissance missions; and a commercial high-speed, long-distance transportation vehicle (the so-called "Orient Express").

Because these three differing applications have been rolled into one program, the government will end up taking approximately 20 years to develop an operational aerospace plane that will be much more technologically sophisticated than the private sector needs or, perhaps, could even use. In contrast, the French are planning to incorporate high-speed technology—a second-generation supersonic technology that would yield speeds of about Mach 3—into their existing commercial airplane production. This technology already exists, so it seems highly likely that other countries will beat the United States to the next high-speed air transport market.

What money entrepreneurs gain through federal contracts often does not make up for the potential commercial profits that they forfeit.

The NASP program demonstrates some of the general drawbacks inherent in the "spin-off" method the United States favors for getting federally sponsored technology into the private sector. Under this approach, technology is developed with government sponsorship for a particular government or military application. At some point in that development—after the technology has been converted into a model or prototype—it is "spun off" into the private sector. But by this stage, the technology being developed may no longer be suited to commercial needs. It may have become overly specialized or too technologically sophisticated—in short, no longer of value.

The solution, of course, is not to scrap all programs in which technology is developed for government or military applications. The solution is to make the technology available to the private sector at the right stage—while it is still in the form of knowledge, and while the private sector can make a judgment, based on its understanding of present and future market demand, as to whether the technology is worth buying.[2] Too often, today, the technology has already been "clothed" by the government—most likely by someone who lacks the necessary commercial insight—making it harder for the private sector to absorb the technology, profit from it, and channel its benefits to the public. And by the time the government makes it available, the appropriate markets may already have been captured by foreign producers, anyway.

Technology's "price"

Certain federal policies exact a price that discourages the involvement of private-sector firms in producing and using technology. This is true, for example, of the way in which the government buys the goods and services that a private-sector company has developed or is developing. Under some current procurement policies, the federal government retains certain important rights to federally supported technology. The government gives the right to apply that technology back to the company that developed it, which ostensibly enables the firm to reap the commercial benefits.

But the government retains the right to dictate who has access to that technology. This creates problems when the government wants a new supply of, or replacement parts for, the particular technology-based product in question. At that point, to keep costs down, the government can create competition by opening up the procurement process to other interested manufacturers. It can also take blueprints, working drawings, photographs of plants, and even laboratory notebooks and make the information contained in this material available to all potential manufacturers of the product. In other words, the competitors of the company that originally developed the technology can end up profiting at that company's expense.

This is exactly what happened to an American company that had invented and patented a process for making pilotless aircraft. Because the company had accepted Navy money to develop the tools for mass production, all competitors on the following production contract received photographs not only of these tools but of the entire plant. A Canadian firm won the contract. The American company's president remarked that "the procurement process discourages creativity.... It's like we don't have a right to succeed."[3]

Entrepreneurs may sometimes decide that the risk—the "price"—of participating in federally sponsored technology development is too high. What money they gain through a federal contract often does not make up for the potential commercial profits that they forfeit. If enough companies are put off by this situation, there will be a decrease in the overall amount of technology that is produced in the United States.

Promoting and distributing technology

Any commercial producer who wants to stay in business understands how essential it is that the customer be aware of the product and know how to get it. At times, however, the government seems almost to have tried to keep federally sponsored technology a secret.

The system of technology transfer is haphazardly organized. It is geographically dispersed and disjointed, involves multiple stages, and employs antiquated communication methods. And each instance of technology transfer requires that a seemingly infinite number of legal and contractual details be worked out—usually by a seemingly infinite number of patent attorneys.

Consider what it takes for companies to acquire a specific technology from NASA.[4] In theory, an interested party can obtain NASA-sponsored technology by contacting the office dedicated to this purpose at every NASA field center, of which there are nine; by approaching certain specially designated universities; by direct contact with the Technology Utilization Office at NASA headquarters; by subscribing to a privately published magazine called *NASA Tech Briefs*; or by pursuing any number of other channels. The existence of so many distribution centers may sound like an advantage. But *no one source* provides information about all the technology that is available. The customer has to search for it.

The president of a firm that makes water filters based on NASA technology called the process of acquiring that technology a "puzzle."[5] Tracking down and developing the NASA technology for one product took 18 months and a lot of tenacity—and this search involved only *one* federal agency. For all the customer knew, the technology he was hunting might also have been available from DOD, NIH, or the Department of Agriculture. Searching in these places would doubtless have dragged out the process even further. NIH, for example, conducts technology transfer through two different channels: its own in-house Office of Technology Transfer; and the National Technical Information Service, which is lodged within the Department of Commerce. In addition, it remains the prerogative of each university receiving NIH grants to commercialize the technology that it

Many of these distribution problems could be resolved by the establishment of one federal data base containing information about government-sponsored research from *all* federal laboratories, from universities, and from private-sector contracts. Users would be assisted by a staff familiar both with a range of scientific disciplines and with the needs and interests of private industry. In other words, it would be *easy* for the American private sector (some restrictions would apply to foreign entities) to reach into the mass of new federally sponsored technology and adapt it for use in the marketplace. Only when technology is easily accessible can the private sector make the most of it.

Taking the right approach

Of course, the marketing approach I've been advocating addresses only one part of the competitiveness question. And to acknowledge the need for that approach is just the first step toward developing the strategic marketing plan I mentioned earlier. Such a plan is crucial. The need for private-sector commercialization of government-sponsored technology is too great for us to allow the process of technology transfer to continue to be as passive and poorly organized as it is now. The federal government needs to take aggressive steps to ensure that technology reaches the world of commerce while it is still of value and with the fewest impediments possible. We can then give the private sector the opportunity to use that technology to create the economic benefits that can increase this nation's wealth and sharpen its competitiveness. •

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1. Phone conversation with Patrick E. McHugh, Vice President of Metallized Products, Inc.

2. Technology that is directly applicable to defense and security purposes would, of course, remain classified.

3. See Sandra Sugawara, "Collision Course on Contracting," *Washington Post—Washington Business*, November 6, 1989, pp. 1, 16, 17; Sandra Sugawara, "Partial Victory for Developer of Pilotless Plane," *Washington Post—Washington Business*, February 26, 1990, pp. 5, 6.

4. Problems similar to those found in NASA's technology transfer process exist in other federal agencies, of course. NASA is a good example to study because it has devoted major efforts to technology transfer since its inception in 1958.

5. Phone conversation with Mike Pedersen, founder and President of Western Water International. Also, see "NASA Technology Spin-off Hearing," April 3, 1989, Subcommittee on Space, Sci-

David R. Martin & Susan Gibbs

SOVIET REFUGEES: THE CONTINUING DILEMMA

As the Soviet Union finally lets its people go, the United States has to deal with the numbers.

FOR MOST OF us in this nation of immigrants, our ancestors' journeys to America are a part of history. But for tens of thousands of Soviet citizens, the decision to leave their country is a present-day trauma. Just to request an exit visa calls for courage on their part—a willingness to endure both the stigma of applying to emigrate and the uncertainty of leaving behind their homes and homeland—and entails not just the fervent hope that the authorities will grant them permission to go, but a stalwart faith that the United States or some other Western nation will accept them once they are out.

That faith has been well-founded for a long time. The United States has consistently pressured the Soviet Union for the release of Soviet citizens—prominent among them Jews and Evangelical Christians—who have suffered human rights abuses and persecution in their own land. It has been standard practice among administrations in Washington to express their wholehearted support for those able to gain release. In Rome, the major way station for Soviet emigrés wishing to enter the United States, U.S. Immigration and Naturalization Service (INS) officers have, for years, virtually rubber-stamped the applications of Soviet citizens. For those accorded official refugee status by INS, support from the U.S. government has included not just the offer of U.S. citizenship, but financial aid to cover living expenses while in Europe, travel costs while en route, and resettlement costs here in the United States.

Over the past two years, however, something has happened to greatly complicate the situation: The Soviet Union has significantly loosened its hold on those wishing to leave. The stream of emigrés ebbed and flowed with Soviet policy for more than two decades. Recently, however, the flow became a torrent. Whether this stemmed more from U.S. diplomatic efforts or from factors internal to the Soviet Union, the fact remains that by last fall the United States found its procedures for accepting Soviet refugees—and the resources to help them—virtually overwhelmed. The dilemma that emerged so suddenly, and which remains hotly debated even now, was this: How can the United States make good on an implicit, long-standing offer of help to any Soviet refugee, when suddenly there are *so many of them?*[1]

> **The dilemma that emerged so suddenly, and which remains hotly debated even now, was this: How can the United States make good on an implicit, long-standing offer of help to any Soviet refugee, when all of a sudden there are so many of them?**

How many? By October 1989, the number of Soviet emigrés seeking access to the United States had reached some 10,000 *a month*, in stark contrast to the 20,421 admitted to the United States in all of fiscal year 1988 and the mere 3,694 admitted during fiscal year 1987.

The exit route these people followed was known as the Vienna-Rome pipeline. Inside the Soviet Union, they would apply to the proper authorities for exit visas and, if lucky enough to get them, would travel first to Vienna and then on to Rome, where they would formally apply for refugee status at INS. The pipeline had worked smoothly enough when the numbers were smaller. But now the numbers were enormous, and how much higher they would go was anybody's guess. Not only did the United States lack

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control over the volume of people entering the pipeline, it lacked any way of knowing how many more were on the way.

