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Folder Title:
Ira Magaziner

Stack:	Row:	Section:	Shelf:	Position:
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To: Katie
From: Pam

Re: Ira Magaziner

History: Business consultant (Note: Not an economist). Brown University, Rhodes Scholar. Author of several political economy books.

Philosophy in a Nutshell: Along with Robert Reich, Magaziner favors jump starting the economy initially, while letting the deficit begin to grow. They advocate additional spending and tax breaks targetted to investment. Foavors a deficit reduction plan starting in 1994 including cuts in social security and farm subsidies.

Other Points:

- * Productivity-boosting investment is a big key with Magaziner. Fiber optic networks and high-speed rail infrastructure systems are two suggestions he has made. Has suggested the creation of a government backed, privately run investment bank that allows states, localities and private institutions to borrow from it to finance infrastructure projects.

- * Defense conversion: has favored preserving the advanced skills of defense workers by keeping them at work on commercial ventures so that they could be quickley switched to new military projects if necessary. Wants Pentagon to make a 20-year commitment to buy commercially useful communications systems, short-haul aircraft, waste disposal systems and intellegent highways from private industry to spur industrial development.

- * Worker skills: U.S firms should devote at least one percent of their payrolls to skills training. National edcuation standrds for people under age 18. Literacy training centers financed by business.

- * Big supporter of federal R and D for private business, and industrial policy in general. Favors role like MITI in Japan for Commerce Dept.

- * Supports investment and capital gains tax overhaul. I.e. an investment held less than a year might be a 50% tax, while one held over five years would not be taxable.

- * Considered the most liberal of all Clintons economic advisors.

LEVEL 1 - 1 OF 4 STORIES

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November 8, 1992, Sunday, Final Edition

SECTION: FINANCIAL; PAGE H1

LENGTH: 2529 words

HEADLINE: Inventing Clintonomics;
The Advisers Seeking To Shape Policies Mix Pragmatism, Activism

SERIES: Occasional

BODY:

A dozen years after a group of conservative thinkers upended the economic furniture in Washington with their unconventional views on taxes and the budget, a new group of men and women with ties to President-elect Clinton are poised to put the imprint of their ideas on economic policy.

They talk of "entrepreneurial government," "human capital," "competitiveness," "infrastructure" and "defense conversion" -- words and phrases from an arcane vocabulary that they hope will be adopted by Clinton in his program for sweeping economic change.

Compared with previous generations of Democratic economic gurus, many of these suddenly fashionable thinkers tend to be more pragmatic than ideological in their approach to the immense economic problems facing the country.

For some, liberal ideas fervently held in younger days have been altered as they confronted reality at the state and local level, where government does not have Washington's luxury of running up deficits.

Doug Ross, a former director of Michigan's Commerce Department, learned that "the only way we could serve our businesses ... was by decentralizing authority."

Ross now runs an organization called Michigan Future Inc., a citizens' group that wants to help create a Michigan economy that is "fully competitive with the comparable economies of southwest Germany, northern Italy and the Nagoya region of Japan."

He has written two chapters for a 15-chapter book, "Mandate for Change," a set of position papers for the Clinton transition team.

Writer David Osborne, author of "Reinventing Government," which Clinton has read, is a proponent of activist government -- but not big government.

Osborne hails such local-level experiments as Milwaukee's transformation of sewage sludge into fertilizer, which the city sells for millions of dollars in revenue -- or Phoenix's siphoning off methane gas generated by waste-water treatment for sale as a home heating fuel.

A number of those with access to Clinton believe that a large central government is too inflexible and muscle-bound to deal with the challenges of a

The Washington Post, November 8, 1992

fast-changing global economy.

And their thinking about jobs, education and government also is dictated by a relentless legacy of the 1980s: There is little money in Washington for grand, New Deal and Great Society-type schemes directed by the central government.

Robert Shapiro, an adviser to Clinton and former aide to Sen. Daniel Patrick Moynihan (D-N.Y.), believes that economic debate in the United States has been "gridlocked" for too long between two extreme views, one the conservative, hands-off view that markets are everything, and the other the more liberal, traditional Democratic position that government can solve all problems.

Some -- including Harvard Prof. Robert Reich, business consultant Ira Magaziner and Osborne -- are not even economists. But their books, writings and advice nevertheless have been absorbed into many of the economic plans that Clinton offered during the recent presidential campaign.

How much impact the thinkers will have on the new president is still a matter of debate. Clinton, sources say, doesn't draw his ideas just from a brain trust of insiders, but from everything from casual conversations with friends to thick position papers.

"He doesn't have a focus that's a grand overview," said Barry Bosworth, director of the Council on Wage and Price Control in the Carter administration. "There's no overriding philosophical structure or principle."

Although a few advisers, such as Prof. Robert Solow of the Massachusetts Institute of Technology and Princeton University Prof. Alan Blinder, are "macro-economists" concerned with big picture issues such as monetary policy, Clinton is a "microeconomic person," said Bosworth. "He wants to get down and talk about the details."

Sources in the Clinton camp say that not all the ideas being debated for the economy will survive the inevitable infighting between interests as Clinton converts rhetoric into budgets and programs.

In addition, Clinton's economic advisers disagree over some fundamentals. For example, Magaziner, Reich, Solow and David Aschauer of Bates College all favor substantial government spending to reinvigorate the sluggish economy.

2) But Robert Shapiro of the Progressive Policy Institute, Wall Street investment banker Roger C. Altman and Alice Rivlin of the Brookings Institution say that any financial stimulus must be applied with caution so as not to aggravate the federal budget deficit or disturb the financial markets.

"The big battle for Clinton's soul and mind is between those who want to do something significant in the way of a fiscal stimulus and those who worry about the budget deficit," said Bosworth.

Whatever the outcome, the history of the 1980s demonstrated that ideas do matter. In 1981, such conservative notions as a return to the gold standard -- which Ronald Reagan reportedly espoused at one time -- fell by the wayside. But the "supply-side" economic theories of the conservative gurus changed the nation.

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With Clinton's victory, the hunt has begun for solutions to the problems left behind.

Some of the new players:

Robert Shapiro

* Shapiro, 42, is a leading force in the Progressive Policy Institute, which some believe could become as influential in a Clinton administration as the conservative Heritage Foundation was in the Reagan years.

The institute is the research and policy arm of the Democratic Leadership Council (DLC), a group of elected officials who banded together in the mid-1980s to counter the supply-side theories of the Reagan administration. Clinton chaired the group at one time.

Shapiro is a member of something called The New Paradigm Group, which has a Republican member and favors a free-market, anti-bureaucratic approach to public policy.

Some Democrats consider his views heretical, but the DLC's more moderate positions have been reflected in Clinton's frequently voiced support for U.S. technology and business competitiveness.

On the deficit, Shapiro is a hawk who would only allow it to grow if personal incomes of Americans were growing at a similar rate.

"The deficit absorbs the energy and the arguments for new initiatives like a black hole, an enormous gravitational force," said Shapiro.

"We have to pull ourselves out of that gravitational field."

He stresses that any fiscal stimulus must be balanced by concern for the deficit.

Robert B. Reich

Reich, a member of the faculty of Harvard's John F. Kennedy School of Government, once said that he agrees with only 30 percent to 40 percent of the Progressive Policy Institute's positions, but added, "I'm glad the kettle is being stirred."

His book "The Work of Nations" has been read and underlined by Clinton, and he has become a leading authority on the competitiveness of the U.S. economy.

Reich writes in the book that the notion of an "American" corporation is steadily losing meaning. Whenever possible, he says, American-based multinational companies will move their manufacturing to the country that offers the best mix of cheap labor and high-quality production.

Reich argues that the best defense against that is government investment in American workers -- through training and education -- and in the transportation systems and telecommunications networks on which modern businesses rely.

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Such investments, he argues, will encourage foreign companies to locate their most modern plants and research facilities in the United States.

"Government policy makers should be less interested in helping American-owned companies earn hefty profits from new technologies than in helping Americans become technologically sophisticated," according to Reich.

Reich argues that it is permissible for the federal government to go even deeper in debt as long as the money is invested in people or infrastructure and the amount doesn't exceed the likely return.

David Osborne

Osborne, 41, a journalist turned expert on innovative government, has helped to shape the Clinton philosophy of doing more with less.

In Osborne's view, centralized, bureaucratic government no longer works. But state and local governments, short of funds, have made a virtue out of necessity -- pioneering new, low-cost ideas that decentralize authority and foster partnerships between the public and private sectors.

In his book "Laboratories of Democracy," to which Clinton wrote the foreword, Osborne describes Clinton as a "new Democrat" who started his first term as governor of Arkansas as a classic, crusading liberal reformer and then discovered that such an approach did not work.

He wrote that Clinton in his last two terms as governor came to believe that economic growth must come before spending for social purposes, and that government must work closely with business.

He would double Clinton's pledge to reduce the federal bureaucracy by 100,000 workers in his first four-year term and would cut the budgets of "antiquated" departments such as Agriculture, Commerce and Housing and Urban Development by 6 percent a year over four years.

In his book "Reinventing Government," Osborne cites the grass-roots work in Minneapolis of citizen activist Ted Kolderie.

In the 1970s, Kolderie and others began agitating for competition within the public school system and eventually pushed through a bill allowing local public school teachers to create their own schools.

Kolderie is now drawing up an education proposal for Clinton. "The traditional role of government is to give money and add regulations," said Kolderie.

"The trick is to connect presidential leadership to state legislatures through the governors."

Robert Solow

Some people who know Nobel Prize-winning economist Solow were surprised when a few months ago he endorsed the Clinton economic plan, which many said would make the federal deficit worse by spending more money on new programs than could be offset by taxes or other savings.

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The MIT economist had signaled his contempt for President Bush with a sarcastic comment about the "read my lips, no new taxes" pledge. Solow said he could read Bush's lips but he doubted they were connected to a brain.

Many people took that as an attack on the fiscal irresponsibility that has produced the nation's huge deficit. But earlier in the year, Solow, joined by Nobel laureate economist James Tobin and others, urged the Bush administration to give the economy a shot in the arm with more government spending, even if it meant increasing the federal budget deficit in the short run.

Then, at a press briefing this fall, Solow endorsed Clinton's focus on public investment as the key to accelerating growth.

Solow, however, remains skeptical of claims of economists known as "growth theorists," who claim that government investment in training, education and infrastructure can increase the economy's output.

Some argue that deficit spending can push the economy close to its potential. But many economists contend that is not true for the United States today.

Because of the huge budget deficit, they say, government borrowing takes away from the pool of capital that would otherwise be used by the private sector to finance its investments.

But Solow and others say that the economy is so weak that the government has to step in to get things moving.

Ira C. Magaziner

Magaziner, 45, one of the most liberal and controversial of Clinton's inner circle of advisers, first met Clinton as a Rhodes scholar and worked on a variety of issues for the Clinton campaign.

A Brown University student activist, Magaziner and other young graduates failed in a postgraduate attempt to transform Brockton, Mass., from a working-class community into a model city. In 1984, he suffered a bigger setback in a referendum when voters rejected 4 to 1 his plan to revive the Rhode Island economy.

Magaziner has coauthored two books on U.S. industrial competitiveness, and has churned out ideas about health care, the retraining of workers, the restructuring of corporations and the conversion of U.S. defense companies to developing commercial technologies.

In the latter role, he has offered suggestions to Rep. David McCurdy (D-Okla.), who has emerged as a leading advocate of "defense conversion" in Congress. The key goal of both McCurdy and Magaziner is to preserve the advanced skills of defense workers by keeping them at work on commercial ventures so that they could be quickly switched to new military projects if necessary. To this end, Magaziner would have the Pentagon make a 20-year commitment to buy commercially useful communications systems, short-haul aircraft, waste disposal systems and "intelligent highways" from private companies.

McCurdy and fellow members of the House Armed Services Committee have stopped short of accepting the proposal, but have recommended a long-term plan in

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which the Pentagon would finance research and development by defense and nondefense companies in energy, transportation, environment, communications and other promising commercial fields.

→ Laura D'Andrea Tyson

Tyson, a professor at the University of California at Berkeley, wants a closer partnership in technology between U.S. government and business to stave off Japanese and European rivals.

It is a notion that has supporters throughout the Clinton camp, beginning with the president-elect.

"We need to have some place inside the government to monitor competitive trends in key industries around the world and the U.S. position in these industries," Tyson said.

It could be an existing agency or something new such as Clinton's proposed Economic Security Council. In either case, she said, it must be an agency that keeps score, reporting which industries are doing well.

David Aschauer

In September 1988, economist Aschauer published a paper for the Chicago Federal Reserve Bank that showed what he called "a distinct positive relationship" between U.S. public spending on infrastructure and the broad growth of U.S. productivity, after a number of factors were discounted.

