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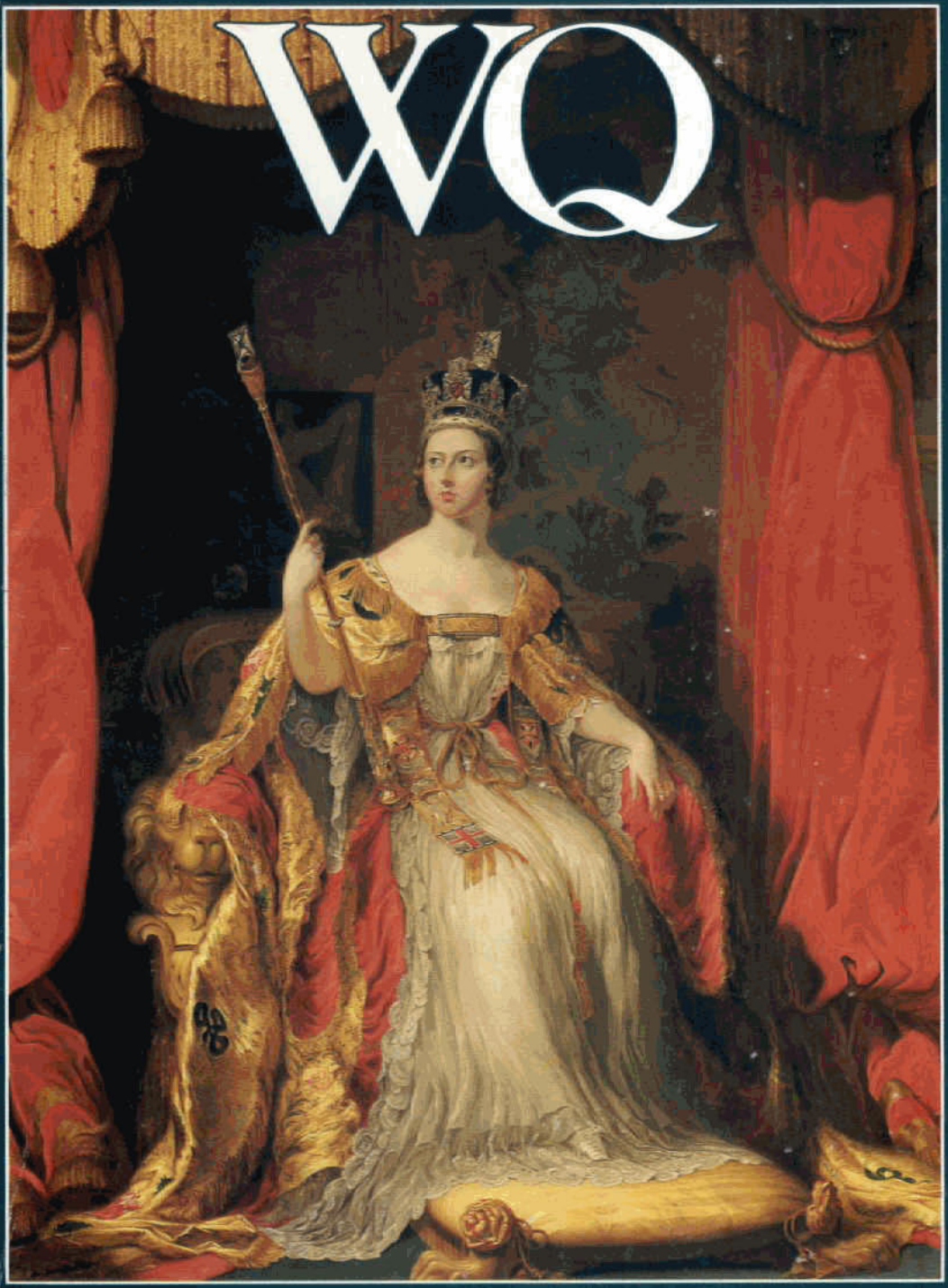