Another troublesome fact stemmed from the administration's decision in August 1988—based on the burgeoning number of applicants—to review Soviet refugee applications on a case-by-case basis, rather than to accept virtually all Soviet refugee claims on face value. As a result, some claims of Soviet emigrés already out of the Soviet Union and now in Italy were being denied. The growing population of Soviets in Italy—both those awaiting processing and those altogether stranded—was of increasing concern to American and Italian officials.

For these and other reasons, the State Department in September 1989 announced that it would immediately close the Vienna-Rome pipeline and establish a new set of application and processing procedures. The first major change was that Soviet citizens seeking refugee status would have to apply at the American Embassy in Moscow—that is, *before* they left the Soviet Union. The second major change was that—for the first time—the United States itself would impose limits on the number of Soviets to be admitted:[2] In fiscal year 1990, 50,000 would be granted refugee status, with limited additional admissions under the Attorney General's discretionary parole authority.[3]

By imposing new procedures and a firm ceiling on the number of Soviet immigrants, the administration hoped to bring some order to the migration of Soviets to the United States—a process that had been wholly dependent on the emigration policies of the Soviet Union, and that was breaking down under the burden of so many new emigrés. But by putting a cap on Soviet immigration—thereby helping to solve some administrative and financial problems—the United States may have begun to deny tens of thousands of Soviet citizens the opportunity to leave the Soviet Union—thereby adding to some delicate political ones.

The way it was

The September 1989 announcement was State's response to a billowing bureaucratic nightmare. Here is what it confronted.

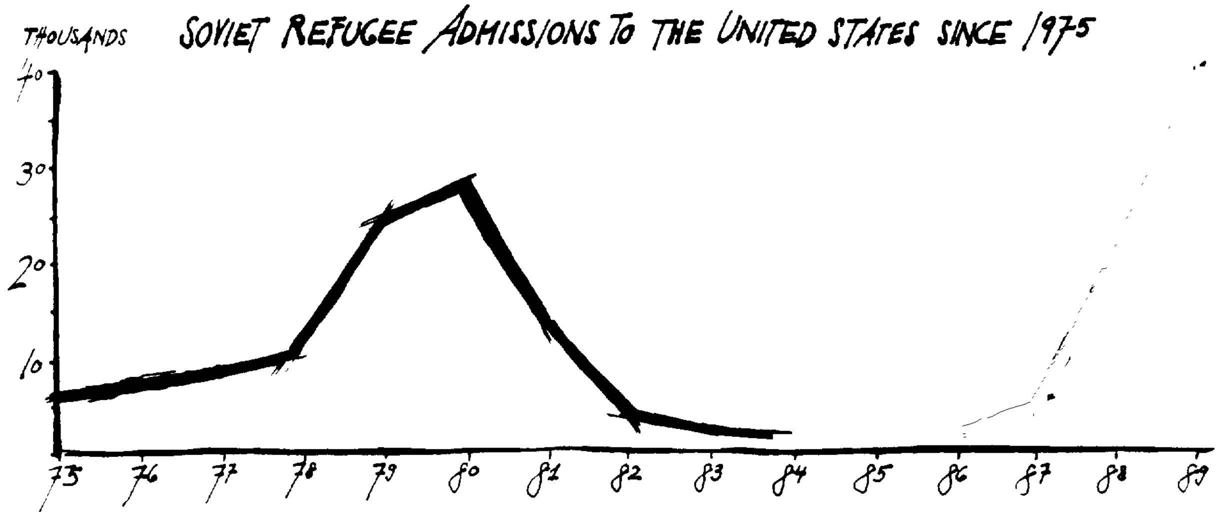
The first stop for Soviet emigrés is Vienna,[4] where voluntary agencies, such as the Hebrew Immigrant Aid Society, give them assistance. Soviet

Jews are met in Vienna by an Israeli government representative; if they decide to emigrate to Israel, they are routed directly there.[5] Soviet emigrés who choose the United States are provided food and lodging and routed to Rome for processing by INS. There, once more, voluntary agencies meet them; transport them to temporary lodgings; and provide food, shelter, and other necessary care during their stays. The voluntary agencies also help them prepare for their all-important INS review. Each applicant's case is examined and decided by an INS officer; only after the INS interview does the applicant learn if he or she has been accepted for entry into the United States as a refugee, been denied entry entirely, or been considered for entry under the Attorney General's parole authority.

Those who are granted refugee status are processed for travel and flown to the United States where, once again, voluntary agencies greet them and help get them settled. Others, denied refugee status but offered resident alien status under the Attorney General's parole authority, also fly to the United States (but without financial assistance from the government), and are met by individuals or organizations that have pledged responsibility for their welfare. Still others, either having been denied access to the United States or having chosen not to accept parole offers, are left to their own devices in Italy.

The flow of Soviet emigrés into Vienna and on to Rome began to grow appreciably in fiscal year 1987, and then dramatically in fiscal year 1988. (See figure 1.) By January 1989 (three months into fiscal year

Figure 1



1989), State Department officials were anticipating over 100,000 applications—about half of them coming through Rome—by the end of the fiscal year. By July, the number of applications had already exceeded 32,000 in Rome and 38,000 in Moscow. When the fiscal year ended in September, 39,553 Soviet refugees had been admitted to the United States. The great majority of these were Jews and Evangelical Christians coming through Rome; fleeing a history of persecution in the Soviet Union, members of these two groups were usually granted refugee status by INS. (By contrast, most Soviets who were applying at the American Embassy in Moscow were Armenians. As a group, they were not fleeing persecution and generally were not granted refugee status.)[6]

The rapidly increasing number of applicants moving through the Vienna-Rome pipeline strained the resources available to help them. The voluntary agencies, even with financial help from the State Department, were hard pressed to keep up. During fiscal year 1989, the State Department—funding food, lodging, and medical expenses for the refugees, and also reimbursing the voluntary agencies for their assistance to each approved refugee—spent $85 million on refugee processing in Vienna and Rome.[7]

The rapidly increasing number of applicants moving through the pipeline strained the resources available to help them. The voluntary agencies, even with financial help from the State Department, were hard pressed to keep up.

Money aside, by early 1989, the influx of Soviet emigrés into Rome had swamped the capacity of the voluntary agencies and INS to keep them moving. In response, both the voluntary agencies and INS increased the size of their staffs substantially. Yet by July 1989, the backup in Italy amounted to some 12,000 persons in various stages of processing. By the end of September, that number had grown to about 15,000, with an additional 12,000 in Vienna awaiting travel to Rome.

Not surprisingly, the strain began to show in Italy itself. Many of the Soviet emigrés enduring the long processing cycle in Rome—typically 60 to 90 days—were housed in the small seaside town of Ladispoli, Italy. For Ladispoli's residents, the influx of foreign transients created housing shortages and was in other ways troublesome and disruptive—all the more so because it just kept growing.

Another problem lay with the increasing number of Soviet emigrés who, having been denied refugee status, were unwilling or unable to accept a parole offer as an alternative. Some declined parole status under the rationale that to accept it would be a tacit admission that their group had not suffered persecution as a class in the Soviet Union. Others did not have relatives or contacts in the United States who could provide the required stateside affidavits of support. As of July 1989, about 4,400 Soviet emigrés in Italy had been denied refugee status and been offered parole. According to INS, at that time only 117 had accepted the offer and left for the United States. Those who stayed behind had little choice but to enter the Italian labor market as illegal aliens.[8]

The way it is

Clearly, then, there were several pressing reasons behind the decision to close the Vienna-Rome exit route. The dramatic rise in the number of Soviet emigrés had led to an equally dramatic rise in processing costs and to tremendous strains on the system. The pipeline had never before accommodated so large a volume of refugee applicants, and no one could predict with certainty whether their numbers would continue to rise or drop off. The levels already reached had led not just to thousands of Soviet emigrés enduring lengthy delays in Italy while their cases were processed, but to the specter of large numbers of them being stranded entirely.

By now the effects of the decision are being felt. For one thing, the United States has gained control over the number of refugee applicants entering the system: State and INS can now decide how many applicants will be interviewed and how many refugees will be admitted. Processing costs for each refugee should fall by more than one-half, as there will be no need for feeding, sheltering, and caring for applicants, as had been the case for those processed in Vienna and Rome. And there will no longer be large numbers of Soviets citizens lingering at Ladispoli and Rome for processing.

For the prospective applicants themselves, there are some advantages: They can now apply for refugee status—and get a decision—without having to disrupt their lives by first applying for and receiving visas from their own government, and then packing up and leaving their country in a state of uncertainty. Under the new, Moscow-based system, those denied refugee status can return to their homes without having burned their bridges behind them.

But there are disadvantages for them as well. Already, there is a growing backlog of applications at the American Embassy in Moscow. And because of various priorities now being assigned to those wishing to emigrate, many may not be interviewed at all. Also, because of the volume of applicants, postinterview processing of approved applicants may keep them in the Soviet Union for as long as six months after their applications have been approved. For successful applicants, all this may add up to a year's processing time from application to embarkation—something of particular concern to Soviet Jews at a time when Soviet anti-Semitism is reportedly on the rise.