Since then the "Aschauer curve" has been cited by many of those, such as Reich, who support major new initiatives by the Clinton administration to rebuild or upgrade the nation's transportation and telecommunications systems.

Sources say that Aschauer's findings, if correct, suggest that large investments now are justified even if they worsen the budget deficit in the short term. In the long term, the investments will bring in more tax revenue because the economy will grow faster.

Aschauer calls his own findings "startling," and acknowledges that they have been questioned by economists at the Brookings Institution and other think tanks.

Without mentioning Aschauer directly, the Congressional Budget Office also has questioned his thesis.

Aschauer stresses that not all public investment will produce a big long-term return. For example, he opposes pork barrel highway projects, but strongly supports government investment on advanced technologies, such as "intelligent highways."

"These are exciting times for an empirical economist," he said. "Potentially, there's a grand experiment out there."

GRAPHIC: PHOTO, THE 'ASCHAUER CURVE' (DATA FROM CHART WAS UNAVAILABLE.), TWP;
PHOTO, JOHN ANDERSON; ILLUSTRATION, TWP

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TYPE: FEATURE, NATIONAL NEWS

SUBJECT: GOVERNMENT REORGANIZATION AND TRANSITION; ECONOMIC POLICY; U.S.
PRESIDENT; POLITICAL ISSUES AND PHILOSOPHY; ECONOMISTS

NAMED-PERSONS: BILL CLINTON

LEVEL 1 - 2 OF 4 STORIES

Copyright 1992 Times Newspapers Limited
Sunday Times

October 25, 1992, Sunday

SECTION: Features

LENGTH: 1088 words

HEADLINE: From the class of 68 to the class of 92

BODY:

Bill Clinton's inner circle represents a remarkable first in American politics. No other presidential candidate in history has relied so heavily on a team of advisers assembled before his political career had even begun.

What further distinguishes Clinton's campaign is that so many of those aides went to Oxford University. Clinton and the other ten men listed below were all Rhodes scholars. Eight studied with him in the class of 68. In the words of Cecil Rhodes, founder of the American and Commonwealth scholarship scheme, they were destined to be 'the best men to fight the world's battles'.

Known as FOBs Friends of Bill's or, less generously, the Oxford mafia Clinton has chosen them for their expertise and their loyalty. Many are prominent liberal academics, specialists in the full range of government policy, from economics and foreign affairs to race and women's issues. Few boast much practical experience in business or government.

Together the Oxford FOBs form a brotherhood of the upwardly mobile, a clique of politically aspiring Democrats who will play a key role in his administration if Clinton wins the American presidential election on November 3.

Members of the Oxford mafia include those pictured, right, in the 1968 Rhodes scholars group photograph (numbers correspond to the key, above):

1. Bill Clinton: Democratic presidential candidate.

Rhodes scholar 1968.

2. Robert B Reich: senior economics adviser.

Rhodes scholar 1968. Yale Law School 1970.

One of America's top economic gurus, Reich, 46, is a long-time Clinton adviser and confidant.

Professor of political economy at Harvard University, the diminutive Reich (Clinton once described him, at 4ft 10in, as the smallest American he had ever met) is the author of numerous bestsellers about the world economy. His book *Work of Nations* is regarded by many commentators as the classic primer in 'Clintonomics'.

Reich, who was an adviser to Michael Dukakis during the Democratic presidential campaign in 1988, developed his finely honed political skills while working in the solicitor-general's office and the Federal Trade Commission. He

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is popular with the American media, briefing newspapers on Clinton's character during the row over his involvement in anti-war protests.

3. James Crawford: fundraising adviser.

Rhodes scholar 1968.

Crawford, unlike Clinton, was drafted in 1969 and served in the US navy. He later became a venture capitalist and advised Clinton on state investment during his period as governor of Arkansas.

4. Darryl Gless: education adviser.

Rhodes scholar 1968.

Gless and Clinton were the only two Rhodes scholars of their year to come from small towns in the American midwest. At Oxford they quickly struck up a rapport.

Now professor of English at the University of North Carolina, Gless, 46, has advised Clinton on higher education issues.

5. Douglas Eakeley: chairman of Clinton's New Jersey campaign.

Rhodes scholar 1968. Yale Law School 1970.

A prominent New Jersey lawyer, Eakeley, 46, is an active fundraiser for the Clinton campaign.

An Oxford swimming blue, he also marched alongside Clinton during the anti-Vietnam war protests in London. The bachelor pad he shared with Clinton at Yale soon became the political hub of the university.

A former first assistant attorney-general of New Jersey, he has played a crucial role running Clinton's campaign in one of America's most marginal states.

6. Strobe Talbott: foreign policy adviser.

Rhodes scholar 1968.

One of America's most senior and respected journalists, Talbott, 46, is editor-at-large with Time magazine.

Talbott is a fluent Russian speaker and an expert on Soviet and Eastern European affairs. He has written books on Khrushchev. When Clinton wants advice on foreign policy, he usually telephones Talbott. He is tipped to be American ambassador to Moscow if Clinton wins.

7. Richard Stearns: legal adviser.

Rhodes scholar 1968. Harvard Law School 1976.

A Superior Court judge in Boston, Massachusetts, Stearns, 48, has had a profound influence on Clinton's political ideas. At Oxford, Stearns introduced

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Clinton to the peace movement in Britain and accompanied him on anti-war demonstrations. Stearns has impeccable Democrat credentials: he worked on senator Eugene McCarthy's presidential campaign in 1968. Four years later, he found Clinton a job in Texas with George McGovern's campaign staff.

8. Tom Williamson: legal adviser.

Rhodes scholar 1968.

One of America's most senior black lawyers, Williamson, 46, is a member of Clinton's legal committee.

A former deputy inspector-general at the energy department, he now runs a private legal practice in Washington.

At Oxford, Williamson was a basketball blue. He is said to have had a formative influence on Clinton's racial policies.

9. William Fletcher: chairman of Clinton's California campaign.

Rhodes Scholar 1968. Yale Law School 1972.

A Harvard graduate who served as a lieutenant in the US navy, Fletcher, 47, is professor of law at the University of California at Berkeley, San Francisco. He is responsible for running Clinton's campaign in America's most politically crucial state.

Not pictured:

Ira Magaziner: economics adviser.

Rhodes scholar 1969.

One of Clinton's most influential advisers on domestic policy, Magaziner is a successful business consultant who numbers some of the richest men in America among his clients.

→ Magaziner, 44, worked with Hillary Clinton at the National Center for Education and the Economy and the Commission on Skills for the American Workforce.

Magaziner has called for America to adopt a more interventionist economic agenda along European lines. He wants 'American companies to get the kind of help from the US government that virtually every other nation gives its business'.

George Stephanopoulos: communications director.

Rhodes scholar 1984.

One of Clinton's youngest aides, Stephanopoulos, 31, is a public relations whiz kid who deftly handled the row over Clinton's alleged KGB connections.

Unflappable under pressure, Stephanopoulos coolly denounced Robert Dornan as a 'lunatic' after the Republican insinuated that Clinton's trip to Moscow in

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1969 had a sinister motive.

A graduate of Columbia University, New York, he took a masters degree at Balliol College. He has been tipped as a possible chief of staff in a Clinton White House.

TERMS:

Bill Clinton

LEVEL 1 - 3 OF 4 STORIES

The Providence Journal-Bulletin
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September 16, 1990

SECTION: Vol 106; No 36; Sec F; pg 1

LENGTH: 3920 words

HEADLINE: Ira Magaziner: What's This Guy Up to? He's Running From Dawn to Dark

BYLINE: Froma Harrop

DATELINE: Providence; RI; US

BODY:

AT 7:25 A.M., IRA C. Magaziner strides through the lobby of the Providence Marriott past bleary-eyed business people. For Magaziner this is a second appointment.

His working day started at 6 a.m. with a staff meeting at SJS Inc., his consulting company. At that gray hour the business people were lying in bed dreading the alarm.

Over scrambled eggs and sausages, he discusses better ways to supply medicine to elderly people with a group of pharmacists.

At 8:55 Magaziner leaps up a staircase for another meeting, this time with members of Workforce 2000. After about 20 minutes, he heads back to his office, makes some calls concerning his trip next week to Prague and Moscow, then drives to Green State Airport.

In Washington, he interviews a job candidate over lunch and conducts a 15-minute meeting with the head of a group called Rebuild America while walking to the Sam Rayburn House Office Building.

This is the only time they have to talk.

At 2:40, Magaziner testifies before the House Subcommittee on Science, Research, and Technology. Then at 3:48 he heads for Dulles Airport. His flight back to Providence leaves at 6 p.m., giving him an hour for an airport meeting with a Wang Laboratories software contractor. On the plane he composes some memos for Wang CEO Richard Miller.

Back in Rhode Island, he drives to the East Providence Public Library, where he gives a speech on women in the work force. Finally, he's home on Poppasquash Point in Bristol about 10 p.m., returns some calls and goes to bed.

Ira Magaziner is a busy, busy man.

He's advised the governments of Great Britain, Australia and Ireland on how to shape up their economies. He's told such corporate giants as General Electric, Volvo and Mitsubishi Chemicals how to compete in world markets. He served as an adviser in the Dukakis presidential campaign.

Currently he chairs the Workforce Skills Commission with former labor secretaries Ray Marshall and William E. Brock. He has been hired to clean up the mess at Wang, the troubled computer company in Lowell, Mass. And he oversees the work at SJS, which conducts research on four big social issues --health, the environment, workers skills and competitiveness -- any one of which could keep a person occupied for a lifetime.

Magaziner has dished out a lot of advice in his day, and at the nearly-tender age of 42 he has made plenty of money. Last December he sold Telesis, the consulting firm he founded 11 years ago, for about \$ 6 million.

Lately, he spends as much time talking to local folk like the Alliance for Better Nursing Home Care in Providence and the Eagles Club in Pawtucket as advising Congress and international corporations.

Last week, for example, he visited elderly residents at the Steere House on Broad Street.

Marie Monday, whose speech is slurred by two strokes, greets Magaziner at her door in an elegant dress. "How old are you?" he asks.

"Eighty-one," she replies.

"I would never have guessed," Magaziner says.

"How old did you think I am?" she comes back.

"Thirty, thirty-five," Magaziner says. She beams.

Magaziner gets \$ 5,000 to \$ 10,000 to give a speech and does about 100 a year. But to groups in Rhode Island, he charges nothing, and no group seems too small to address.

He serves on a slew of local boards: Save the Bay, Workforce 2000 Council, the International Institute, Rhode Island Group Health Association, Providence Public Library, Community Services of Southeastern New England, Jewish Federation, Community Preparatory School, the Music School and the Spirit Program.

Under his direction, the Rhode Island chapter of March of Dimes last year raised more money than any other March of Dimes group in the country.

→As a college junior he forced Brown University to radically overhaul its curriculum and later authored the Greenhouse Compact. But nowadays his local interests seem to have intensified, prompting people to wonder:

Is Ira running for office?

"I don't know," he replies to the oft asked question. "I don't have any plans right now, but down the road I might."

Magaziner's decision to spend his days immersed in the concerns of old people, under-trained American workers and businesses being knocked flat by foreign competition merely reflects, he says, his lifelong desire to work in public policy.

"My interests have always been, from when I was 15 years old, public policy, social policy," say? Magaziner, who became involved in civil. rights work in high school. "What I had decided when I first went to work for Boston Consulting was that I really needed to learn more about business.

"A lot of people," he explains, "failed to understand that what made the New Deal successful was that it embedded in theory a practice of economic growth as well as values of social justice and equity. I felt that the Democratic party, and liberals by which I refer to myself, lot sight of this."

"If I thought I could be more effective in political office I would do that."

However, he has some personal misgivings about running for office, although he recently hosted a fund raiser for Congressional candidate Scott Wolf.

"I spend time with politicians, who feel very comfortable shaking hands with people as if they were best friends. I'm just shy," he says. "It would take some work. It's not natural."

Magaziner is intense and cerebral. His mind seems to operate in outline form. Every subject has four or five main topics, which he numbers.

He speaks in a mumble, and he walks with a slight academic stoop. His garb, which is businessman generic, is wrinkled by 10 a.m., which, after all, is already five hours into his work day.

Magaziner seems at times like a man with all the answers, often supplying unnecessary resume-type information in a self-promotional sort of way.

For example, in his latest book, *The Silent War*, written with Journal-Bulletin columnist Mark Patinkin, he begins a chapter on A.T. Cross, the Lincoln penmaker: "In late 1987, I was in France talking with executives for Airbus, the new European jetliner challenging Boeing . . ."