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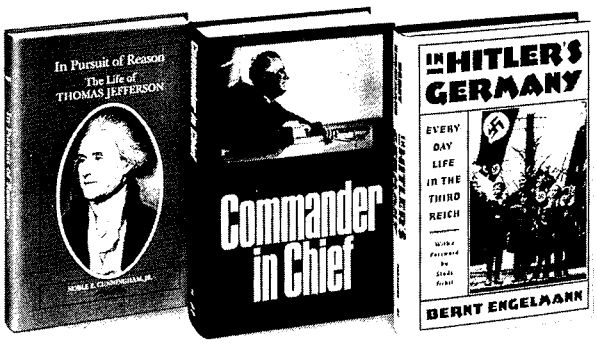

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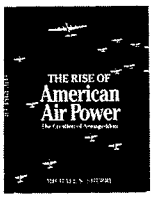

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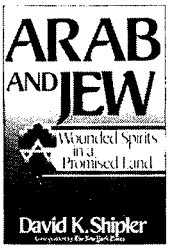

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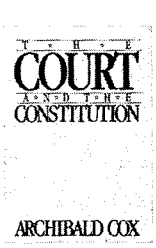

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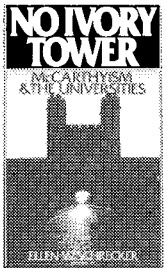

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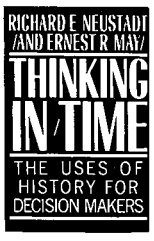

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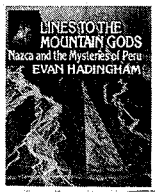

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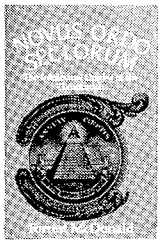

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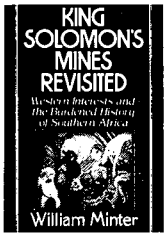

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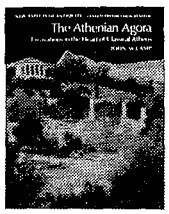

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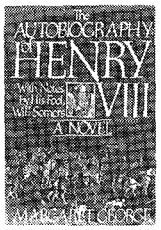

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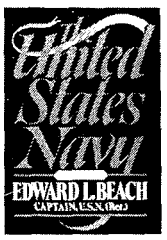

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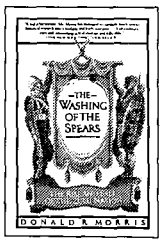

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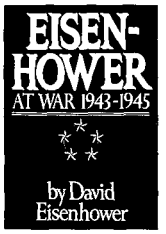

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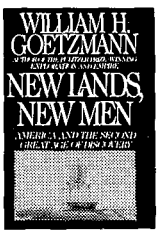

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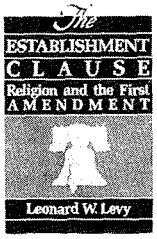

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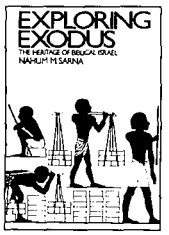

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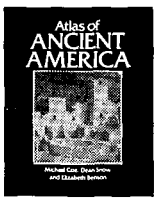

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Editor's Comment

If anybody had told him on the streets of Moscow that someday he would be ensconced in the Wilson Center, finishing a novel, Vassily Aksyonov writes, "I would have thought the idea as preposterous as an invitation to work in Stalin's old Spassky Tower Kremlin office . . . "

Nevertheless, Aksyonov, perhaps the best-known of the recent Soviet literary émigrés, did come to the Smithsonian "castle" in Washington, D.C., and, as a Fellow (1981–82) at the Wilson Center's Kennan Institute, wrote *Paperscape*. In his latest book, *In Search of Melancholy Baby*, he remembers his hard-working colleagues and the institute's library, "well-stocked with émigré and Soviet [publications]." Reading *Pravda*, he adds, "was the most effective medicine for nostalgia. Perhaps even more effective, though, are the official visits of Soviet scholars and diplomats with their highly guarded behavior. One of them, a fairly good friend in the past, sat a few feet away from me during a seminar one day and looked through me with such skill that I began feeling positively incorporeal."