The United States has signaled that it either cannot or will not accept all who would leave the Soviet Union. Many of those waiting in Moscow call this the abrogation of a promise. Is it?

Long waits may be troublesome enough, but the most profound effect on Soviet emigrés will be that not as many of them will be coming to America as probably would have had the Vienna-Rome pipeline been left open. Fifty thousand refugees and several thousand more eligible for parole status: These are sizable numbers, but they do not match the estimated 800,000 Soviet citizens who will apply for admission to the United States during fiscal year 1990.

If they don't come to the United States, where might they go? For Soviet Jews, the most prominent alternative is Israel.

This is where the administration's attempt to solve one problem has begun to stir up another. The Israelis are pleased with the influx of Soviet Jews, who number some 1.8 million and are the last great source of Jews to populate Israel. But Israel's adversaries, not surprisingly, are not so pleased. And the problem is doubly complicated by the possibility that the rising number of Soviet Jews entering Israel will settle in the occupied territories. It is not just Israel's adversaries, but its ally the United States, who oppose that practice. The United States now has a tangled diplomatic problem to deal with.

And it has another as well. The administration has closed the Vienna-Rome pipeline and effectively capped the number of Soviet citizens who will be admitted to the United States. This is a signal that the United States either cannot or will not accept all who would leave the Soviet Union. Many of those waiting in Moscow call this the abrogation of a promise. Is it?

In a sense, the United States may be the victim of its own good fortune. Having waited years for this window of opportunity, the nation must now make the most of the situation while keeping an eye on finances, politics, diplomacy—and its conscience. •

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1. GAO's work on matters relating to Soviet refugees began in November 1988 and has included several reviews of policy and processing issues. The latest is entitled *Soviet Refugees: Processing and Admittance to the United States* (GAO/NSIAD-90-158, May 9, 1989). While the authors were significant contributors to these reports, their views as expressed in the *GAO Journal* are not necessarily those of GAO.
2. The United States has traditionally set yearly refugee admission levels on a region-by-region basis—the Soviet Union included. For years, however, the practice has been to accept all Soviets who could obtain permission to leave their country, regardless of the numbers. If individuals were not accorded refugee status, then offers of parole would be made instead.
3. Soviet citizens entering the United States under the Attorney General's parole authority do not receive travel, medical, or resettlement benefits. Until recently, parolees were not given the option of eventually obtaining U.S. citizenship. But with passage of Public Law 101-167 in November 1989, that right was extended to all Soviet parolees.
4. Because there are still Soviet emigrés in the Vienna-Rome pipeline, we have chosen to use the present tense in describing it. The reader should keep in mind, however, that the effect of the September 1989 State Department decision has been to phase out the practices we are describing.
5. Over the past two years, more than 90 percent of Soviet Jews arriving in Vienna have chosen to travel to the United States rather than Israel. In fact, most of the Soviet refugee applicants in Rome during this time have been Jews.
6. The legal basis of U.S. refugee admissions is the Refugee Act of 1980, which embodies the American tradition of granting refugee status to groups suffering or fearing persecution. For purposes of the U.S. refugee admissions program, the act adopted the definition of "refugee" contained in the United Nations Convention and Protocol relating to the Status of Refugees. In general, a refugee is one who has suffered persecution, or has established a well-founded fear of persecution, on account of race, religion, nationality, membership in a particular social group, or political opinion. The full definition may be found in Section 101(a)(42) of the Immigration and Nationality Act, as amended.
7. This figure does not include the costs of resettling refugees in the United States—costs that are funded by the U.S. Department of Health and Human Services.
8. Soviet emigrés in the Vienna-Rome pipeline are admitted to Italy, not as resident aliens, but rather as transients for purposes of resettlement in other countries, primarily the United States.

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Beverly Ann Bendekgey

SHOULD WOMEN BE KEPT OUT OF COMBAT?

Combat exclusion laws don't fulfill their objectives. Maybe their objectives are the problem.

DURING THE U.S. military action in Panama last December, a platoon of military police exchanged gunfire with Panamanian soldiers at an attack-dog compound near Panama City. This incident was nothing out of the ordinary—except that the U.S. platoon was led by a woman, making this the first modern instance of American women engaging hostile troops in combat. Current laws and regulations exclude women from direct combat roles, but there has been a long-standing debate—reopened by the recent events in Panama—over whether these exclusions should be maintained.

In the 42 years since the act was passed, dramatic changes have taken place in the way wars are fought, blurring distinctions between combat and noncombat roles as well as between safe versus high-risk areas.

The laws governing women's role in the armed forces have been on the books for more than 40 years. To recognize the contribution that women made to the military during World War II, Congress passed the Women's Armed Services Integration Act of 1948, which authorized career opportunities for women in the regular and reserve forces. The act made it possible, for the first time, for women to pursue military careers; it also included several restrictions, including what are known as the combat exclusion laws. Today these combat exclusion laws prohibit the assignment of women to aircraft or naval vessels engaged in combat missions. (Because the Women's Army Corps existed until 1978 and had its own restrictions, there was no need in 1948 for statutes covering the Army.)

In the 42 years since the Women's Armed Services Integration Act was passed, many significant changes have occurred that raise serious questions about the extent to which combat exclusion laws can be effectively applied. For one thing, the number of women in the military has soared to nearly 11 percent of all forces, a result largely of the removal in 1967 of the 2-percent ceiling on women in the military and the switch in 1973 from a draft to an all-volunteer force. This increase in the number of women has meant that a greater proportion of military personnel are barred from fully participating in military action. In addition, a general expansion of professional opportunities for women—both military and civilian—has encouraged frequent challenges to the job restrictions imposed by the combat exclusion laws. Finally, dramatic changes in communication and weapons technology have significantly altered the way wars are fought, blurring distinctions between combat and noncombat roles and between safe versus high-risk areas.

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The laws' rationale

The existing combat exclusion laws do not directly address the issue of prohibiting women from engaging in combat. What they say is: Women shall not be assigned to Air Force and Navy aircraft or naval vessels "engaged in combat missions." The statutes neither state their underlying objectives nor define "combat mission."

The exclusion laws do not contain a statement of their objectives. Here are some possibilities: to address concerns about women's ability to fight, to codify attitudes about what roles are "acceptable" for women, and to protect women from the hazards of war.

In implementing the laws, the services have tried to fill in these gaps. For one thing, they have tried to determine what might be the laws' unspoken objectives.[1] Possible interpretations of these include: to address concerns about women's ability to "fight," to codify attitudes about what roles are considered "acceptable" for women, and to protect women from the hazards of war.

In addition, the services have established definitions of what constitutes a combat mission. The Air Force, for example, defines combat mission aircraft as those whose principal mission is to deliver munitions against an enemy. Women, therefore, cannot serve on fighter or bomber aircraft, such as the F-4, the F-16, and the B-52. Because the Air Force interprets the law as intended to protect women, it closes other assignments to them on the basis of risk of exposure to hostile fire and capture. Fighter reconnaissance aircraft such as the RF-4, for instance, are closed to women because their usual mission is to fly over enemy territory before and after attacks.

The Navy defines combat mission aircraft and vessels as those that seek out, reconnoiter, and engage the enemy. Accordingly, women may not be permanently assigned to such ships as destroyers, submarines, and aircraft carriers, or to the aircraft associated with carriers. In addition, because an aircraft carrier task force can have a mission as a group, the supply ships that routinely travel with the carrier group are also closed to women.

The restrictions that the Navy imposes also apply to the Marine Corps, which does not assign women to units that will deploy on combat mission ships or to direct combat units. Marine Corps policy does acknowledge, however, that women may be assigned to support roles that could become engaged in defensive combat during an enemy attack.

Although the role of women in the Army is not covered by statute, the Army bases its assignment policy for women on its interpretation of the intent of the laws for the Air Force and the Navy. Women in the Army may not be assigned to those jobs most likely to engage them in direct combat, the risk of which is assessed on the basis of job duties, unit mission, tactical doctrine, and battlefield location. Battlefield location, according to Army officials, has the greatest impact on this risk assessment.[2] As a result, women are excluded not only from direct combat positions but also from some combat support positions that are expected to be near the front line.

Until recently, the services used different risk levels to identify the noncombat positions that would be closed to women. In 1988, however, the Department of Defense standardized the criterion for identifying which noncombat positions may be closed. The risk rule, as it is called, assumes that protecting women is an objective of the combat exclusion laws. The rule states that women should be excluded only from those noncombat positions that are exposed to risk that is equal to or greater than that faced by associated combat units. The immediate impact of the risk rule was to open several thousand more positions to women.

Problems and inconsistencies

The services have made extensive efforts to apply the combat exclusion laws appropriately and effectively. But the changes in warfare that have occurred since 1948 raise questions about whether that goal is achievable. Despite several revisions in service policies, women are still barred from some fighting positions but not from others, protected (to varying degrees) in some positions but highly exposed to danger in others, and allowed to perform some tasks not traditionally assigned to women while prohibited from performing others.