Magaziner also describes how Volvo the giant Swedish automobile maker, came to him when Sweden's economy was in crisis. "As Sweden's largest company, Volvo wanted to understand why. The Volvo people thought I might be able to help."

For his advice, the companies pay him \$ 600-an-hour.

As a child, he says, "We were not particularly rich. We didn't have a car until I was a junior in high school, but I wouldn't say we were poor.

Magaziner's father worked as a bookkeeper for a company that bought tomatoes from growers and trucked them to restaurants and supermarkets. In his early years, his family moved from Queens to a small house that straddled the Nassau County border -- for the better schools.

"I have never been one to notice my surrounding very much," he adds, noting before moving to his house on Narragansett Bay in 1981 he lived in a \$ 200-a-month apartment off North Main Street.

For Magaziner, the father and provider, money is important. He says he always wanted to return full time to public work, but would not do so until he was successful in business. "It allows me to know that my family is taken care of

forever."

His success also allows him to spend much of his day on projects for which he receives no pay.

The staff at SJS uses a computer to keep his profit and nonprofit activities straight. Many days, the schedule takes up a full page.

In the four-day Labor Day week, Magaziner had 16 appointments, including the keynote speech for a meeting of Canadian deputy ministers, took six flights, and was himself interviewed twice for two books other people were writing.

"You learn to answer your phone early in the morning," says SJS staff member Chip Young. "It's not a crank phone call." Young, co-author of the irreverent Phillipe and Jorge column in the NewPaper, recalls driving in from Jamestown for a 6 a.m. meeting while hearing John Coltraine on the car radio. "I realized I was listening to Jazz after Hours. It was early."

None of the eight full-time employees at SJS -- the initials of his three children's names -- has a title. Everyone is called an associate. "We work hard for the betterment of these projects. You don't look at your watch until 5 o'clock," says Christine Heenan, 23. "There is no discrimination in terms of sex and age," she says. "I think I'm getting spoiled."

Stephen Gang, a partner at Telesis adds: "He's the most demanding person anybody who works with him has ever worked with. It is pretty exhilarating, but leads to a high burnout rate."

Magaziner, however, does not feel he is spread too thin. "I've always been able to do many things at once," he said. "The quality of what you can do depends on the quality of the people you have around you, and I've been fortunate."

A front-burner topic at the moment is workers' skills. If American companies want to excel in an increasingly global economy, he says, they must find new technologies and train workers to use them.

The Skills Commission report he co-authored with Brock and Marshall, "America's Choice: High skills or low wages!", warns that the American worker faces a meager future.

Brock, who now has his own consulting firm in Washington, says "Ira was more than the chairman of the commission. He was the catalytic agent that brought it together and made it work."

"What we are facing is an economic cliff of sorts," the report says. "And the front line working people of America are about to fall off it."

→The report urges the government to:

- * Require U.S. firms to devote at least one percent of their payrolls to skills training.

- * Establish national educational standards that people under age 18 must meet before they may take a job.

* Create "youth centers" to ensure that dropouts and others unable to meet the standards in regular schools are helped to do so later on.

→ Magaziner argues the Federal government must also help private companies develop new technologies.

"It's not an ideological question," Magaziner says in response to his critics who charge that the taxpayers should not have to pay for a private company's research and development.

He says he's worked for American companies who cancelled projects because they couldn't compete with government-backed competitors. "In some cases," he says, "they move abroad and have somebody else do it for them, and that's reality."

→ He notes that in the 19th century, the U.S. government built canals, roads and much of the railroads and took responsibility for education. "I would suggest that the technology and R&D system is a knowledge infrastructure that is for the 21st century what canals were in the 19th century."

In Magaziner's eyes, there are other things the U.S. government can do to help companies compete "We're the only developed country in the world," he says, "that doesn't have a program to assist small and medium-size companies to export." We had one in the '70s, he says, then gave it up.

And he says the system by which American companies get financing must be overhauled. Investors must be encouraged to think long term. One solution, according to Magaziner, is to institute a sliding scale tax on capital gains. For an investment held less than a year, the capital tax might be a hefty 50 percent. If held for more than five years, there would be no tax.

Another step, he recommends, is to require big institutional investors (banks, mutual funds, pension funds) to pay capital gains taxes. Most institutional investors pay no capital gains tax and are notorious for short-term thinking. (Beneficiaries pay the tax later.)

"I never suggested that the government comes in and sort of takes over." But he adds, "You have to set the right environment."

In Rhode Island, it's hard to recall a pre-Magaziner era. The 1966 Brown yearbook was already talking about "the Magaziner touch." As president of his freshman class, he managed to collect dues from 98 percent of the class making it the most solvent group on campus.

"Although he might not be much to look at," another yearbook says of the skinny sophomore with a stubble beard, "Ira has energy and ability, and he is not satisfied with merely following the footsteps of previous presidents."

In his junior year, Magaziner headed a group that produced a 450-page "Draft of a Working Paper for Education at Brown." They decried the "narrow professionalism" in Brown's course of study and the "negative effects of grades" on students' intellectual development.

The group came up with a radical new plan. No required courses. Grades only if you want them.

Magaziner led hundreds of students at curriculum reform rallies on the Brown green. They pressured the university faculty to overturn decades of collective wisdom on what students should study. And the faculty went along.

The changes are still controversial and Brown's curriculum has come under increasing attack from academic quarters.

But the New Curriculum, which has just turned 20, survives mostly intact. And despite some grumbling on College Hill, the University has no plans to make it over.

After graduating from Brown as valedictorian, Magaziner attended Oxford on a Rhodes Scholarship. When he returned, he went to work as a business consultant and in 1979 he staffed his own consulting firm, Telesis, in a Boston suburb

He opened branch offices in Paris, Munich, Tokyo and Melbourne and in 1981 moved Telesis' headquarters to Providence.

Back in town, Magaziner again stirred the local waters with his Greenhouse Compact. His plan was to transform Rhode Island's brick-and-smoke economy into a gleaming high-tech paragon for the nation. The ill-fated compact won Magaziner a lot of admirers, a lot of detractors and a lot of press. For Magaziner, "it was a learning experience."

"I feel sometimes like a guy playing on a football team that was successful around the country, and the guy comes back to his home town to do something, and he drops a lot of passes," Magaziner explains. "He can't blame anybody. I mean, he dropped the passes, but he doesn't feel any better about it."

Conservative business people saw him as another liberal inserting the government into their affairs. And the generally low-wage costume jewelry industry resented his vision of a future that did not necessarily include them.

An anti-Greenhouse group called Common Sense, which included some Brown University economists, argued that Rhode Island simply had to become more attractive to business. Instead of raising taxes, the state should cut taxes and spending, and work to bring down utility rates and unemployment and workers' compensation costs.

Still, Magaziner maintains the issue could have passed, and polls taken before the vote to establish the Greenhouse commission showed his plan winning 2 to 1.

But then in the final days of the campaign, it was decided to name the commission before the election and when two Democratic party leaders appointed themselves to the commission, Republicans went into a frenzy.

The resulting squabble seemed to confirm the worst suspicions of Rhode Islanders fearing the plan might be a scheme to give the politicians more tax money, and the compact was doomed.

Magaziner, at the end, was traveling in the Far East on business. "I remember coming back overnight, and in the morning I had an interview with somebody from a newspaper. He looked very sad and I asked why. He said 'it sounds like you've really worked hard on this thing.'

"I said 'I'm married to it.'" It lost by a 4-to-1 margin.

After the Greenhouse defeat, Magaziner turned his attention to his private consulting business. And during the '80s, Telesis did more work for General Electric than any other consulting group. Hillenbrand Industries in Indiana, Volvo, Corning Glass and Rubbermaid also hired him.

He published three books: Minding America's Business, co-authored with Harvard economist Stephen Reich, Japanese Industrial Policy and most recently, The Silent War.

But he continued to take his lumps. Most notably, there was the cold fusion affair.

Last spring, scientists at the University of Utah, claiming to have discovered a cheap new source of energy in a jar of water, hired Magaziner as a consultant on a \$ 20,000-a-month retainer. (He said the retainer went to Rhode Island charities.)

Magaziner, who acknowledges that he does not have an extensive science background, appeared before Congress urging it to spend \$ 25 million for cold fusion research.

However in the months since it made international headlines, the cold fusion discovery has been almost completely discredited in the scientific community.

"It's still unclear whether there's anything there," Magaziner says, noting that the Japanese have 110 researchers working on cold fusion.

Then there was the matter of GE's rotary compressor.

Magaziner devoted a chapter in The Silent War to what he called his success in getting General Electric to develop a new rotary compressor for its refrigerators. (The compressor is the pump that makes cold air.)

GE, he writes, could have followed the path of many other American manufacturers by buying compressors from foreign factories. That would have saved the company the risk and expense of developing a new product and tooling a factory to make it.

But with the new compressor, Magaziner writes GE would leap past "low-wage rivals with automation. And they'd win."

That declaration was premature. The rotary compressor was a disaster. GE had to replace over a million of the defective compressors and was forced to go abroad after all to buy the replacements. As a result, GE took a \$ 450 million pretax charge on earnings in 1988.

In his defense, Magaziner says the company did indeed learn to manufacture the compressor successfully, but took shortcuts in testing it.

The Japanese would have done the testing, he says. Since then, he says, the bugs have been ironed out, and GE has resumed making the rotary compressors.

More recently, Magaziner was hired as a consultant by Wang chief Miller, whom he worked with at RCA.

Once a poster company for the Massachusetts Miracle, Wang had slid into a mire of debt and chaotic management.

Wang had pioneered the early generation of word processing office equipment. But it didn't move into personal computers connected by Local Area Networks, and it was slow in developing equipment able to talk to machines made by other manufacturers.

Now it has to skip a generation of technology to try and catch up.

One of Miller's first acts was to dispense 2,000 pink slips through the company's ranks. Magaziner, who has long spoken for the interests of workers, sighed deeply when asked about the layoffs. He concludes, however, they were unavoidable.

"The question you have to face is would I rather give up 2,000 to save 20,000. Wang was a family-run, generous company," he says. "They had good policies in place that took care of people laid off."

The people who were let go, Magaziner says, were employed not in product development or customer service, but in bureaucratic paperwork -- "basically checkers checking checkers."

Nevertheless, Boston Globe columnist Alex Beam was unforgiving. "Magaziner," he wrote, "is hailed as a genius by his fans . . . and dismissed as a silver-tongued charlatan by his detractors. Let's put it this way; how would you like to be one of the 2,000 'restructured' employees who lost their jobs to a man last seen begging for federal dollars to support a national cold-fusion program?"

Another particularly nasty attack appeared last February in Boston Business magazine. It was relentless: "Yes, it's this lanky, laconic, '60s retread in an ill-fitting, off-the-rack suit, a navy-blue Eddie Bauer parka and Bozo-sized black clodhoppers, who's trying to balance a briefcase in one hand and a salad in the other as he sequesters himself in the corporate command module of Wang president and chief operating officer Richard W. (Rick) Miller."

It described Magaziner's demeanor as "dour," his complexion as "Liquid Paper" and proclaimed with mock admiration that he is "the biggest brain in New England, maybe even in the world."

Magaziner calls the story a "hatchet job" and points out that Wang has recently scored some impressive successes.

"When we came into the company we only had four days worth of cash, there was \$ 600 million in newly negotiated bank debt, and we were losing \$ 40 million a month."

At the same time, Wang embarked on a plan to soothe customers angered by Wang's late deliveries, poor quality and unresponsiveness. They reorganized the engineering groups to be more customer focused and speeded up the production cycle so that the factory could deliver Products in 4 instead of 21 days.

By the end of June, the company's operations were breaking even. Last month, it paid off its bank debt.

The bigger Problem remains. Cost-cutting can pull a company out of red. But Wang must also have something to offer in an industry where the newest technology can have a remarkably short shelf life. To do that, Magaziner says, "We're trying to get the company to refocus on those things they were very good at."

His family takes what's left of his time. "I try always to be home on weekends and at least a couple of nights a week," he says.

His wife, Suzanne, who has law and business degrees from Harvard, plans to stay home with the children, at least until the youngest is off to school.

Magaziner says his hobbies tend to be the children's hobbies. There is one exception. "I'm more devoted than I should be to the New York Giants," he says.

On one Sunday he took the children to an amusement park, followed by a visit to a toy store, then a stop at Chuck E Cheese for a meal.

Yet, Magaziner spent another recent Sunday in his home library discussing the big issues -- the steps America must take to make its businesses profitable, its workers prosperous and its elderly well-cared for.

The house was immaculately ordered. Warm and hospitable, Suzanne carried in a tray of coffee, juice and brownies, cut into generous squares and arranged symmetrically on a plate.