Aksyonov and his wife Maya have settled in Washington, on the edge of the city's polyglot Adams-Morgan district, determined to understand their new homeland. It isn't always easy. Aksyonov makes that clear, with characteristic wit, in an excerpt from *Melancholy Baby* (p. 164).

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Chosen in open annual worldwide competitions, some 50 Fellows at the Center carry out advanced research, write books, and join in seminars and discussion with other scholars, public officials, journalists, business and labor leaders. Often they contribute to the *Quarterly.*

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Gettysburg

The Gettysburg Review

An interdisciplinary magazine of arts and ideas, *The Gettysburg Review* will commence quarterly publication in January, 1988, and will feature the best in essays, poetry, fiction, graphics, and book reviews by both beginning and established writers and artists. The Editor is Peter Stitt, whose writings on contemporary literature appear regularly in such publications as *The Georgia Review, The New York Times Book Review, The Paris Review,* and *Poetry.*

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Some basic principles for foreign trade policy

Most Americans, and especially their elected officials, would tell anybody who asks that they favor free trade and deplore protectionism. Invariably, however, many of them add the word "but"—and all their caveats have cast the dark shadow of protectionism over the trade legislation now making its way through the Congress.

We can understand the appeal of the protectionists' siren song. Many American industries are beset by foreign competition, and our trade deficits are huge. But most economists agree that many of our problems are self-inflicted: America's huge budget deficit gave rise to high real interest rates, an overstrong dollar, and the consequent trade imbalance. The fact is, with today's dollar at a more realistic level, American products are becoming increasingly competitive in domestic and world markets alike. The problems are lessening.

But it takes time for large imbalances to disappear, and the caveats against free trade continue to be heard. Because trade is so vital to the economic well-being of America and the world alike, these caveats are worth examining. And on close scrutiny, in our view, they only serve to reinforce a set of principles that have long served as the basis for sound trade policy. Here's what we mean:

- *"I'm for free trade, but a lot of countries are pushing America around."* Actually, whether one is being pushed or doing the pushing depends on perspective. And rules do exist under which America and its trading partners have long conducted their commerce, and can settle their disputes. The rules are spelled out in the General Agreement on Tariffs and Trade (GATT), to which the U.S. is a signator, and which for 40 years has kept a lid on the trade wars which raged before its creation. Even now, a new round of negotiations is under way to broaden and improve GATT. The principle underlying GATT: There are specific, internationally accepted rules governing trade, and enforcement procedures are already in place to protect all the players.
- *"...but our trade deficit with Japan (or Taiwan or any country that's the whipping boy of the moment) is simply too high."* The fact is, trade is multinational and involves all industries. The balance of accounts with any single nation tells only part of the story, and only at a given moment in time. Japan buys more from America than any country except Canada, despite our trade deficit with that country. The U.S. continues to run aggregate trade surpluses in agriculture, aircraft, control instruments, plastics, and synthetic resins and rubber. Furthermore, investment balances are another part of the total picture. While at the moment the world sells more in the U.S. than it buys, foreigners invest more here than Americans do abroad—and foreign capital has been crucial in funding America's budget deficit. The principles to remember: Trade is a complex process that cannot be defined by any single measurement. And trade should never be used as a whip, or to gain political advantage. Should the U.S. politicize trade, we would be punishing the very nations that are our political allies, and we would make it much more difficult to retain our leadership role in the free world.
- *"...but imports are costing the U.S. jobs."* Are they? Since 1981, imports to the U.S. have risen by more than 40 percent, while America has created almost 11 million new jobs. During that time, unemployment in the U.S. has fallen—and risen sharply in Japan and Europe. Besides, some 5.5 million American jobs are linked to exports—every $1 billion of exports supports more than 25,000 U.S. jobs. Think of the loss of these jobs, should America's trading partners retaliate against protectionist steps taken here. And one should never forget that U.S. consumers pay higher prices for protected goods. The principle at work: In the long run, protectionism costs more jobs than it saves, and it also distorts the economy by harboring inefficiencies and obsolescence.

Cordell Hull, President Franklin D. Roosevelt's secretary of state and the architect of Roosevelt's reciprocal trade agreements that helped pull America out of the Great Depression, once said: "Enduring peace and the welfare of nations are indissolubly connected with friendliness, fairness, equality and the maximum practicable degree of freedom in international trade." That's the basis of another trade principle: Never enact any trade measure you wouldn't like to see another country aim at you.