Consider, for example, the impact that the laws have on a woman in the Air Force. She may "deliver munitions" against an enemy by firing a land-based missile from U.S. or European soil—but she may *not*

deliver munitions from an F-16. The restriction seems designed to "protect" this woman. But it's difficult to judge which of these two positions is actually exposed to the greater danger; land-based missiles, after all, would be targets in the event of war. Furthermore, the degree to which a woman is "protected" in either situation depends not just on U.S. capabilities but also on enemy capabilities—something beyond this country's control.

The Navy provides another example of the difficulties inherent in applying the combat exclusion laws. Naval vessels include 37 combat logistics force supply ships. Of these, 24 normally shuttle between storage depots and the ships being supplied, while 13 usually travel continuously with a battle group, such as an aircraft carrier task force. In December 1987, the Navy announced that it would admit women to the 24 shuttle supply ships. Women would still be excluded, however, from the 13 supply ships that travel with battle groups, since these ships share the battle groups' missions. Application of the Defense Department's risk rule sustained this decision, since the 13 supply ships that travel with battle groups were judged as being exposed to the same degree of danger as the ships within that group.

Since these supply ships are not, in themselves, combat mission ships, the only purpose for closing them would seem to be to protect women. It is difficult to determine, however, which supply ships are more exposed to danger—those that travel with battle groups and therefore can avail themselves of the protection of, say, an aircraft carrier task force, or those that travel back and forth between combat groups and storage depots. A risk assessment is made all the more sensitive by current military strategies and tactics, which increasingly emphasize attacking supply lines as a way of decreasing an enemy's fighting capacity.

If the exclusion laws' objectives are indeed unattainable, then the primary effect of the laws seems only to be an arbitrary limitation of opportunities for women in the armed services.

The combat exclusion laws may have originated in part from concerns about women's ability to fight. This may make sense in the cases of the Army and the Marine Corps, some of whose members are expected to be able to engage in hand-to-hand combat requiring a level of physical strength that, some would say, women are not generally capable of attaining. But the laws themselves explicitly close aircraft and ships, where there would be little if any dispute about women's capabilities. Furthermore, the Marine Corps now includes defensive combat in basic training for women; one wonders why, if women can be trained for defensive combat, they cannot also be trained for offensive combat. The U.S. military action in Panama also highlights the difficulty in clearly defining combat and noncombat roles in today's military environment; as mentioned earlier, the debate over whether Army women were or were not in combat in Panama centered on the responsibilities and actions of military police units containing women.

As long as assignments for women produce these varying results, the apparent objectives of the exclusion laws are not being fulfilled. Perhaps they cannot be fulfilled. If the laws' objectives *are* indeed unattainable, then the primary effect of the laws seems only to be an arbitrary limitation of opportunities for women in the armed services.

Possible revisions

The Defense Department's risk rule, which stipulates that only those noncombat positions involving risks as great as those experienced in associated combat positions should be closed to women, represented one attempt to iron out inconsistencies in the implementation of the combat exclusion laws. An earlier attempt was made in 1987, when Senator William Cohen and former Senator William Proxmire introduced legislation that would have barred women only from "fighting" positions, thereby opening all noncombat positions regardless of their exposure to danger. The bill died without a hearing.[3]

Both these efforts raise continuing questions about the feasibility of establishing a workable law for keeping women out of combat. It is not clear that excluding military women from some combat and noncombat jobs really provides them with an added degree of protection. For one thing, it is difficult to define a context in which *anyone* in today's military can be protected from the dangers of war. And, as was evident in Panama, civilians are at as much risk as military personnel. Furthermore, although the risk rule's basic criterion seems sensible, it may not provide the same degree of protection across the services because of the different ways in which the services fight.

The exclusion laws close jobs that provide experience crucial for promotion—especially at the higher and general officer grades. Women have less opportunity both to contribute to the military and to further their own professional development.

Consider, for example, the contrasts between a Navy aircraft carrier task force and an Air Force base in Europe. No women may be assigned to any of the ships in an aircraft carrier task force because the group, by definition, has a combat mission. (As mentioned earlier, application of the risk rule supported the closing of the supply ships that travel with the carrier group.) Many women would be stationed, however, at a U.S. air base in Europe. The main task of a carrier task force is the launching of the carrier's aircraft, and the main task of a U.S. air base is the launching of its aircraft. The Navy unit moves; the Air Force unit is landlocked. Both units have ways of defending themselves from enemy attack. Both would be primary targets in a war. Is one unit at higher risk of attack than the other? Is one unit more vulnerable than the other? Are Navy women afforded more protection than Air Force women? These questions are difficult, perhaps impossible, to answer.

The Cohen/Proxmire bill's dismissal of protection as an objective of the combat exclusion laws raises the question: Is it logical to close positions that women may be capable of filling if they can, by law, still be exposed to the greatest risks? For example, under the current law, the Air Force allows women to fly the tankers that refuel (in the air) the long-distance F-111 bomber—the aircraft used in the attack on Libya. If the tanker is shot down before it gets to the bomber, the bomber cannot reach its target. Many people would argue that the tanker faces a risk of attack at least as great as that faced by the bomber. If protection is ruled out as an objective of the combat exclusion laws, what is the rationale for prohibiting qualified women from flying the bomber? What is the rationale for closing nearly 6,000 positions on an aircraft carrier if only a small fraction of that number actually crew the aircraft?

The laws' effects

The continued existence of the combat exclusion laws for women denies the services the opportunity to most efficiently and effectively manage their human resources. For instance, because combat mission aircraft are closed to Air Force women, the number of women who can enter pilot training is limited; this may result in highly qualified women being passed over for less qualified men. Last December's military action in Panama provides another example: The 82nd Airborne Division, deploying from Fort Bragg, North Carolina, left behind a woman intelligence analyst whose area of expertise was Panama.

The exclusion laws also close jobs that provide experience crucial for promotion—especially at the higher and general officer grades. Women have less opportunity, therefore, to contribute to the military and to further their own professional development. This may help explain why, at career decision points, women are more likely to leave the service than men are.

In sum, problems seem inherent in the implementation of any kind of combat exclusions in today's warfare environment. Moreover, the existing combat exclusions limit the military's ability to manage its forces and to fully utilize its human resources. In light of these problems, one must question whether combat exclusion provisions are feasible or are in the military's best interest. •

1. See *Combat Exclusion Laws for Women in the Military* (GAO/T-NSIAD-88-8, Nov. 19, 1987), pp. 4-10. While the author was a substantial contributor to this testimony, her views as expressed in the *GAO Journal* are entirely her own and do not necessarily reflect the official position of GAO.

2. GAO/T-NSIAD-88-8, p. 9.

3. Congressman William Dickinson submitted the same proposal in the House of Representatives. The bill was never reported out of committee.

E. Gerald Corrigan

REFLECTIONS ON THE 1980s

IN BOMBAY, INDIA: The Sixth Deshmukh Memorial Lecture, January 1990

The Deshmukh Memorial Lecture was named for Dr. C.D. Deshmukh, first Governor of the Reserve Bank of India. The speaker this year was E. Gerald Corrigan, President of the Federal Reserve Bank of New York. Mr. Corrigan said that in his address he hoped to recount some of the lessons of the 1980s and to discuss "how those lessons might help us in the 1990s as we seek to secure sustained noninflationary growth in our national and international economic systems." He delivered his remarks, which the GAO Journal reproduces here, on January 11 in Bombay.

EVEN THE MOST cursory review of the broad sweep of economic and financial developments over the past 10 years serves as a forceful reminder of just how much the world economy had to digest in a relatively short period of time. The decade began with much of the world caught up in a virulent inflation the likes of which many countries had not experienced in a peacetime setting in decades. Not surprisingly, that burst of inflation gave rise to major imbalances in economic performance, culminating in a deep recession which for a number of countries—my own included—was the most severe economic downturn since the 1930s. In that same period, the debt problems of many developing countries exploded onto the scene, bringing with them an enormously complex series of economic and social problems for the debtor countries but also placing truly dangerous strains on the international banking system.

Even as the world economy began to recover from the recession of the early 1980s, it was quite clear that powerful forces—some technological, some political, and some competitive—were to radically transform the economic and financial setting in which governments, businesses, and households would have to manage their economic affairs. In few places were those changes more apparent than in financial markets, where the interrelated forces of technological change, innovation, and deregulation induced changes of several orders of magnitude in the manner in which national and global financial markets operate. Partly as a result of these forces, volatility—at times of extreme proportions—became the order of the day in financial markets. The stock market drop of October 1987 provided a vivid, indeed somewhat frightening, reminder of the risks to our collective economic well-being that can be associated with excessive churning and volatility in financial markets.

Yet, despite the LDC debt crisis, the stock market shock, and numerous other disruptions in banking, financial, and commodity markets, overall economic performance—especially in the industrialized world—panned out remarkably well over most of the decade. Indeed, in a number of countries—the United States included—the duration of the economic expansion has been of record proportions. More generally, the growth in world trade has continued to outpace the growth in overall output and protectionist pressures have been reasonably well contained even in the face of truly massive imbalances in trade and current account positions.