Little Sarah skipped into the library. He pulled her on his lap. The 2-year-old then squirmed off. Seth and Jonathan showed up and shook hands.

The airy room is balanced with burnished wood panelling on both side walls. Shelves hold leather-bound volumes, and a red oriental-style rug sits squarely in the middle. Magaziner slumps on a couch, his back to a picture window and the view of misty Narragansett Bay.

Ira C. Magaziner -- student agitator, organizer of protests against Henry Kissinger, and leading economic reformer -- sits in a room worthy of a corporate CEO.

Does he feel any sense of contradiction? Magaziner takes a deep breath.

"You can tell from my hesitation," he says, "that it's a question that bothers me and I don't have a good answer."

But he does have an answer. "I guess that what finally convinced me to make a move was that because I'm running around a lot and I travel a lot, it's nice to have a quiet place to go to, a peaceful place away from the chaos," he says.

Magaziner talks about other things and then returns to the question. "I don't know if there's a contradiction," he says. "It would be very easy now to just retire. I've turned down offers of large amounts of money to run companies, major companies."

He continues: "I don't think my values have changed. I've always given my time and money to things I believe in."

GRAPHIC: Personal portrait; Photo

SUBJECT: Consultants; Executives; Personal profiles; Career histories; Interest groups; New England

NAME: Ira C. Magaziner

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HEADLINE: Can This Man Save Wang? America? Himself?

BYLINE: Nick Ravo

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The hernia must be killing Ira Magaziner. Just look at the dour demeanor, the wincing eyes, the Liquid Paper complexion. Not even a \$ 600-an-hour consulting fee can mask this kind of pain.

Nevertheless, there he goes, the rumpled and tousled-haired Magaziner, pushing himself through the front doors of Wang Laboratories in Lowell, strutting past security, whipping out his special high-level clearance pass -- but only when collared by a security guard.

"He tried to go by without showing it," the guard huffs in his wake.

Minutes later, there goes Magaziner again. This time he's rushing (he's 10 minutes late) from the computer company's cafeteria to the "Penthouse," Wang's 13th-floor executive suite, a dark-hued chamber of horrors that's filled with leather Art Deco furniture and frightened faces.

Why frightened? Well, if you worked at Wang, wouldn't you be frightened? With losses nearing half a billion dollars last year? With close to a quarter of the company's workforce (once 30,000 strong) having been laid off? And guess who will decide (or at least help decide) if the silicon guillotine will lop off some more heads?

Yes, it's this lanky, laconic, '60s retread in an ill-fitting, off-the-rack suit, a navy-blue Eddie Bauer parka and Bozo-sized black clodhoppers, who's trying to balance a briefcase in one hand and a salad in the other as he sequesters himself in the corporate command module of Wang president and chief operating officer Richard W. (Rick) Miller.

It's a man whom friends and colleagues describe as a humorless, precise, serious-minded workaholic, a man whose days begin at 4:30 a.m. and are sometimes interrupted by pizza breaks at 10 a.m. It's a man so absent-minded (or focused) that once, while lost in thought, he arrived at a meeting by walking over a tarpaulin-covered hotel swimming pool --without noticing. It's a man who, for fun, writes books like Japanese Economic Policy. It's a man who has read -- and maybe even actually understood! -- Thomas Pynchon's Gravity's Rainbow. "Well," he says, "I'm not so sure about understood."

That's right, it's Ira Magaziner, corporate strategy and economic-policy consultant. Ira Magaziner, the biggest brain in New England, maybe even in the world. Ira Magaziner, fresh from hernia surgery!

C'mon, some applause, please.

"He's brilliant," says Miller, who received Magaziner's counsel when Miller headed up General Electric's consumer electronics division. "He's the best consultant I've ever worked with."

"He has a tremendous mind," adds Wang senior vice president Edward Devon. "He's brilliant."

"He is the most brilliant corporate strategist I've come across," says a former Magaziner associate, Edward F. Monison, who now runs his own consulting firm out of Cambridge.

Everybody agrees Magaziner is brilliant, a bright, shining cybernetic cerebrum-for-hire. Everybody.

But Ira, can you save Wang, the corpse of the American computer industry?

Can anybody?

It's a few cups of coffee past dawn in Providence, Rhode Island, and Ira Magaziner has already parked his baby-blue Volvo with the "Save the Bay" bumper sticker in a lot not far from the building where Superman once worked -- the beautiful old Fleet National Bank building, whose exterior was used for the Daily Planet in the TV series.

A moment later, Magaziner rolls into Eddie's, the only hash house in town that's open this early. His chore: a meeting with a newspaper reporter who's dubious about Magaziner's worth. Irritated that Magaziner will only meet at such an uncivilized hour, the reporter opens with a rude question: "So, Ira, how much money you make?"

Magaziner, 42 years old, is surprisingly candid, almost proud to answer. And despite his well publicized history as a footnote to the liberal-radical protest movements of the 1960s, he doesn't blush when he mentions the Milken-esque figure of \$ 600 an hour.

He can tell, though, that the reporter, who is overpaid at \$ 30 an hour, is choking on a cranberry muffin while breaking the rate down into minutes . . . seconds . . . even words! Just think of the cash flying out of that mouth! (It's \$ 10 a minute, 16 cents a second, probably about \$ 1 a word, hmmmms and sighs not included.)

The figure, Magaziner quickly notes, is in line with that charged by others of his stratospheric caliber in the rarefied world of economic-development consulting. Besides, he does lots of pro-bono work. "I don't think I've left my values behind because I'm making money," he says.

When Magaziner talks, he sounds like a professor, which is the role he seems to take when he's leading a case-team meeting at Telesis, the worldwide consulting firm he founded in Boston 10 years ago and moved to Providence two

years later. Remember the scene in the film Ferris Bueller's Day Off, when Ben Stein is portraying a soporific high-school teacher droning on to a room of dazed and distracted bodies? "Now what was Milton trying to say? . . . Anybody? . . . Anybody? . . . Anybody?"

Considering that Magaziner's meetings often take place at 6 a.m., they can resemble a particularly tortuous episode of Sunrise Semester.

Worse, his associates seem to live for this perverse and self-inflicted sleep-depriving schedule. If no case meeting is scheduled, they duel masochistically with Ira over who can "do" the earliest meeting.

Ira: "I can do 5:30. How about you?"

Associate: "I can do five. Would that be better?"

Ira: "Well, how about 4:30?"

Associate: "Four!"

Ira: "Three-thirty!"

Associate: "Three!"

Ira: "Two-thirty! And no coffee!"

To be sure, Telesis, located two blocks away from both Eddie's and the Fleet bank, is both a consultant heaven and a consultant boot camp. Magaziner doesn't worry about dress codes. And women receive six months maternity leave with pay.

The hours, however, can be brutal and the pay only middling. No wonder the place is probably best known for attracting -- and burning out -- young and idealistic MBA munchkins.

"It can be physically abusive," says one twenty-somethingish consultant.

What do these consultants do that's so arduous?

Well, a consultant, someone once wrote, is a person who takes your watch away to tell you what time it is. Or, as the joke goes, a consultant is someone who knows everything about sex but has never met a woman.

But let's suppose you're a recently humbled Master of the Universe (or maybe just a Titan of Commerce or a Captain of Industry), and your cosmos is about to collapse into a black hole. Pick a problem: bankruptcy, a hostile takeover, an LBO gone bad, greenmail, greedy unions, Japanese imports.

Who ya gonna call to do the intellectual heavy-lifting? How about Ira Magaziner, freelance mind extraordinaire?

Swami Ira, along with his associates, will study your business and industry faster than a law student digesting a semester's worth of cases. Then, he'll give you a final definitive report, plus a few tete-a-tetes along the way to pass on fast-breaking insights. The job usually takes three to six months and costs a few hundred thousand dollars. Crystal ball included.

And, if you act now, Magaziner also will provide you with the heady and intoxicating experience of knowing you are paying for the purest thoughts, the most undiluted brain waves possible. Ommmmmmmmmmmm.

Here's how to order.

"It's a remarkable, almost arrogant thing to do," says Morrison, the Cambridge consultant, of the consulting game.

But what, specifically, has Ira Magaziner done? What's his track record? How has his advice changed the course of American business or the global economy?

"It's funny," says Robert B. Reich, a Harvard professor of political economy and a longtime friend and colleague of Magaziner. "His insights are rarely startling. More often, they are of the 'Why, of course. Why didn't I see that?' variety."

Morrison recalls Magaziner once convincing General Electric not to relocate its compressor plants overseas because of the frequently unforeseen high costs of such moves.

"You have to be in the trenches to be amazed by something like that," Morrison says.

Regardless, Magaziner is brilliant.

Or so they say.

The headquarters of Wang Laboratories rises like three giant cubes over Lowell, a revitalized working-class town. The struggling company, of course, began in a South Boston loft in 1951, when a PhD candidate and Shanghai native named An Wang invented a version of the magnetic-core memory that over the next two decades became to computers what the piston is to automobiles.

Wang, a truly brilliant guy, went on to create several more successful products, including advanced desk calculators, which his company sold to engineers and scientists in the 1960s, and word processors, which became the mainstay and status symbol of many offices in the 1970s. Indeed, during the late '70s, Wang sold products to more than 80 percent of the country's 2000 biggest corporations. And for two decades before the 1985 fiscal year, when Wang reached its peak net income of \$ 210.2 million, its earnings increased by an average of 40 percent a year.

The company's unbridled success didn't last much longer, though, as the entire computer industry started to soften into Silly Putty. Analysts widely believe that Wang's primary mistake was not updating its products and making them compatible with products from IBM and other manufacturers. The company also missed out on the personal computer, or microcomputer, boom in the early 1980s, relying instead on the waning markets for word processors and minicomputers, which are larger than microcomputers and range in price from \$ 10,000 to \$ 300,000.

Some analysts further cite internecine rivalries, particularly the tension between Wang's son, Frederick, and the company's technological wunderkind,

Harold Koplow, who left Wang in 1982 after 14 years of meritorious service.

Others attribute Wang's problems to a slow change in its corporate culture. Once a family-oriented and creative company, in the 1980s it had become an IBM clone, distant, rigid and memorandum-driven.

By 1985, Wang was at the precipice. Several key executives had just left the company, and Wang named his son as president and chief operating officer. The move didn't rankle Wang executives nearly as much as Fred Wang's contentious management style did.

And although the junior Wang received praise for the selection of executives to head important departments, such appointments couldn't stem the tide of red ink that began in 1986 and culminated in a record \$ 375 million loss during one quarter last year and an overall \$ 962 million debt.

The bottom came in June when the company hacked away about 5000 jobs from its 30,000-person workforce and announced plans to sell \$ 200 million in assets. In the summer, it barely staved off bankruptcy by reaching a last-minute agreement with a consortium of banks on a new debt-payment package.

The most dramatic shakeup, though, came in August, when An Wang pushed out his son and replaced him with the 48-year-old Miller.

Known as a corporate turnaround artist but lacking experience in the computer industry, Miller joined RCA in 1982 as chief financial officer and became head of consumer products and entertainment in 1985. When RCA was acquired by General Electric in 1986, he moved to run GE's \$ 3.3 billion consumer-electronics business, reporting to GE's chairman, John F. Welsh Jr.

While there, Miller managed the rebuilding of the company's consumer-electronics businesses. He did it by forming an alliance with a consultant named Ira Magaziner. That's where the relationship started. Whatever went on over in consumer electronics, chairman Welsh decided the division was more valuable as something to sell than something to keep. In July 1987, the division was swapped for a medical-equipment business held by Thomson SA, a French conglomerate. Miller agreed to stay on through the transition. He left in mid 1988 to join American Industrial Partners, which specializes in investments and management of small American companies.

Under Miller, one of Wang's first goals was to restore customer confidence and increase sales. And in September, Wang announced a new line of four IBM-compatible personal computers. Analysts said the PCs, including one using the Micro Channel architecture that IBM introduced with its PS/2 microcomputer line, were priced in line with IBM, Compaq and other makers of integrated office systems for sizable corporate customers.

Miller's next move was to import some badly needed brilliance.

Ira Charles Magaziner has never been known to laugh. How can he? Especially when America's role in the global economy is in such a precarious state?

The closest the world has ever come to recording a Magaziner laugh came sometime in the early 1980s when Reich spotted a slightly upturned curl at the

comers of Magaziner's mouth. This came after Reich showed him a satirical chapter for the book he was banging out with Magaziner, *Minding America's Business: the Decline and Rise of the American Economy* (Harcourt, Brace, Jovanovich, 1982).

"I waited for a reaction," Reich said, and he just looked at me deadpan and said, 'I thought it was extremely funny.' That was it, the closest I've ever seen him come to a laugh."

This morning's case meeting at Telesis is particularly unfunny because it is the first meeting at which Magaziner --who built this firm from nothing -- is present only as consultant to Telesis. He officially left the firm two days ago after selling it (he says for a figure less than \$ 10 million) two years ago to Towers Perrin, the worldwide consulting conglomerate.

Curiously, the meeting concerns the reorganization of another consulting company. Magaziner does not see the humor in the fact that his presence represents a consultant consulting a consulting firm that's consulting a consulting firm.

Instead, he just sits there in the high-ceilinged, fern-and-ficus-adorned conference room at the center of the firm's warren of small but remarkably uncluttered offices.

Before him, at the end of the 12-foot-long conference table, middle-aged white men in stiff collars and tight neck-ties debate an alphabet soup of numbers, figures and acronyms.

Magaziner, wearing an open-neck shirt and looking like he just rolled out of bed, says nothing. In a strange Zenlike way, however, he appears to be absorbing every syllable. He is, after all, the Buddha of business.

"He has focus and concentration to an extreme," said Edward J. Caron, a Telesis senior management consultant. "He's . . . well . . .," (no, Ed, don't do it) ". . . brilliant."

Magaziner (the name is Russian) grew up in Far Rockaway, Queens, which explains his lifelong addiction, through good times and bad, to New York's Knicks and Giants. "It's the only thing I had reservations about," said Wang vice president Paul Guzzi.

His first effort at political organizing was prepubescent: He organized a strike among his summer-camp tentmates against a work detail. Later, in high school, he was removed from his position on the board of the National Association of Student Council Presidents for supporting desegregation.

It was his days at Brown University in the late 1960s, however, that made Magaziner a political and cultural icon to his fellow students, as well as to future classes. Bushy-haired and blue-jeaned, a scarf seemingly always tossed around his shoulders, he was an audacious and often successful left-liberal activist. He led petition drives and student boycotts, but he never shouted and was adamantly nonviolent. His coup de grace came in 1969 when, as valedictorian, Magaziner urged his classmates to turn their backs on one of the university's honorary-degree recipients, Dr. Henry Kissinger. And they did.

He is best known, though, as the chief architect of the university's new curriculum. Adopted the year Magaziner was graduated, it was one of the most radical reformations of an education system in an era filled with tradition-smashing rebellions. Simply, it erased a complicated system of courses and requirements. In its place, the students were allowed to choose what courses they wanted to take, how many courses were needed to meet graduation requirements and whether they wanted a letter grade or a credit/no-credit grade.

The curriculum, much of which remains intact today and probably represents Magaziner's sole major success, gave Brown a reputation as the Ivy League's most academically progressive -- or lax, depending on one's educational philosophy -- university. It was so beloved that when university officials moved to make minor modifications in 1984, students reacted with 70 telephone calls, five letters and one death threat.

"The students at Brown still look up to him as an idol, although some of this fades as time goes by," says Dr. Howard R. Swearer, a former Brown University president and a member of the board of directors at Wang.

After Brown, Magaziner went to Balliol College at Oxford as a Rhodes Scholar, which was where he met Reich. He studied politics, philosophy and economics, and, true to form, he peeved his peers and professors by choosing not to try for a degree. Instead, he devised his own reading program (that is, when he wasn't helping Vanessa Redgrave organize anti-war protests among US servicemen stationed in England).

When he returned to the states in 1971, he and a flock of followers, many of them from Brown, moved into Brockton, Massachusetts, the brass-knuckled and black-eyed home of Rocky Marciano and Marvin Hagler. Their dream? Peace, love and economic revolution! They planned to take over, slowly and peacefully, all the businesses and real estate in the ramshackle, shot-and-a-beer, shoemaking city and turn it into something akin to a model of democratic socialism.

The group, about 30 of them, held ordinary jobs like laborers and clerks. And during their off hours they ran a food co-op and rehabilitated housing and operated a weekly newspaper. After two years, though, the utopian project fell victim to realities of time and money, and it dissolved.

"We were young and naive," Magaziner says. "We didn't know anything about business."

By this time, few would have been surprised if Magaziner had left Brockton for a career as a Naderesque public servant or if he had returned to Rhode Island and waded into Ocean State politics. Instead, he detoured into an entry-level job at the prestigious Boston Consulting Group, where he analyzed corporations and advised them on strategic planning.

"I left (Brockton) not really knowing enough about the way the world works," he says. "And I thought if I didn't know about these things, then I'm not going to be very helpful on the kind of public issues I'm interested in."

"A lot of my friends at the time didn't understand," he adds.

Magaziner remained a nonconformist at BCG. He wore faded denim in a sea of crisp and starchy MBAS. He even joined the firm at half pay, saying he didn't

care about money and just wanted to learn about business. He also was a manic, 18-hour-a-day worker, who paid secretaries overtime out of his own pocket to polish his papers and presentations. He earned one of the fastest promotions ever and led the company into the super-lucrative business of consulting to nations as well as to corporations.

In 1979 Magaziner left BCG and, along with several colleagues, established Telesis. The firm developed corporate-strategy studies for companies headquartered in Germany, Japan, England, Mexico, France and Australia. Clients included General Electric, Black & Decker, Corning Glass Works and Volvo. The firm also devised reports on economic-development policy for Ireland, Sweden, Great Britain, Belgium and Ontario, Canada.

And while Magaziner works 15- to 18-hour days for Telesis (he was holding bedside meetings just a few days after his hernia surgery in December), he also churns out articles, monographs and books. The most recent was *The Silent War, Inside the Global Business Battles Shaping America's Future* (with Mark Patinkin, Random House, 1989).

Magaziner has had a few other part-time diversions, too, such as serving on the Brown board of trustees, teaching at the University of Rhode Island and Bryant College, serving on the advisory board of the Sloan Management Review at Massachusetts Institute of Technology, membership on boards ranging from Save the Bay (Narragansett) to the Jewish Federation to the Providence Public Library to Bradley Hospital.

During the 1980s, Telesis did a large amount of charity work, and probably the firm's most famous failure came in 1983 when it donated its time to the Rhode Island Strategic Development Commission and devised the Greenhouse Compact.

Designed to nourish the state's then-wilting economy, the Greenhouse Compact was the first comprehensive state industrial-policy plan in the nation. It consisted of a labyrinthine \$ 250 million package of tax credits, bond issues, training programs and loans. Its moniker came from the "greenhouses" it would create to grow new industries and 60,000 jobs in certain promising fields, such as thin-film technology and robotics.

Magaziner and his staff spent months drafting the two-volume, 11000-page report, which garnered the support of many business and political leaders and attention from the national news media.

The plan, however, also included a one-time income-tax surcharge. And by the time a 1984 referendum was held to approve the package, it was being savaged daily by conservative business leaders and economists, including the entire economics department at Brown. Liberal organizations were also less than enthralled. They viewed the proposal as a subsidy for big business.

The compact was defeated by a four-to-one margin.

"We made some serious political mistakes," Magaziner says. "We spent time on the substance of the report but very little time thinking about the process of selling it."

The same epitaph might have summed up the experience in Brockton, or any number of consulting assignments. Terrific ideas from Magaziner and his crowd, like hothouse flowers, withered in the cold light of political and economic reality.

Nonetheless, even opponents of the plan were impressed by Magaziner. "I have a lot of respect for him," says Gary Sasse, executive director of the Rhode Island Public Expenditure Council. "He is an intense intellectual individual, a very serious person."

Brilliant, too.

Despite the highly publicized Greenhouse defeat, Telesis and Magaziner continued to prosper in the intellectual marketplace. The message many took from Greenhouse was not necessarily negative in terms of the consultancy trade. It received plenty of press for being a groundbreaking concept, a first attempt at industrial policy, something newfangled and novel.

Through the 1980s, Ira drew plenty of frustrated geniuses to his refuge at Telesis. By 1987, when it was sold, the firm employed more than 200 professionals in Paris, Tokyo, Toronto, Melbourne and Munich.

Magaziner stayed on at the firm until January 3 of this year, and he took on Wang as his last job and as a personal favor to Rick Miller.

"When he became president, he called right away and asked if I would help with the turnaround there," Magaziner says. "I had also known Fred Wang, who was on the Brown board of trustees. So, I had both a feeling of wanting to help Rick and help Wang because it is an institution in trouble."

The most basic moves Miller and Magaziner are attempting are improving customer relations, which deteriorated dramatically during the 1980s, and cutting costs, mostly through stripping away needless layers of middle management.

"Much of the restructuring has been a result of Magaziner's work," Miller comments.

Indeed, Magaziner was barely on board at Wang when Miller, in what industry analysts call a "fundamental reordering," amputated another 2000 workers from Wang's payroll in November, lowering its work force to about 23,000.

"The cuts that have taken place probably end the downsizing for now," Magaziner says. "Our hopes are that we can get revenue up, because if you cut \$ 200 million in cost but lose \$ 300 million in revenue, you're still on a downward spiral."

Magaziner concedes the Wang layoffs have made him all the more careful about treating his own employees with sensitivity. "That whole situation there has just made me feel horrible," he says.

"But layoffs aren't really the issue," he adds, suddenly sounding more like Frank Lorenzo than a former 1960s student radical. "Either we are going to lay off 2000 people, or 23,000 were going to be out of work."

"This isn't a situation when you're laying off a thousand people to raise your profit from 23 to 24 percent," he says. "This is an industry in trouble, and Wang is part of it."

Beyond layoffs, the company has also changed its billing cycle, and embarked on a campaign to restore customer confidence, which, as might be expected, was badly shaken by the rumors of bankruptcy that reverberated all last year.

"Wang has a very good customer base and has very good products," Magaziner says. "But the way the company had been organized was extremely bureaucratic, and that meant that customers weren't being served well."

Wang is not the only troubled company in the land known as Route 128. Giants like Digital Equipment, Prime Computer and Data General are going through convulsive changes: flattening revenue growth, losses or steep declines in profits and thousands of layoffs, turning the Massachusetts Miracle into the Massachusetts Malaise.

And, although rumors continue that Miller and Magaziner are merely prepping Wang for an eventual sale, everyone at Wang denies this is the plan.

"I've been quite impressed with what Magaziner has done at Wang," Swearer, the former Brown president, says. "He's come in like a dynamo. And I see Wang making changes, quite prompt changes."

Magaziner and Miller believe Wang's long-term fortunes lie with computer imaging, a scanner-like system for viewing documents, photographs and other materials, as well as text. The project, though, is currently only a speck of Wang's annual revenues -- \$ 30 million in 1988 and a projected \$ 100 million in 1989. Wang also has high hopes for Freestyle, a combination computer, copier, telephone, FAX machine and handwritten note pad that projects documents and scribbles onto the VDT screen.

Despite the guarded optimism of Magaziner and Miller, industry analysts are not so hopeful. They liken Wang's financial situation to a patient so sick that he needs not just open-heart surgery but a transplant.

Says Steven Wendler, an analyst with the Gartner Group, a market-research and consulting firm in Stamford, Connecticut, summing up industry sentiment, "The outlook is rather bleak."

Back at Eddie's in Providence, Magaziner is musing on his future. Financially, he's set for life, and probably will never have to take another job that he doesn't want to do. He says he won't run for political office, as everyone expects him to do some day. He says he suffers from Adlai Stevenson's disease: He is too intellectual, not a rousing public speaker and would require a complete physical makeover by a Washington media magician. He should know, too, since he has been an adviser to Walter Mondale, Gary Hart and Richard Gephardt and was considered part of the braintrust behind the so-called Atari Democrats of the early and mid 1980s.

Then, there is the desire to spend more time (18 hours is a long day) with his family. Doing quite a bit of result-based work at their secluded waterfront home about 45 minutes away in Bristol, Rhode Island, is Ira's wife, Suzanne, a former consultant that Magaziner met while at BCG. They have three young

children, Seth, Jonathan and Sarah.

For the next few years, Magaziner says he will be content building a foundation that will do research on public issues that interest him, such as gerontology. And there will always be work writing newspaper op-ed pages and making joint appearances with people like Reich and MIT business-school dean Lester Thurow, the troika of Democratic brainiacs. He is also spending much of his time chairing a commission (sponsored by the National Center on Education and the Economy) on US industry's declining competitiveness with other countries.

At this point, Ira has an endowed chair in consulting heaven. He speaks, people listen and then pay and pay. Whether the ideas can be put into use, garner results, add anything to anyone's bottom line --whether they are "actionable," in consultant-speak -- is now beside the point. It is that purest stratum of intellectual commerce: What you wear, how you act, what you charge, what you've actually accomplished heretofore, all recede into irrelevance. They all pay to witness his brain at work. Period.