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Outside of the major industrialized countries, developments in the 1980s were distinctly more mixed. To be sure, a number of newly industrialized countries—notably on the Pacific rim—showed powerful economic growth over the period and in the process chalked up very large trade and current account surpluses. Perhaps the most graphic example of this is to be found in the case of Taiwan, whose foreign exchange reserves are now significantly greater than those of Saudi Arabia at the peak of oil prices in the early 1980s. In a number of other important cases, major economic strides were made. In this regard, India certainly stands out as one of the countries that has made major gains, as illustrated by both the pronounced acceleration in the trend rate of growth in Gross Domestic Product and ongoing efforts to increase efficiency and competitiveness. But, for many countries, especially in Africa and Latin America, the 1980s were indeed a dark decade. Sadly, in more than a few instances, living standards today remain below levels that had been achieved at the end of the 1970s and in the early 1980s. Nevertheless, in a growing number of heavily indebted developing countries, important progress has been made, especially in the recent past.

In short, the events of the 1980s in much of the developing world must, on balance, be regarded as disappointing. On the other hand, we can claim a measure of satisfaction with developments in the industrialized world. But that sense of satisfaction must be tempered. For example, it would be tempting to conclude that we have somehow come to master our economic fate such that things that at one time seemed to be a matter of great concern are no longer particularly important. For example, I am struck by the number of commentators in the United States who look back at the 1980s and conclude that concerns about the United States' internal and external deficits were misplaced. After all, they would argue, these deficits did not stand in the way of the longest peacetime expansion in history, during which the underlying inflation rate has remained essentially stable at 4 percent to 4.5 percent for several years running.

NOT ONLY DO I CONTINUE TO VIEW THE U.S. INTERNAL AND EXTERNAL DEFICITS AS UNSUSTAINABLE OVER TIME, BUT I SURELY DON'T FIND AN INFLATION RATE OF 4 PERCENT TO 4.5 PERCENT IN ANY WAY CAUSE FOR CELEBRATION.

It will, I am sure, come as no surprise to you when I say that I do not share that view. Not only do I continue to view the U.S. deficits as unsustainable over time, but I surely don't find an inflation rate of 4 percent to 4.5 percent in any way cause for celebration. That, of course, is simply another way of saying that the impressive performance of the U.S. and other industrialized countries' economies over much of the 1980s cannot be allowed to lull us into a false sense of comfort and security about prospects for the 1990s.

Our success in managing economic and financial affairs in the 1990s will, in no small way, depend on the extent to which we take advantage of the experience of the 1980s in framing approaches to economic policy. Looked at in that light, it seems to me that there are several very important lessons to be learned from what we experienced in the 1980s.

The first lesson of the 1980s could probably apply to almost any decade, but may be especially relevant for the 1990s, and that is the utmost need to be cautious about the extremes of economic doctrine and theory. Indeed, whether we are speaking of the Keynesian, the monetarist, the supply sider, the rational expectationalist, or any other school of thought, single-minded approaches to public policy can be very misleading, if not dangerous. Let me cite just two examples in support of this view. First, there can be no doubt that cuts in tax rates in the United States that were conceived in the context of a supply side view of economics played a major role in the record expansion in the United States. However, it is also true that those same tax cuts contributed to the budget deficit problem just as it can be said that the major gains in productivity and savings

THE SECOND LESSON OF THE 1980S IS THAT INFLATION CONFLICTS WITH STABLE AND GROWING ECONOMIES. MOREOVER, THE COSTS OF CORRECTING INFLATION, ONCE IT HAS TAKEN HOLD, ARE VERY GREAT INDEED.

suggested by the supply side school simply did not materialize. Second, the enormous shifts in monetary velocity that we experienced at times during the 1980s make it quite clear that the pursuit of any strict monetarist approach to monetary policy would have been disastrous. That, of course, is not to say that the supply side or monetarist approaches are not helpful schools of economic thought, for clearly both have much to offer. But, it *is* to say that economics and theology don't mix.

The second important lesson of the 1980s is the compelling evidence that inflation is fundamentally in conflict with stable and growing economies. Whether we look at the industrial world, the developing world, the East, the West, the North, or the South, what we see is that reasonable performance on the inflation front is associated with higher levels of overall economic performance, while high and rising rates of inflation are universally associated with instability and subpar patterns of economic activity. Moreover, it is also true that the economic and social costs of correcting inflation, once it has taken hold, are very great indeed. Taking the United States as an example, there is no question in my mind that the depth of the 1981-82 recession was directly related to the severity of inflation that preceded it, just as I have no doubt that the extraordinary duration of the current expansion is importantly related to our relative success in keeping the inflation rate from accelerating in any significant way.

As another example, I would also argue that many of the root causes of the debt problem which still plagues so many developing nations today can be traced back to the inflationary environment of the late 1970s and early 1980s. Similarly, I would argue that it is no coincidence that the individual debtor countries in the developing world that have had the greater measure of success in working their way out of the debt problem are the ones that, on balance, have had the best performance in coping with inflation.

Against that background, one would think that broad-based public and political support for monetary policies designed to keep inflation rates in check would be a given. Unfortunately, I do not sense that is the case, especially when it comes to support for preemptive policies that work to head off rises in the inflation rate before they are actually reflected in statistics and in behavior and expectations. In other words, while the evidence is overwhelming that inflation should be viewed as the economic equivalent of public enemy number one, there is often little or no public support for policies aimed at restricting rises in the inflation rate before they become a reality. A little inflation or a little more inflation always seems so benign as it occurs. But as we all have learned the hard way, there is no such thing as a little more inflation because once the process takes hold, it cumulates.

In my judgment, this is the first and foremost reason why central banks should have an appropriate degree of independence from short-term political pressures, even though I fully recognize that the degree and form of that independence will vary from country to country. In that connection, I draw some comfort from the fact that in a number of countries, ranging from Chile, to New Zealand, to South Korea, to Sweden, efforts are now under way, or have been recently completed, to enhance the degree of independence of their central banks. In this regard, let me also add that I find it more than a bit ironic that there are some in the United States who seem to want to go in just the opposite direction by reducing the independence of our central bank.

ANOTHER IMPORTANT LESSON OF THE PAST DECADE IS THAT INTERNATIONAL COOPERATION ON ECONOMIC AND FINANCIAL AFFAIRS IS NOT ONLY NECESSARY BUT CAN BE MADE TO WORK.

A third important lesson to be learned from the 1980s is that international cooperation on economic and financial affairs is both necessary and can be made to work. For example, in the 1980s, we witnessed several extraordinary examples of international cooperation at its best, including the initial efforts to contain and stabilize the problems growing out of the LDC debt crisis, the emergence of internationally accepted bank capital standards, the extraordinary speed and relative ease with which the European economic integration has proceeded, and the close collaboration among financial authorities in the time frame of the October 1987 stock market break.

More generally, I regard the post-Plaza Accord efforts of the G-5 and G-7 aimed at improved coordination of macroeconomic policy as a distinct plus, even though I recognize that that process is not without its critics. To some extent, however, the critics of the process may have exaggerated expectations about what realistically can emerge from these efforts. At the extreme, there are those who would seem to regard any meeting of the G-7 that does not yield some dramatic policy initiative as a failure. I simply don't see it that way. To the contrary, from my experience, the simple fact of face-to-face discussion of issues of mutual concern on matters pertaining to economic policy produces the highly valuable result of making all the parties to the discussion more sensitive to the problems and perspectives of others. Accordingly, the measure of success for a meeting of the G-7, the Interim Committee, or the G-10 Central Bank Governors in Basle is not [illegible] whether there even is a communiqué. Rather, the measure of success is the ability of the participants to grasp more fully all the dimensions of their own situation and the situation of others and their ability to frame their own policies in a manner in which the sensitivities to the problems and perspectives of others loom larger rather than smaller. Looked at in that light, I firmly believe the broad process of collaboration and cooperation on economic and financial matters is necessary and desirable and that our success in such efforts during the 1980s was a significant net plus for the well-being of the world economy.

A fourth important lesson of the 1980s is that the globalization, innovativeness, and deregulation of financial markets have proven to be very much a two-edged sword. On the one hand, there is little doubt that these developments have expanded the choices for savers and investors, reduced the cost of financial transactions, improved the allocation of saving and investment nationally and internationally, and increased the competitiveness and efficiency of financial institutions and financial markets. But, and this is a very large but, there is also no doubt—at least in my mind—that these same forces have also increased volatility in financial markets and introduced new and highly complex elements of risk—possibly even increasing systemic risk—while at the same time contributing to the apparent condition of overcrowding we are seeing in international and wholesale financial markets. Another very troubling phenomenon that seems to grow out of this process is the manner in which credit flows to individual borrowers—whether a company or a country—can suddenly stop. That is, up to a point, credit flows are almost automatic even as the creditworthiness of the borrower may be deteriorating. But once the threshold of concern about creditworthiness is reached, the flow of credit can come to a full and harsh halt. From one perspective, that may illustrate the marketplace working at its best, but from another, it may imply that we have a financial system which is more prone to rather abrupt and potentially destabilizing shocks.