The applications of such a mind are endless. Subject matter is no limitation. Last year Ira was down in Washington, testifying in front of Congress about cold fusion. Remember the sensation: Two University of Utah scientists stumble across table-top fusion in a jar? Is Ira a physicist? No, he's an adviser to the state of Utah. But, there, watch that heavyweight, world-champion brain take on all the issues, spinning premises and projections, pinning down connections with industry, government, science. It's like one of those turn-of-the-century carnival wrestlers. The crowd has really paid to watch 'all comers,' of all shapes and sizes, be thrown mercilessly from the ring.

Throw the subject of the American economy at Magaziner and he'll rattle off predictions of dire times ahead, particularly for his children's generation. "We have to understand there is a new competitive economic environment," he says. "And you can't be an economic leader unless you're a technological leader."

In the past, he's been quite prescient about the issue. "I've been talking about the decline of manufacturing in this country for the past 10 years," he said. "And I've been right." Of course, the past decade has been very good to him. Dire times ahead? He's getting hotter all the time.

As for Wang, he is unsure how long his work will take. "It's a very stark situation," he says.

Can Ira Magaziner save Wang?

Can anybody?

Magaziner smiles. And, for a man who virtually never smiles, it's a brilliant smile.

Meanwhile, a clock ticks: \$ 10 . . . \$ 20 . . . \$ 30 . . .s the entire computer industry started to soften into Silly Putty. Analysts widely believe that Wang's primary mistake was not updating its products and making them compatible with products from IBM and other manufacturers.

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LEVEL 1 - 2 OF 7 STORIES

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HEADLINE: Cold Competition: GE Wages the Refrigerator War.

BYLINE: Ira C Magaziner; Mark Patinkin

ABSTRACT:

In 1981, both Matsushita and Necchi began to offer high-quality compressors the heart of the refrigerator - that were cheaper than those GE massors - de for itself. Instead of sourcing to stay competitive, GE's appliance group renewed its compressor capability and stayed competitive in refrigerators. It made large, long-term investments in new technology and in extensive computer training for employees. The result is that, in its Columbia, Tennessee plant, GE makes compressors that are 20% cheaper than any made by its dollar-an-hour competitors.

BODY:

Fifty miles south of Nashville, outside the city of Columbia, where the restaurants offer Bar-B-Q and catfish, is an unlikely piece of smokestack America. There, nestled amid the pine and hardwood of rural Tennessee, is one of the world's most automated factories. Had it not been built, U.S. households might soon have had yet another product -- the refrigerator -- stamped "Made in Japan." Instead, here in the heartland, General Electric found a way to build products better and cheaper than those made by foreign workers paid one-tenth American wages. The going has not been easy, but GE's struggle shows the challenges the United States must and can meet if it is to regain world manufacturing leadership.

Tom Blunt still remembers the day in 1979 that he first stepped into Building 4, the plant in Louisville, Kentucky where compressors for GE's refrigerators were made. The compressor -- the pump that creates cold air -- is by far the most expensive part of the product. It is also the refrigerator's heart, as important as an engine in a car. You'd have never guessed that by looking at Building 4.

The plant was a loud, dirty operation built with 1950s technology: old grinders, old furnaces, too many people. Finishing a single piston took 220 steps. Even the simplest functions had to be done by hand. Workers loaded machines, unloaded machines, carried parts from one machine to the next. The scrap rate was ten times higher than it should have been; 30% of everything the plant made was thrown out. There was only one thing Blunt liked about Building 4. He liked the thought of beating it -- changing it, rebuilding it. But it wasn't his place to suggest that. He had only recently joined GE's Major Appliance Business Group (MABG) as chief manufacturing engineer for ranges. He was too new to start pushing for major projects -- especially projects in someone else's department. Besides, he thought management would never pour huge dollars into redoing a whole factory. He'd come to realize that MABG preferred cosmetics -- bells and whistles -- to engineering. In Louisville, the money was all on the

marketing side.

Over the next 18 months, however, others at GE also began to worry about Building 4. A series of warningsignals started to wake Louisville up. The group's profits were off. Market share was falling. Competitors were pushing hard on several fronts. Matsushita was manufacturing better, cheaper compressors in Singapore -- and selling them to GE's Canadian subsidiary. Mitsubishi was experimenting with rotary compressors -- a technology that GE had invented but used only in its air conditioners. Most disturbing, Whirlpool, GE's chief competitor, was moving its compressor manufacturing to Brazil. While Louisville had been focusing on bells and whistles, Whirlpool had looked overseas, glimpsed the future, and acted.

Then, the threatgot even closer to home. In the fall of 1981, both Matsushita and Necchi, an Italian manufacturer, approached MABG itself, offering lower priced compressors that were indeed fine machines. Had that happened ten years earlier, there would have been one response: fight back. No one would have thought of buying from the competition. Even to whisper the word "sourcing" would have been sacrilege.MABG manufactured at home -- in the United States. Its factories were unequalled.But things had changed. Now many in Louisville began to wonder if Japan could be their deliverance. People began talking about a new strategy -- sourcing.

Tom Blunt didn't appreciate that kind of talk. By now he'd been named head of advanced manufacturing for refrigerators, MABG's biggest product. Few things uthim in a worse mood than a decision to close a plant. "Sourcing makes sense insome circumstances," he says, "but you can't source everything. My instinct isalways -- always -- to make things." Colleagues told him it was time to face the truth: there are certain areas, certain products that the United States can't compete in anymore. "Bull," he would say. "All we have to do is find a way to make it faster, cheaper, better."

John Truscott, MABG's chief engineer, agreed. "The compressor is the heart of the refrigerator," he says. "The refrigeratoris the heart of this group. I didn't want to give away our heart." Actually, no one was quite ready to go that far yet. Sourcing was a compelling idea, but it was still a new one. MABG needed more information. My consulting firm was asked to supply it.

My research began in Japan. I found that Matsushita had built a plant in Singapore that planned to produce millions of low-cost reciprocating compressors for world markets. Both Toshiba and Mitsubishi were making rotary compressors that were cheaper, quieter, and more efficient than the reciprocating compressors all other refrigerator manufacturers used. Sanyo was planning to move into rotaries as well. None of this was a fluke. Obsessive exporters,the Japanese had spent the last few years traveling to the United States, probing the appliance market in search of a weakness -- and found it. Now they were anxious to show off their plants. They knew that GE was considering sourcing compressors, and they all wanted to sell.

Next I went to Italy; Necchi turned out to be as great a threat as the Japanese manufacturers. Its new compressor plant was far more automated than Building 4. Finally, I visited Embraco, the new Whirlpool plant in Brazil. GE itself had a subsidiary nearby, making refrigerators for the regional market just as it did in Canada. This plant, too, wantedto buy a rival's compressors -- Embraco's.

I returned to Louisville and gave my interim report. The numbers were daunting. It cost MABG over \$48 to make each compressor. It cost Necchi and Mitsubishi between \$32 and \$38. Sanyo, Hitachi, and Toshiba were designing plants that would make compressors for under \$30. Embraco and Matsushita's Singapore plant were aiming at \$24 -- almost half GE's cost. One reason was labor. GE was paying over \$17 an hour, including benefits -- compared with Matsushita's \$1.70 in Singapore and Embraco's \$1.40 in Brazil. Even more astounding was the difference in productivity. It took GE 65 minutes of labor to make a compressor. It took 48 minutes in Singapore, 35 minutes in Brazil, and under 25 minutes in Japan and Italy. A company that's paying higher wages for lower efficiency doesn't have much of a chance.

The competition's export plans were equally daunting. Embraco was already shipping 10,000 compressors a month to the United States and aiming for ten times that amount within four years. Meanwhile, Necchi had just boosted exports to a million a year, and Matsushita would soon be in the multimillions. Overnight, foreign companies had gone from a small percent of the U.S. market to a full 20%. And the real invasion had yet to begin.

MABG's biggest product was in jeopardy. If management didn't act soon, it could be disastrous for the whole group. The options? One possibility was to source. Another was to build a factory overseas in a low-wage country, perhaps in a joint venture. The third possibility was to invest in a new, more efficient factory here at home. It was clear which way Louisville was leaning.

"If they're that far ahead of us," one executive said, "how can we possibly catch up?" "We ought to just go for the source," someone else added. Even John Truscott, the group's head of engineering, wavered, shocked by the difference in labor costs. Most felt it was a shame that GE was being outcompeted and a bigger shame to think about closing a factory; but a company's first mission is to survive.

Although this was only an initial overview, for many it was enough. The sourcing bandwagon began to roll. Don Awbrey, a Louisville general manager who had been put in charge of the compressor project, decided to speed up plans for a sourcing option. It was a good idea. Even if GE built a new plant, it would take years to get it up and running. Meanwhile, they'd need a bridge.

Compelling as sourcing was, however, there were still good arguments against it. Once you shut your plants, you're in danger of being hostage to your suppliers, many of whom, in this case, were also potential competitors. To source a product when you're a second-level producer to begin with -- as GE did with microwave ovens -- is one thing. To source the heart of your biggest product when you're the market leader is a much larger risk. The tide in Louisville was moving toward sourcing, but was it the right direction?

The ideal alternative would be to build a new U.S. plant that could make compressors cheap enough to undercut those built by the dollar-an-hour people abroad. Could a high-wage country do that? Theoretically, yes -- through automation. But not with the same product design as the competition -- in this case, reciprocating compressors. Brazil's Embraco had automated the recipe about as far as they could go -- and with low-wage workers. GE's only hope was a new design -- the rotary. Because it had fewer parts, there seemed a good chance of making it quicker, boosting productivity. That was what Toshiba was planning to do with its rotary. Could MABG do even better on its own? I doubted it. It's

hard to become the leader in a new technology that a competitor has already started to run with. True, GE had invented the rotary for air conditioners, but refrigerators were different; they worked a compressor much harder. But there was no need to do it alone. If GE could get Toshiba to help with either a joint venture or a technology license, it would have a better chance with less of a gamble. At least it was an alternative. But proposing it to GE headquarters in Connecticut would take more than rhetoric. It would take a detailed plan.

To explore the rotary option, I made an appointment with Tom Blunt. He wasn't pleased to see me. He'd heard about my interim presentation -- and the way the sourcing bandwagon was rolling. He was sure the decision had already been made. But I explained about the rotary and asked if he could put together a plan for a factory. He nodded. That's what he did for a living -- it wouldn't be a problem. I told him he needn't design it from the ground up. Instead, GE could work with Toshiba or another Japanese producer. Blunt's response matched his name. He didn't want to do it that way. If we gave his guys a chance, he said, they could outperform the Japanese. But he doubted management would let them try. A new factory wouldn't be cheap, and back then, it was almost unheard-of for a U.S. smokestack company to fight foreign competitors with a big plant investment. Still, he said he wanted to do it -- even though he didn't think anything would come of it. I agreed to back him. We'd propose building a new plant without the Japanese.

John Truscott was also intrigued. Before coming to Louisville, he'd pushed technology forward at each step of his career, first on an aerospace team involved in breaking the sound barrier, then when he'd helped perfect medical CAT scanning. Now he saw that same promise in the challenge of automating smokestack America. It was time to show that the United States could still be a world leader in manufacturing.

Truscott spent some time studying the rotary with an engineer's eye. He found it could indeed be made simpler than the old-fashioned reciprocating compressors. He also found that even the Toshibas were far from perfect. There was room to take this technology beyond the competition. He assembled a team to create a new design. The challenge was to make the compressor as simple as possible, with low noise, high efficiency, and -- hardest of all -- durability. At the same time, it couldn't be loaded up with too much metal or it would cost too much.

After a few months of work, the engineers came up with a model they were convinced could be made more cheaply than the one the Japanese were producing in Singapore. There was only one problem: the design required the key parts to work together at a friction point of fifty-millionths of an inch -- about one-hundredth the width of a human hair. No product on earth had ever been mass-produced at such an extreme tolerance. Most engineers thought technology hadn't advanced far enough even to try. Tom Blunt knew some machines operated at those tolerances -- jet engines, for example. But their parts had to be tooled one at a time, over long hours. Was it possible to get such precision in a plant that made 3,000 pumps a day? Everyone they talked to doubted it could be done. The design engineers took the idea to Truscott anyway. "It looks possible," Truscott said. He told Blunt to gather the people necessary to plan a factory. Blunt knew he'd just bargained himself into an obsessive few months. Designing a new factory is an enormously complex job with 100 new headaches a day. But that's why he likes doing it, he says. "Because it's hard."

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Blunt knew this would be a first -- one of the world's most automated factories. To design it, he'd need 40 people. Many GE colleagues advised him to go outside. To pioneer new technology, they said, you have to find designers who are already on technology's edge. But Blunt decided to stay with his own people. He gathered many from an unlikely place -- Building 4. "We didn't go out and get a bunch of Star Wars guys," he would say later. "Most of these people came from one of the most nonautomated places you've ever seen in your life."