Leaving that particular issue aside, it seems to me that the characteristics of financial markets and institutions as they have evolved over the decade of the 1980s leave an enormous burden on those who manage and those who supervise such markets and institutions. This burden is all the more compelling when evident pressures on profit margins and spreads can give rise to overly aggressive, if not outright speculative, business strategies on the part of individuals or individual firms. In these circumstances, it seems to me important that central bankers and other supervisory authorities should not feel the slightest bit apologetic—even in this age of deregulation—about insisting that prudential standards in such areas as capital adequacy, liquidity, avoidance of concentrations, and the presence of strong risk management and controls systems are the first order of business for financial institutions.

The final major lesson of the 1980s I want to touch on may be the most dramatic, and that, of course, would be the sweeping trend toward more open, more competitive, and more market-oriented economic systems at the national level. Even before the recent stunning developments in Eastern Europe and the Soviet Union, the handwriting was on the wall as the gap in performance between more open and more market-oriented economies relative to closed and governmental controlled systems became more apparent, as illustrated, for example, by the comparative patterns of economic development in the Pacific Basin relative to Latin America. This is not to suggest that relative economic performance alone accounts for the recent astonishing turn of events in so many countries. On the other hand, and especially in this age of information technology, there can be little doubt that the relative shortcomings of tightly controlled economic systems are an important driving force in these developments. The great challenge, of course, is for the community of nations to do all that it can in support of this shift in direction—a responsibility which falls heavily on all of the major industrialized nations—with particular emphasis, in my judgment, on the United States.

Against the backdrop of those reflections on the 1980s, allow me to close with a few comments about the key priorities as we enter the 1990s. Looking first to the major industrial countries as a group, it seems clear to me that the priorities are fourfold: First, to keep inflation in check, recognizing that many if not most such countries are already in the "yellow zone" with regard to the potential for some buildup in inflationary forces. Second, to redouble efforts to reduce the massive trade and current account imbalances among these nations. This is important in its own right, but it is especially important in view of the clear and pressing need to redirect international savings flows away from countries such as the United States and the United Kingdom and toward developing countries and the nations of Eastern Europe. Third, to do all that can be done through financial support, technical assistance, and technological transfer to help narrow the gap in economic performance and living standards between the industrial countries and the other nations of the world. Finally, to strongly resist protectionist pressures and, more positively, to seek out opportunities to reduce and eliminate trade barriers, even in such politically difficult areas as services—including financial services—and agricultural products.

FOR DEVELOPING NATIONS, THE DICTATES OF THE 1990S WILL BE CAPTURED IN TWO WORDS: COMPETITIVENESS AND CREDITWORTHINESS. BOTH OF THESE PRESUPPOSE SOUND MACROECONOMIC AND STRUCTURAL POLICIES ON THE PART OF INDIVIDUAL COUNTRIES.

As for the United States itself, there are several areas of particular emphasis. For our own sake and for the well-being of the world economy, we simply must do a much better job of coming to grips with the savings imbalance in the U.S. economy. To me that means eliminating the budget deficit, even though the private savings rate may be expected to rise somewhat simply on the basis of demographics. As a corollary to this, the U.S. economy also needs a large and sustained increase in net private investment, especially in manufacturing, in order to generate the supply of exports that is critical to the shrinkage of our trade deficit. Indeed, I can see no way in which there can be an orderly reduction in the U.S. trade deficit (and a corresponding cut in our claims on the world's savings) unless a significant fraction of that adjustment takes the form of higher exports of manufactured goods—especially "high-tech" goods—to industrialized and newly industrialized nations.

For developing nations, it is very clear that the dictates of the 1990s will be importantly captured in two words: competitiveness and creditworthiness. Both of these words presuppose the pursuit of sound macroeconomic and structural policies on the part of individual countries. There is nothing new about that. What will be new, or at least different, will be the extent to which the marketplace will distinguish between strong performance and weak performance. Developing countries, by definition, need external capital flows to develop. In the 1990s, I suspect that competition for such capital flows will be especially keen in a context in which there simply will not be enough official money to go around. For that reason, the countries that stand the better chances for success will be the countries that are able to attract private capital flows, whether in the form of capital reflows, direct investment, capital market funding, or conventional bank loans. This is precisely the reason why shortsighted efforts by some countries to finance themselves by accumulating interest arrearages or by ill-conceived programs of debt reduction can be so very dangerous to their own long-run interests. That is not to say—as we have seen—that it is impossible to assemble constructive, innovative, and market-sensitive approaches to reducing debt service burdens. However, it *is* to say that where such approaches are necessary, they should

IT IS WITHIN OUR CAPACITY TO FORGE POLICIES AND PROGRAMS TO MATERIALLY ENHANCE PROSPECTS FOR SUCCESS AND PROGRESS. I, FOR ONE, SEE THE 1990S AS A TIME OF ENORMOUS OPPORTUNITY AND LOOK FORWARD TO IT IN THAT SPIRIT.

be framed in a manner that clearly is sensitive to the ongoing need to preserve constructive relationships between the individual country and private sources of fresh credit and finance. It is also to say that countries that follow sound policies which permit them to satisfy their financial obligations in a manner that strengthens their credit standing will be the ones that are much closer to the front of the long line of those seeking external financing during the decade of the 1990s.

If those are a few thoughts on priorities for the industrial nations, developing nations, and the United States in particular, there is one final thought that applies to all nations. That is, as I look to the 1990s, the need for a still higher level of international cooperation is clear. Consistent with that, I believe the case for increased financial, political, and moral support for the key multinational official institutions is compelling. Here, I have in mind not just the International Monetary Fund (IMF), the World Bank, and the Regional Development Banks, but also and perhaps especially the General Agreement on Tariffs and Trade (GATT). Our successes or failures in the Uruguay round will go a long way—for better or worse—in setting the tone for the balance of the decade. In this regard, let me also say that I would hope and expect—for both substantive and symbolic reasons—that the United States Congress will act swiftly and harmoniously to pass the legislation that is needed to put in place the U.S. share of the contemplated IMF quota increase, once the details on the quota increase are worked out. A failure to do so, even in the face of our obvious budgetary problems, would, in my view, send all of the wrong signals at just the point in time that the opportunities for progress on so many fronts are so great.

In closing, I wish I could say to you that having reasonably well navigated the unchartered waters of the 1980s, we could safely look forward to clear sailing for the 1990s. But you know and I know that's not in the charts. We also know, however, that it is within our capacity to forge policies and programs to materially enhance prospects for success and progress. We also know that if we opt for the expedient, if we concern ourselves only about today, or, even worse, if we each concern ourselves only about ourselves, we will fail. I, for one, see the 1990s as a time of enormous opportunity and look forward to it in that spirit. •

SACRED COWS AND WHITE ELEPHANTS

Graham Hancock

LORDS OF POVERTY: THE POWER, PRESTIGE, AND CORRUPTION OF THE INTERNATIONAL AID BUSINESS

New York: The Atlantic Monthly Press, 1989. 234 pp.

Hernando de Soto

THE OTHER PATH: THE INVISIBLE REVOLUTION IN THE THIRD WORLD

New York: Harper & Row, 1989. 271 pp.

By J. Allan Hovey, Jr.

Graham Hancock's *Lords of Poverty* is probably the most wide-ranging, unmitigated, angry, impressively documented indictment of international development assistance in print. Hancock's target is not just economic aid that has been diverted, inverted, or perverted, but—explicitly—economic aid "as such." It should, he says, be abolished. Ousting the lords of poverty—"the middle men of the aid industry"—would serve the best interests of both "the taxpayers of the rich countries and the poor of the South."

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Bilateral and multilateral aid projects worldwide, Hancock writes, "illustrate the same kinds of mistake being made again and again—an addiction to highly priced technologies and to grandiose and irrelevant schemes, a culpable lack of empathy for the poor on the part of staff and consultants, and repeated failures to take into account in project design the harsh realities of Third World existence."

Such mistakes have littered the Third World with the "festering carcasses of many prodigious white elephants.... Roads that end in rivers and then continue blithely onward on the other side, silos without power supplies, highly sophisticated equipment that no one can use installed in remote places, aquaculture projects producing fish at $4,000 per kilo for consumption by African peasants who do not even earn $400 a year, dams that dispossess thousands and spread fatal water-borne diseases, resettlement schemes that make the migrants poorer than they were before they left home, that destroy the environment and that obliterate tribal peoples—such blunders are *not* quaint exceptions to some benign and general rule of development. On the contrary, they *are* the rule."

"Long after the experts and professionals from the United Nations or the EEC or USAID or the World Bank have packed their bags and their cute ethnic souvenirs, boarded their aircraft and fled northwards, the ill-conceived development projects that they have been responsible for continue to wreck the lives of the poor."

As these quotations suggest, much of the evidence Hancock marshals is anecdotal. Still, the horror stories he tells are numerous and generally well documented. The projects they depict are often fabulously expensive. A billion here and a billion there, it has been said, soon add up to real money.

While foreign aid does not help the poor, Hancock writes, it does serve the interests of other parties. For one thing, it "systematically empowers and enriches the very forces that today most efficiently stifle the initiative and resourcefulness of peasants, nomads, slum-dwellers and villagers throughout the Third World." Aid projects also "meet the bureaucratic needs of the agencies themselves, the psychological and career needs of their staff, and the commercial needs of suppliers from whom equipment and services are procured."