Why did he risk that? Blunt is convinced that American industry doesn't have to recruit experts for breakthrough projects. Most seasoned engineers can do it, he says. All they need is the backing -- and confidence. At MABG, he knew his people had neither. "Some of the engineers here were the brightest people I had ever seen," he recalls. "They had degrees coming out of their ears. But they'd never been allowed to do anything." For years they'd been free to innovate on gadgetry but not on basic manufacturing. That left most of the engineers in a deep malaise. What made it worse, said Blunt, was that they were treated like second-class citizens. "A lot of people thought that we couldn't walk and chew gum at the same time."

If the engineers were to come up with a world-class breakthrough, they had to believe they could do it. So Blunt started by working on morale. As the engineers began their work, he pep-talked them. The reason he'd plucked them from Building 4 was that he needed people who knew factories -- and still believed in them. He was convinced that they could design a better plant than anyone in Japan or Korea. True, no one had ever built a factory that could mass-produce parts of this precision -- or achieve interchangeability at fifty-millionths of an inch. But none of that mattered. Here in America, in Louisville, they'd be the first. One of Blunt's favorite approaches was to remind his team that few outsiders would understand why they built factories for a living. You get no credit for it, he'd say, even though it's about the most difficult thing there is to do. But that's why they'd picked it, because of the challenge. And then he'd deliver the clincher: "Anyone can source," he'd say. Gradually, his people began to feel more confident than they had in years.

The problem with most manufacturing, Blunt felt, was that the factories were designed around products. This time, he and Truscott decided to design the process and product together, adjusting each as they went. They began by moving the product engineers and the manufacturing engineers across the hall from each other. Day by day, more and more people crossed the linoleum. Gradually, they fine-tuned the pump down to the most automatable model -- a stationary vane rotary. With fewer than 20 parts, it was also the simplest. The computer simulation said it would work, but only if the machining went far beyond anything the Japanese were doing with their plants. To help find a way to do that, Blunt brought in specialists from GE's jet-engine division. He brought in computer modeling engineers he'd met at Ford. He brought in the head of the Swiss Institute of Technology and consultants from the Structural Dynamics Research Corporation. But they were just for advice. He still relied mostly on his own people, the people from Building 4.

Blunt's main rule was never to allow someone to say it couldn't be done. "We figured it was the way to drive our people beyond state of the art," he says. "If you say it can't be done, you won't do it. But if you say, [We don't care that it's never been done, we're going to be the first,] then you have a shot."

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Slowly, week by week, the plan came together. "There weren't great [eureka' breakthroughs," recalls Blunt. "It doesn't work that way. The whole thing was block-and-tackle grunt work." As he expected, there were 100 headaches a day. Constant frustration. Late nights. Blunt hadn't enjoyed work this much since he'd come to Louisville.

The factory began to take shape on paper. Each time they finished roughing out a new piece of it, they taped it into a matrix unfolding along a corridor wall. The matrix soon took up a quarter block of space. To keep it going, they had to find empty offices and extend the paper in there. They spent a lot of time just sitting, drinking coffee, and looking at it. How to integrate the grinding and the gauging? The loading and the material handling? They moved around pages, deciding what to automate and what to do with workers.

And then it was done. "But that still didn't mean anything," says Blunt. "It was just a bunch of sheets of paper. Anybody can do that." Now came the second stage. Could they design machines that would make the parts the paper called for?

Blunt had one other rule. He wanted every piece of equipment in this plant to be U.S.-made. His stated reason was that it's too hard to deal with vendors 12,000 miles away. But there was another reason. He wanted to show that the United States could outdo the world using only its own resources.

One of Blunt's chief engineers was Dave Heimedinger. Under his direction, a team of engineers began to negotiate with suppliers of grinding and gauging machines. The vendors would look over the plan to mass-produce parts at jet-engine precision, and then they'd shake their heads.

"You can't do that," one vendor said.

"We think we can," said Heimedinger.

"Well," said the vendor, "it's our equipment, and we don't think it'll do that."

"We think we can find a way to make it do it."

"Well," said the vendor, "all right. We'll sell it to you. But it won't do that."

One manufacturer insisted on putting a clause into the sales agreement saying the purchasers had been warned they would not be able to get the tolerances they hoped for. He also added a no-return clause. Heimedinger bought the grinding machine anyway.. Blunt's theory of how to make machines do something they weren't built to do was simple enough. "We played around with them." Heimedinger and his team began experimenting with combinations that had never been tried. Often people would come by and ask Blunt why he was bothering. MABG is in trouble, they told him. Why gamble on a new factory? Let's just source and get on with it. Blunt smiles at the memory. "I just put my head down and said, [Well, we're working on the damn thing.]"

The first prototype machines began to deliver parts the manufacturers had said they couldn't produce. Blunt knew it wasn't final proof. Test machining is a good guide, but when you're building an unprecedented manufacturing

process, the only real test is the plant itself. "A first-of-its-kind factory is its own prototype," Blunt says.

On one hand, he considered that a welcome risk, assign of limitless potential. If they could have proved the plant would work, it would have meant they weren't breaking new ground. On the other hand, it made for sleepless nights. Until it was done, and the switch was thrown, there was no way of knowing whether they'd succeed. Blunt did, however, have two tests he used to gauge whether each of the new ideas would work. One he calls the eye test. "If you look into an engineer's eyes," he explains, "you can see whether he feels good about something, or whether he's afraid of it." The other is the "I'll try" test. "If you hear an engineer say, 'I'll try,'" he says, "you better look real close, because he's afraid it's impossible." When they'd finally finished their plan, no one was saying, "I'll try."

One thing made Blunt more nervous than the technical question -- the financial question. Would this plant make cheaper compressors than anyone else in the world? It was up to me to make those first projections. Both Blunt and I knew that if they didn't add up, it wouldn't matter how brilliant the design was. Headquarters couldn't possibly go ahead with it.

There was no getting around the fact that the costs were enormous. The plant itself would cost \$120 million. And it would take tens of millions more to redesign the refrigerator so the new compressor would fit it. That would make it one of the biggest single investments GE had ever made in a factory. It was a lot to gamble on the hope that GE could produce cheaper goods -- with \$17-an-hour labor -- than rival factories paying less than \$2.

The risk was beginning to loom as almost unacceptable. Then GE's engineers came up with a way to reduce it. GE had a Columbia, Tennessee plant that made air-conditioning compressors -- rotary models. Instead of going from nothing to the prototype factory in a single leap, they could begin by adapting the machinery already there. It would let them move into rotaries faster and work out the bugs while the new factory was being completed. The numbers on that proposal looked better. Even at ten times the wages, the new factory would still be the lowest cost compressor plant on earth. At least on paper.

Blunt knew this was no guarantee that GE's Connecticut headquarters would back the proposal. Fairfield was wary of huge capital investments, especially since GE had recently lost money on a failed washing-machine plan. How could MABG convince management to invest an even bigger amount on an even riskier venture? Especially when it could source for almost nothing?

I finished my calculations and called Blunt. He asked what I thought. Until now, I'd not come down firmly on either side. Now I said I'd weighed the two options carefully and had decided to recommend that GE invest the \$120 million. "You really are a crazy son of a bitch," he said.

I went to Don Awbrey, head of compressors. After a thorough discussion, he called his people together and told them he was prepared to go with the factory. But he wanted an airtight proposal. So did Jim Lehman, a finance man who had been with GE for 30 years. Like all good finance people, he treated requests as if the money would come from his own pocket. At first he was doubtful. He made us recompute the numbers with every possible risk factored in. But finally, everything seemed to add up.

That's when the completed plan went to Roger Schipke, the new head of MABG. In his prior post as head of dishwashers, Schipke had successfully managed one of the few MABG projects in a decade that went beyond bells and whistles -- a factory and product redesign that cut costs, improved quality, and doubled market share. This didn't mean that Schipke favored big investments, though. Conservative by nature, he had come up through sales, knew the importance of profit, and, like most in Louisville, had gone beyond the early 1970s mind-set about manufacturing everything in America. But one of Schipke's priorities was to get rid of the Louisville malaise. When a division becomes lackluster, people tend to turn on each other -- Schipke was working hard to change that, getting rival managers to work together and stressing cooperation with the unions. Slowly, MABG was becoming more cohesive.

And now Schipke had been handed this proposal. The compressor team had numbers proving the new factory would be more than ten times as productive as any other. Because the plant was so automated, labor costs weren't nearly as big a factor as Schipke had expected. He said it was time to take the proposal to Jack Welch, GE's chairman.

Schipke, Truscott, and Blunt flew to Connecticut to make the final pitch. Later, Blunt would recall the plane ride. The betting was that they wouldn't get approval. A few years before, management had been almost haughty about the Japanese; they could never touch GE's quality or technology. That had changed. The attitude now was that the Japanese had become manufacturing geniuses. Why try to beat them when you can borrow from them? Or buy?

It was Blunt's first time in the Fairfield boardroom. The room was nearly empty as he filed in with the Louisville team. Then a half dozen executives from headquarters, including Jack Welch, came in. The Louisville people made their case.

"Jack poked at us three or four times," remembers Blunt. Then the chairman asked his colleagues their opinions. A few said that they doubted it could be done. Welch looked at Blunt. "Why should I believe you people can build a factory to do this?" he asked. "You've never done anything like this before."

"No one ever asked us to," said Blunt. "And I believe we can do it."

Welch nodded and turned to Ed Hood, a vice chairman of GE and one of his most trusted technical advisers. Blunt watched as he drew out Hood's comfort level. Blunt was counting on three things. Welch, he thought, had faith in Schipke's new management team. He'd seen the numbers showing the plant could do it -- if the technology worked. Finally, the chairman wanted to keep major appliances as a core business for GE and was concerned enough about Louisville's slide to know that only big investments could turn things around.

Welch turned back to Schipke, Truscott, and Blunt.

"Okay," he said. "Go ahead."

Keith Moore, recently transferred from GE's lighting business in Cleveland, was in charge of the startup. That first meant retrofitting the old Columbia, Tennessee air-conditioner compressor factory with the new processes developed by Blunt's engineers.

Moore's people soon found that it's easier to design a new process than to make it work. The suppliers' warnings proved true. At first, GE couldn't make the equipment do what Blunt's engineers wanted. It took endless hours of debugging and hundreds of changes on each machine. The required tolerances were so extreme that even the tiniest slippage could throw a whole process off. Ultimately, GE had to develop new gauging and sensing systems to get the machines to readjust instantaneously as they worked.

Machinery deliveries were 2 months late at the start and up to 14 months late at the end. Management found it hard to shepherd the process from Louisville, 200 miles away, so GE rented 22 apartments in Columbia to house engineers. The company even started a daily air shuttle between the two cities so that the lab results could be flown in from Louisville and test observations could be flown back from Columbia. By October 1985, GE had finally begun Phase One. The old factory started producing the new compressor -- first 5 per day, then 10, then 100. By month five, it was up to volume production, with the quality holding just fine.

But if GE were to succeed at Phase Two -- making the new fully automated plant work -- it would have to face another challenge just as important as improving its hardware: improving its people.

A high-wage country can't compete with better technology alone; its other weapon has to be a better trained work force. Could MABG create that in a place like Columbia, Tennessee, where the biggest annual celebration is Mule Day? GE knew it would have to try. Hiring high-salary technicians from around the country was too expensive. At \$17 an hour -- benefits included -- the new plant could still beat the competition, but not at \$25 or \$30 an hour. So GE planned to staff the new factory with the assembly people already there at its Columbia air-conditioner complex. Most were unskilled. Few had more than a high school education.

GE decided to make yet another big investment: it would build one of the most sophisticated blue-collar training centers ever put in a U.S. factory. The cost would be more than \$2 million, which would have been difficult had GE not gotten help from a welcome partner -- the state of Tennessee gave the company a training grant. But MABG still couldn't afford to pay workers for the hundreds of extra hours it would take to train them. So GE asked workers to sacrifice 120 to 400 hours in classrooms, labs, and computer stations without pay and with no guarantee of promotion -- that would depend on how they performed. All GE could offer were new skills.

Paul Varner, who'd been named to help run the training center, thought the whole idea was a bad mistake. He'd worked on the Columbia assembly line and knew that most of the people there were conservative souls, wary of anything new. They already had secure jobs; what would be the point of sacrificing up to a year of nights and weekends for no pay? His guess was that almost no one would volunteer. "It took me two weeks to realize I was totally wrong," Varner says today. "I ate crow."