Hancock, a former East Africa correspondent for *The Economist*, homes in primarily on the official rather than the nongovernmental programs. He castigates the "aid industry" not only for arrogance, greed, and failure, but for a largely successful coverup. This publicly funded enterprise, he claims, has been able to "wall off its inner workings from the public view," set its own goals, determine how the goals are to be sought, and in due course pass judgment on its own efforts.

But Hancock's achievement in writing this book belies that charge—the more so because much of his evidence comes from published reports of the agencies' own auditors and inspectors general. If the aid aristocracy is in trouble, it is not because they have escaped responsible evaluation, but because they have not listened or have refused to learn (a phenomenon with which GAO evaluators are not unacquainted).

American readers may be surprised by Hancock's assertion that the aid industry's "massive international exercise" in public relations has made foreign aid a "sacred cow...the least questioned form of state spending." And by the further statement that in all donor countries "*more* gets spent on overseas development every year." Between 1968 and 1990, U.S. spending on development aid (measured in constant dollars) declined by some 40 percent. In 1984, a Roper poll showed that 61 percent of Americans believed this country was spending "too much" on foreign aid.

It is nevertheless a fact that foreign aid survives in this country, despite federal deficits and budget stringencies; and there is no visible movement to do to it what Hancock recommends. For most of its nearly 50-year history, U.S. foreign aid has been defended, to a significant extent, on the grounds that it was essential to containing the spread of communism—first in Western Europe and then throughout the Third World. In light of current developments, that rationale for foreign aid has begun to lose force. Increasingly, aid will have to stand or fall on economic and humanitarian grounds. Giving aid to corrupt or repressive governments will become increasingly difficult to justify.

It is, therefore, to be expected that critiques like that of Graham Hancock will gain a more attentive and open-minded hearing. How much of Hancock's thesis is valid? Although occasionally a tad sarcastic or shrill, his attack on arrogance, greed, bloat, and imprudence in the official international aid community is largely persuasive and well-documented. Many in that community have long been aware of much that Hancock recounts. A candid, comprehensive rebuttal from various corners of that community, coupled with some rigorous self-examination, would seem to be in order.

But Hancock's indictment of economic aid "as such"—his case for simply abolishing official development assistance—is less convincing. Despite the kinds of mistakes Hancock describes, some aid efforts have lent a useful hand in the eradication of tropical diseases, the mitigation of hunger, the spread of literacy, the green revolution, the economic takeoffs of some developing countries, the reduction of infant mortality, the slowing of population growth, and the gathering attack on environmental hazards. Toward the end of the book, Hancock seems to acknowledge that some help *can* be helpful: "Perhaps when the middle men of the aid industry have been shut out it will become possible for people to rediscover ways to 'help' one another directly according to their needs and aspirations as they themselves define them, in line with priorities they themselves have set, and guided by their own agendas."

The global challenge for development "assistance" today is to sort out the real from the unreal—and to deal ruthlessly with the latter. We could be in for a bout of basic reassessment and reform. Hancock's book improves that prospect.

So also, in a different but complementary way, does Hernando de Soto's seminal study of the "informal" economy in Peru. *The Other Path* reveals in depth how the informal (sometimes called the underground or black market) economy of an underdeveloped country operates and how astonishingly complex and productive it is. In the process, the book does indeed, as Mario Vargas Llosa says in his foreword, alter "the terms of debate concerning the prerequisites for economic development, effective democratic institutions, and appropriate foreign policy toward the Third World." *The Other Path* became a best-seller in Latin America; it deserves to do well elsewhere.

What de Soto and his Institute for Liberty and Democracy propose is nothing less than a peaceful revolution that would legalize, protect, and stimulate the informal sectors of Latin American and other Third World countries. From such a revolution, they claim, would emerge genuine market economies, with all the attendant benefits of economic growth and equity, responsive government, and social stability.

This is the "other path," which de Soto contrasts sharply with both the "shining path" of Peru's Maoist guerrillas and the prevailing culture of "mercantilist" privilege that, in most of Latin America, has for too long successfully masqueraded as a market-oriented, Western-style liberal system.

The informal economy is "usually thought of as a problem: clandestine, unregistered, illegal companies and industries that pay no taxes, that compete unfairly with companies and industries that obey the law and pay their taxes promptly." But that perception, de Soto argues, is erroneous. In fact, the informal economy "is the people's spontaneous and creative response to the state's incapacity to satisfy the basic needs of the impoverished masses."

Although it has been gathering momentum for some four decades, "informalism" has only recently emerged as a threat to Peru's and the region's legal institutions. These "are still clearly mercantilist" inasmuch as "access to private enterprise is difficult or impossible for the popular classes, the legal system is excessive and obstructive, there are massive public and private bureaucracies, redistributive combines [that appropriate rather than generate national wealth] have a powerful influence on lawmaking, and the state intervenes in all areas of activity."

Peru, de Soto and his associates found, has come to be "a country in which 48 percent of the economically active population and 61.2 percent of work hours are devoted to informal activities which contribute 38.9 percent of the gross domestic product (GDP) recorded in the national accounts.... Through invasions or illegal acquisitions of land, neighborhoods sprang up which today account for 42.6 percent of all housing in Lima and are home to 47 percent of the city's population.... Lima's 91,455 street vendors dominate the retail distribution of popular consumer goods in the capital and...39,000 other vendors have managed to build or acquire 274 informal markets valued at $40.9 million.... By invading routes, informals have managed to gain control of 93 percent of the urban transport fleet, and 80 percent of its seats."

De Soto's other path would remove mercantilist obstacles and legitimize such informal enterprise. A big question is how to get Peru and similar countries onto that other path over the opposition of the entrenched military-oligarchic complex that runs things behind the scenes. Beyond drafting revisionist legislation, de Soto does not seek to address this question. It is instructive to recall that President John F. Kennedy proposed objectives similar to de Soto's in his Alliance for Progress. The effective response of Latin American oligarchs to Kennedy's program was summed up in an epigram: "Alianza, sí; progreso, no!"

Both of th[illegible]

growing effort to reform development assistance. The effort gained impetus early last year with the appearance of two reports: one from Congress, by the Task Force on Foreign Assistance; and the other from the Bush administration, by Alan Woods, the late administrator of the Agency for International Development. Alan Woods accurately summed up the situation: "Radically reshaping future official assistance programs to face new realities...must be both an immediate concern and a major long-term national priority."

With the winding down of the Cold War and the recent emergence of freely elected civilian governments in most of Latin America and elsewhere, the prospects for such reform seem brighter than ever before. It may just be that the sovereign purpose common to *The Other Path*, the Alliance for Progress, and, in its way, *Lords of Poverty*—equitable, sustainable, corruption-resistant, bottom-up development—is an idea whose time has come.

TIES THAT BIND

James Q. Wilson

BUREAUCRACY: WHAT GOVERNMENT AGENCIES DO AND WHY THEY DO IT

New York: Basic Books, 1989. 433 pp.

By Sarah F. Jaggar

What would happen to your local department of motor vehicles if it registered automobiles as efficiently as your local McDonalds sells Big Macs?

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According to James Q. Wilson, professor of management at UCLA and author of several well-known books about organizations, this is the answer: Like McDonalds, a department of motor vehicles that performed especially well would attract additional customers. But unlike McDonalds, it would not be able to draw on additional resources to serve the added clientele. Eventually, the heightened demand for its services would exceed its ability to provide them. The motor vehicles office would "fail," thereby reconfirming the public's expectations that bureaucracies are inefficient. As Wilson says, "Government management tends to be driven by the *constraints* on the organization . . . ."

This is a valid insight, and by the time we get to it in *Bureaucracy: What Government Agencies Do and Why They Do It*, we've encountered others as well. Among them: that structure in a bureaucracy really matters; that the clarity with which a bureaucracy's goals and functions are defined significantly affects the ability of its managers and workers to operate, not just effectively, but at all; that the impediments created by unclear or unpopular goals can be overcome, nevertheless, by peer expectations—a force strong enough to motivate soldiers to enter battle. Wilson points out that the culture of an organization is an important enforcer, creating, if strong enough, a sense of mission among its workers—a *feel* for the way to act.

Other parts of *Bureaucracy* explain further the constraints that limit the effectiveness of government managers and executives. Wilson explains how the government hires professionals for their expert knowledge, then denies them the right to fully use that knowledge as they see fit, because this expertise tends to encourage them to be more creative than the "rules" will allow. Experts hired into government become demoralized and distrustful of their managers, whose primary job it is to enforce the constraints.

Wilson is clearly a student—maybe even a fan—of bureaucracies. The book is filled with vignettes to illustrate his points. Some of the examples are old but still powerful, such as that of J. Edgar Hoover's imposing the culture and, hence, the operational style of the FBI. Others are virtual distillations of the frustrations bureaucrats feel when they try to get things done. For instance, Wilson relates the story of how Donald Trump could rebuild the Central Park ice-skating rink in 5 months for about $2.25 million, after the City of New York had tried for more than 6 years, spent more than $13 million, and failed.

But now to the main question: Why is it that most government bureaucracies seem not to work efficiently?