Workers lined up for the training. Partly, it was because of the prestige GE gave it. Those who made it through got diplomas and graduation dinners. But there was another draw as well, the same one that had prompted Varner to apply for a training-center job himself. He saw that plants throughout America were closing and knew it was a matter of time before distant forces put him out of

work too. Columbia's old equipment was antiquated. They couldn't hope to beat 1980s rivals with a 1960s factory.

So when GE announced its new plant, Varner wanted to be part of it. He didn't mind unpaid nights and weekends in the training center. For him, joining the future was incentive enough. And, as it turned out, it was enough for hundreds of others too. Clayton Russell was among the first.

Russell had been hired in 1974 for an unskilled assembly job. "That's all we had then," he says. His job was to put four screws into the rear case of an air conditioner -- 712 times a day. Gloria Anthony began the same year, also on the line. "A monotonous job," she says. "Over and over and over." Then construction began on the new plant. To be a part of it, they'd have to put in hundreds of hours of training, all on their own time. It didn't matter. They attended training sessions mornings, nights, weekends. "Whenever we had a chance," says Russell.

Dan Edlin, another line worker, put in 400 hours. Like the others, he was motivated by more than the chance of a bigger paycheck. "I wanted the opportunity to be in on something totally brand new," he says. "This is where business is going -- automation." Was there resentment that automation would cost jobs? "Machines aren't taking people's jobs," he says. "Machines are making new jobs. Anyone who wants to get off his duff and train can have one."

In the center's first year, the workers of GE Columbia spent over 50,000 hours learning new skills. Paul Varner learned a lesson: give American workers an opportunity and they'll sacrifice for it. "From Welch on down, they were saying, [You can do it,]" says Varner. "We wanted to prove their faith in us."

Soon Keith Moore was facing his next challenge: moving manufacturing from the converted air-conditioner plant into the new factory. He knew that making the just-completed factory perfect would mean thousands of adjustments. He also knew that his floor workers would be best able to spot many of those adjustments. So, right from the start, he held meetings with workers and engineers sitting shoulder to shoulder to discuss getting better quality and efficiency. Moore was just as likely to reorganize a part of the plant at an assembly worker's suggestion as at an engineer's. And he soon got an unexpected payback from spreading responsibility through the ranks. In the past, if even a small thing went wrong, line workers had to call a supervisor to solve it. Now they fixed it themselves. Part of it, says Moore, is the training: they know what to do. But they also feel like they own their part of the factory -- making it run is on them, not their bosses.

Moore also got workers involved in writing training manuals for the equipment. He figured that if they had to teach the techniques, they'd learn them better themselves.

Finally, he forbade finger pointing. Moore had seen before how workers blamed each other when things went wrong. So he announced that any failure would be considered the fault of the whole team. That way, Moore hoped, if one worker was having trouble, everyone else would rally. They did.

Looking back, Moore realizes how important it was to keep up camaraderie. Frustrations could have easily gotten out of hand. Late deliveries backed up the timetable. Processes that worked in the lab often failed on the factory floor.

There were late nights and occasional 7 A.M. Sunday morning meetings. But they made it; the plant opened on schedule, in March 1986. Both production and quality went smoothly, though inevitably there were bugs. Having the older plant to occasionally fall back on was a blessing. GE admits it had to pour in more investment than expected -- that happens when you're pushing technology's edge. But the factory is working, exceeding quality and cost targets. Ask Moore to point to one thing that did it and he won't mention hardware; he says it's the freedom he gave his workers. "We provided people with the tools to run their own businesses on the factory floor."

The celebration was short-lived. In January 1988, 22 months after the first compressor rolled out of the new factory, a problem surfaced. Some of the larger compressors -- those in GE's bigger refrigerators -- began to fail. It was only a small percentage of the plant's total production, but for a consumer product like this, reliability is essential and so is customersatisfaction. Schipke immediately formed a team of design engineers to find what was going wrong. The team worked for weeks, often through the night. The fact that only a small portion of the compressors had actually failed made the job especially difficult. But based on those few, the engineers went into a massive testing program and found that others could fail too.

Before long, the team discovered what was wrong: a lubrication problem was causing one of the compressor's smaller parts to wear more quickly than expected. The problem mostly affected the compressors that had to work the hardest, but some others were failing too. Eventually Schipke would learn that GE wasn't alone. Japanese companies using rotaries were having similar problems. But that was no comfort.

Now that the cause had been isolated, finding a fix became Louisville's obsession. Truscott and some corporate engineers led a new team that worked on the problem for months. Finally, the team came up with a better design and showed it to Schipke. He was confident it would work and told the team to go ahead. Meanwhile, he approved a plan to replace immediately any compressor that broke down -- service people would be dispatched to customers' homes at GE's expense.

Still Schipke faced a serious dilemma. While projections showed that only a small percent of the compressors would fail, redesigning the lubrication device would take months. He didn't want to risk GE's reputation by shipping refrigerators that might develop problems. To be as safe as possible, he made a painful choice. In the spring of 1988, he decided that MABG would start to source reciprocating compressors from abroad while the engineering team put the fix into place. It would mean a layoff at the old plant in the Columbia complex. And it would mean a high cost burden, since GE had to pay top dollar for the sourced reciprocating compressors and take longer contracts than it needed. Schipke knew it would probably cost GE far less to stay with its rotaries and just replace those that eventually broke down. But every failure, he feared, would hurt the company's reputation. That was more important than today's money.

He took some comfort in knowing he could let the new factory keep making rotaries for many GE refrigerators. He was also relieved that the group would be back to full production within a few years. But it was -- and is still -- a painful time. The compressor problem has drawn hard criticism from both the competition and the press. Some at GE are embarrassed because they had to source. Others are irritated at how much money the problem has cost: MABG's

1988 profits were way down because of the compressor problem, which has eaten up years of savings from the rotary program. Still others are angry because it was potentially avoidable. Early lab tests showed the compressors would last 20 years, but obviously, the truest test is performance in the field. Looking back, many MABG executives see a lesson. When using a brand-new technology, it may be wiser to introduce it gradually, working out the bugs over a few years, than to convert your entire production to it immediately.

The irony is that over 90% of GE's compressor investment -- and risk -- was tied up in the factory, by far the most complex technological challenge. And the factory works perfectly. A relatively simple part of the product design itself caused the crisis.

As GE knows, occasional product recalls are part of the price of gambling on new technologies. It happened with fuel-injected car engines, electric shavers, and microwave ovens when they were first introduced, and now it has happened with rotary refrigerator compressors. The cost to GE is high. But the payoff still stands: here in America, GE continues to make compressors that are 20% cheaper than any made by dollar-an-hour competition.

Clayton Russell, who used to put four screws into the rear case of an air conditioner 712 times each day, now runs a \$700,000 synchronous machine with 12 different stations. Gloria Anthony is now a skilled control person who can operate machines by computer, adjusting them whenever the terminal tells her there's a slight problem. "I never thought I'd go this high," she says. "When I began, I was just sweeping the floor." Both are proud to be part of a plant that makes twice as many compressors as the old one, with less than a quarter the people. Productivity, they say, is the only way America can compete. "We got production," says Russell. "That's a feeling of pride."

Edward Fite, director of the training center, guides visitors around the automated Columbia plant with the pride of someone showing off a new home. Overhead, compressor pieces roll down long, winding chutes into machines that stamp, cut, and refine; computers direct the pieces from one machine to the next, warning that they're on the way. The machines work and work, never stopping. Grinders, welders, testers, and robots do their drilling, milling, tapping, and gauging. There may be no other mass-production factory in the world that makes goods this precisely. Most of the line people stand before computer terminals: they're symbols of the new American blue-collar worker, equipped with tools to outcompete the world.

At 36, Fite himself has come from stuffing wires to teaching workers how to run a high-technology plant. He sees people like himself as the final mission of a factory like this -- it gives common people a standard of living beyond what they ever hoped for.

Tom Blunt will always be a figure from an earlier America. "I like the gritty stuff," he says. His father was a toolmaker, and he proudly traces his ancestry back through 11 generations of factory mechanics. But he knows the United States can lead the world in factories only by building a new kind. At his desk in Louisville, he leans over a computer terminal and punches a few keys. A moving diagram appears on the screen. He explains that he is monitoring the Columbia factory. Sitting in Louisville, 200 miles away, he can peer by computer into the guts of any machine he wants -- judging how it's working, how many parts have been made correctly, how many had to be set aside for rework.

"Let me show you something interesting," Blunt says. He punches a few more keys, then leans back, clasping his hands behind his head. "Since 7 A.M.," he says, "we've made 3,413 pumps." He pushes an update button. "Sorry," he says, "3,415." He pushes the update button again. "3,417. So far," he says, "we've had only five defective parts today." He pushes another button and nods; the computer is showing him a diagram of the day's tolerances for one of the machined parts. "The problem was with one of the grinders that went down," he says. "It's fixed now." Is there any other plant in the world that has this automated information system?

"There isn't," says Blunt.

Building 4 still stands a few hundred yards from Tom Blunt's office. Only now, it's half empty. Even if Columbia hadn't been built, it would have been dead by now. The choice was simple: it would either be replaced by a foreign plant or by an American plant; a foreign payroll or an American one. Despite the setbacks, GE is proud it chose to go with this side of the ocean.

LEVEL 1 - 6 OF 7 STORIES

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HEADLINE: 'TRICKLE DOWN' AND AWAY

BYLINE: By Ira C. Magaziner

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BODY:

-President Reagan has justified the inequities of his economic-recovery program by claiming that they are necessary for the creation of wealth. But his proposals rest on faulty assumptions about how wealth is created.

The program assumes that more funds made available to a private sector that is unencumbered by Government regulation will result in greater productivity, output and competitiveness for industry. It is this assumption that must be called into question.

The program releases almost \$500 billion in tax dollars, primarily to wealthy individuals and companies. Despite the enormity of this sum, these funds are unlikely to result in greater competitiveness for industry. Well over half of the funds flowing to individuals will never be invested at all. The average American saves only 5 percent of his or her income.

A large proportion of the invested funds will go into nonproductive uses - speculation in land, art, gold or rearrangement of assets, and to the legal, accounting and financial professions, which earn handsome incomes from engineering these investments.

If recent history is any example, even a large proportion of those funds that do flow to productive industry will not be used in ways that ensure long-term competitiveness. Not enough funds will go into research and development, into projects that fundamentally improve production or product technology, and into high-risk, longer-payback projects. Little will go to retrain the workforce for needed highskilled jobs and to ease the burden of regions and workers affected by necessary industrial restructuring.

Insufficient funds will be spent on assisting small- and medium-sized firms to export and on encouraging larger firms to be more aggressive in overseas marketing. Not enough money will be used to modernize traditional industries such as the auto and steel industries, which cannot be neglected because of their crucial role as stimulants to other parts of the economy. There will be no inducements to ensure that our most successful export industries - those making electrical and mechanical machinery - will be able to develop new competitive products.

Because of the kinds of incentives provided by our business system, many manufacturers will find it more attractive to invest their added funds in

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warehouses and distribution systems for importing Japanese goods than to invest in manufacturing facilities to compete against these goods. Others will find it useful to make incremental investments to reduce costs marginally instead of taking more fundamental steps. Many will find it attractive to chase cheap labor and use their tax refunds to set up plants abroad rather than to put modern facilities in the United States. Still others will become cash managers, using their funds to earn returns on trading and moneylending rather than on manufacturing investments. While these uses of tax-cut dollars may maximize the short-term cash flow of investing companies, they do little to enhance the long-term competitiveness of the conomy.

Meanwhile, our more successful trading partners in Japan, West Germany and France are engaged in joint industry-Government projects to improve their positions in advanced manufacturing industries and to pioneer new ones. Targeted programs to ensure sufficient funds for large-scale projects initiated by industry and involving research and development and high risk are under way, as are major innovations in industrial processes. These countries are also committed to joint industry-Government-union industrial policies to ease necessary industrial dislocations through labor-retraining programs and through regional policies that provide substantial incentives for industry to assist workers and communities.

These countries have created bodies to spur industrial development. They have realized that constructive industrial-development policies are a far less wasteful and surer means of stimulating long-term productive growth than the Reagan "trickle-down" approach. The lesson they have learned is similar to one we should have learned from our social and military ventures of the 1960's: Desired goals cannot be reached by indiscriminately increasing funds available.

The business-labor-government cooperation required to develop and carry out a constructive industrial-development policy will not come easily to the United States. But the pros and cons of such policy alternatives are not even being discussed. After all of today's controversies about deficits, interest rates and the duration of the recession are thrashed out, we will still need to confront the fundamental shortcoming of Mr. Reagan's program - its failure to provide an active, realistic proposal for industrial development.

Ira C. Magaziner is president of Telesis Inc., an international business-strategy consulting firm, and co-author (with Robert B. Reich) of "Minding America's Business."

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Goller Butcher

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