It all goes back to those aforementioned constraints—the ones managers must enforce and experts must adhere to. Wilson points out that the constraints are placed upon the bureaucracies by elected representatives (e.g., Congress) and the citizenry to ensure adherence to the multiple, conflicting, ambivalent objectives called for by the people. They include:

- multiple, inconsistent, or ill-defined organizational goals, including lack of accountability in any one person for setting those goals;
- a requirement that the bureaucracy provide "equal opportunity" to users and providers, to builders and operators, possibly at the cost of efficiency (for example, requirements that minority owned firms have a shot—or even a preference—in the awarding of contracts);
- the public's demand for fairness to all (operating in accordance with preset rules) and a flexible response to individual circumstances;
- the expectation that bureaucrats will get things done quickly, but still follow a set of intentionally limiting rules and internal controls designed to ensure deliberation and caution in spending taxpayer money; and
- the necessity for exhaustive specificity in advance of spending taxpayer money, thereby limiting innovation and flexibility in performing tasks as they develop.

In the face of these constraints, Wilson says, "modest deregulation" is the major action that would most likely improve government operations. Is Wilson's yet another voice to the effect that if only government were run more like private industry, it would be "better"? Apparently so. He argues that deregulation would "liberate the entrepreneurial energies" of bureaucrats. Even absent the discipline of a price system and a profit motive, he claims, this release of energy would generate pride in workmanship and a willingness to innovate.

Wilson calls upon the people who manage bureaucracies to take pains to understand—and to build on—their organizational cultures. They should, he says, negotiate with their "political superiors" to determine which constraints are truly necessary and which ones are not. He also suggests that authority in the bureaucracy be lodged at the lowest possible level—that is, at the lowest level at which all the essential information for decision-making is available. And he suggests that more marginal land and in cold areas where periodic crop blights had previously caused famines. As a result, in countries where the potato became a common foodstuff, populations tended to burgeon. And as reliance on the potato increased, milling declined. Weatherford traces the impact of all these factors on the industrial development of Kahl, West Germany: In Kahl, after the potato was introduced, the waterpower that had been used for milling and the extra manpower no longer needed for farming became available for use by the new factories then being built.

Another American product that stimulated technological innovation and further industrial development was cotton. Unlike its European cousin, American cotton is long-stranded and therefore much better suited for weaving into cloth. And unlike wool, American cotton could be produced in large quantities. After the invention of the cotton gin and additional innovations in spinning and weaving, American cotton triggered an increase in British trade wealth. By 1850, cotton cloth accounted for more than half of Great Britain's annual exports.

Yet few of the influences described above were directly due to Indian innovation. The most direct innovative influence came in the form of products—principally food and medicine—that Indians had discovered or domesticated. What would ethnic cooking, from Thailand to Kenya to Italy to Hungary, be without chile peppers, peanuts, tomatoes, zucchini, paprika, potatoes, avocadoes, beans, corn, and sweet potatoes? Apart from the variety in tastes they provided, these new foods filled specific gaps and improved nutrition among various populations. Furthermore, Indian medicines such as quinine have become an essential part of modern pharmacopeia.

Indian culture also directly influenced the development of America's ideology of personal freedom and egalitarianism and its federal form of government. Europeans were fascinated by Indian societies, some of which lacked rulers and central governments. Weatherford traces how reports of Indian egalitarianism influenced Enlightenment thinkers, from Voltaire to Rousseau. Some of America's founding fathers—Benjamin Franklin, George Washington, Thomas Jefferson, and Secretary of the Continental Congress Charles Thomson—observed Indian political institutions a first hand. Franklin, for example, served as Indian Commissioner and was intimately acquainted with the League of the Iroquois, which at its greatest extent controlled territory from New England to th Mississippi. In 1754, Franklin advocated to the Albany Congress that the delegates of the English colonies unite in a form of self-government similar t that of the League.

America's current governmental institutions do emulate the League in significant ways. The League united five principal Indian nations—the Mohawk, Onondaga, Seneca, Oneida, and Cayuga Each nation had a council, composed of elected delegates, that governed the nation's territory. Th grand council of the League consisted of all counci members from all the nations. The League counci had power over common concerns; it could declare war and peace, send and receive delegations, enter into treaties of alliance, and receive new member tribes. Within the League council, each member had equal power and had to depend on his powers persuasion to get the council to act.

Not only does the general outline of this organizational form persist in Congress, many specifics of the Iroquois League's organization we also introduced into U.S. government. In the League, military and civilian authority were separated; council members could be impeached; and delegates were given the floor when they spok The caucus, a Capitol Hill tradition, comes from a Indian word and is an Indian invention.

A sad coda to *Indian Givers* describes how the Old World transformed the Indians. They have become, as Weatherford puts it, a peripheral people—forced off their land, alienated from their culture, and sometimes annihilated. South American Indian cultures are disappearing rapidly, and with them vanishes knowledge about medicines an products of potential value. This is an old pattern. What Indians had to give, European settlers did no always have the wit to take; one example is the process of vulcanizing rubber, which Indians knew but which later had to be rediscovered. The Indians' legacy to us has not been fully appreciated—and ours to them has been tragic. •

bureaucracies judge their own performance on the basis of the results they achieve.

But finally—and most tellingly—he says that the only real "solution" to more bureaucracy is less government. Wilson argues that "the greatest mistake citizens can make when they complain of 'the bureaucracy' is to suppose that their frustrations arise simply out of management problems; they do not—they arise out of governance problems."

So in this sense, *Bureaucracy* is a curiously discouraging book. Its message is not one of hope or help. Under the rarest circumstances, when there is a convergence of clear and compelling goals and missions, favorable political support, manageable organizational and regulatory constraints, strong public backing, and—for all we know—a proper alignment of the stars, a really talented executive will guide his or her bureaucracy to real success. But Wilson's message remains: that such successes, rare as they are, cannot be sustained—that bureaucracies are set up to work as they do. They reflect, in fact, the mass of contradictions and conflicting objectives that "we, the people" require of our governmental organizations. It is no wonder bureaucracies have a bad reputation.

LEGACIES

Jack Weatherford

INDIAN GIVERS: HOW THE INDIANS OF THE AMERICAS TRANSFORMED THE WORLD

New York: Crown Publishers, 1988. 272 pp.

By Sheila Avruch

Like his book about Congress, *Tribes on the Hill*, Jack Weatherford's *Indian Givers* provides an interesting new slant on current institutions.

SHEILA AVRUCH is an evaluator working on children's issues in GAO's Human Resources Division.

Weatherford's premise here is that Indian products, ideas, and institutions profoundly changed the Old World and helped usher in modernity. He builds a strong case for this argument, and his book makes for engrossing reading.

The book's title, however, is to some degree a misnomer. Much of the Indians' influence depended not upon their direct contributions to European culture but upon how Europeans adapted or reacted to what they found in the New World. Weatherford traces the effects of four such factors upon industrialization and the growth of capitalism: the influx of precious metals; the establishment of corporations to exploit the new territory; the development of new technical processes; and the introduction of new foods and medicines.

Silver and gold from the New World had an immediate impact on the Old World economy, tremendously increasing its store of money. In the 16th century, during the first 50 years of the conquest of the Americas, the amount of silver and gold coinage in Europe tripled. This led to a century of inflation and of increased trade, as Europeans used their new wealth to import luxury goods from Asia. It also decreased the importance of trade with Africa, a previous source of gold.

Efforts to develop the wealth of the new colonies also contributed to the growth of modern financial institutions. Land development and colonization in the New World were conducted primarily by companies, such as the Virginia Company of London (which founded Jamestown) and the Hudson's Bay Company—the oldest company in the world still in operation. These companies grew out of a series of earlier English companies that were created to prey on the Spanish through piracy and to provide slaves to European colonists in the New World. The later companies formed to exploit the new lands created wealth that fostered the development of new mercantile exchanges in Great Britain and the Netherlands—a further step toward a modern world economy. Moreover, in terms of scope, organization, and management, these companies formed a basis for modern European and American corporations.

Technological innovation in Europe was encouraged by new products from the Americas. The potato, for instance, had a profound influence on Northern Europe, which until then had relied for food primarily on grains. Because an acre of potatoes furnishes more calories than an acre of wheat, more people could be fed from existing farmland. Furthermore, potatoes could be grown on

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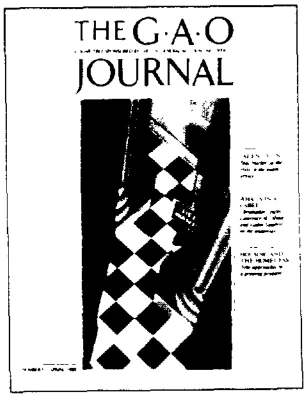

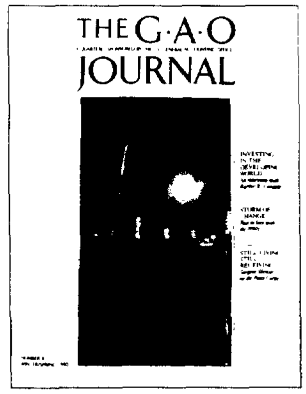

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