If our last principle seems classically simple and more than slightly familiar, well, nobody ever said the Golden Rule requires footnotes. Along with our other principles, we offer it as a basis of discussion—and a compass point to guide the nation through its current search for an effective trade policy.

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POLITICS & GOVERNMENT

Predictable Candidates

"Why Great Men Still Are Not Chosen President" by Stephen Hess, in *The Brookings Review* (Summer 1987), 1775 Massachusetts Ave. N.W., Washington, D.C. 20036.

In 1888, Oxford law professor James Bryce, author of *The American Commonwealth*, accused American voters of accepting "mediocrity" in their presidential candidates. Powerful political organizations, he wrote, only supported candidates from large states since "the objective was winning, not governing." Today, "political parties are in decline," argues Hess, a Brookings senior fellow, "and there is still no certainty that great men will be chosen president."

The growth of presidential primaries since 1904 and the erosion of party patronage have complicated the race. However, "the common denominator that describes those who would be president," says Hess, "is the depth of their ambition."

All politicians are subject to "progressive ambition"—a desire to rise in office. But only a select few are willing to face the physical costs, loss of privacy, and general "onslaught on your life" that result from a presidential campaign: "the ultimate in progressive ambition."

"Lateral entry" into politics from other fields has long been commonplace. Explorers (e.g., John C. Fremont,"The Pathfinder of the Rockies"), journalists (editor Horace Greeley), ex-generals, ex-astronauts, and most recently "clerics-turned-politicians" such as Pat Robertson have joined in the quest for the presidential prize. However, whether 20th-century candidates climb the political ladder or not, their motivations would still be recognizable to Bryce. The one-time "coalition-builders" of the 19th century have become "expert persuaders" in a 20th-century political free-for-all. Politicians "have changed less than the process," claims Hess, "as the nation moves from party democracy to media democracy."

A candidate must race against the "biological time clock," since a president must be at least 35 years old. The author estimates that contenders who can hold onto their staff and wait out an incumbent's renomination have at most four chances to run. Given the odds, the urgency with which candidates run becomes understandable. "In short," Hess concludes, "contenders have remarkably little maneuvering room, and much of their strategic planning is held hostage to fortuity."

POLITICS & GOVERNMENT

Montesquieu did not write political philosophy until he was 45. His early works include a satire of French culture and a collection of songs prepared for the Prince of Wales.

Constitutional Ambivalence

"The Modern Doctrine of Executive Power" by Harvey C. Mansfield, Jr., in *Presidential Studies Quarterly* (Spring 1987), 208 East 75th St., New York, N.Y. 10021.

There has been much debate in recent years over the powers of the U.S. presidency. Should the executive branch play the strongest role, or should the legislature be supreme?

This question, says Mansfield, a professor of government at Harvard, is not new. The teachings of three philosophers in particular—Niccolò Machiavelli, John Locke, and Charles-Louis Montesquieu—provided the Founding Fathers with ideas that they used to determine the Constitutional role of the executive branch in American government.

In *The Prince* (1513), Machiavelli first defined the executive as a single man who heads the state. The prince, Machiavelli teaches, must act in secret and rule by conspiring against the people, occasionally through "memorable execution[s]" of leading citizens.

Locke introduced the idea of the "separation of powers." His *Two Treatises of Government* (1690) answered the 17th-century English question of whether the Crown (the executive branch) or Parliament (the legislative branch) was to be supreme. His solution was to divide political power between them. While the executive was to be the "extraordinary sovereign," ruling by natural right, the legislative branch (which he first defined as a collective body) was the "ordinary sovereign," who creates the laws for the executive branch to bend, break, or enforce.

Montesquieu (1689–1755) improved upon Locke by advocating the separation of judicial and executive branches. The executive makes peace

or war, exchanges ambassadors, and prevents foreign invasions, while the judicial branch punishes criminals. But Montesquieu could not determine whether the executive or the legislative branch was to dominate.

The Founders' uneasy solution was to give the U.S. president powers "weak in theory [but] strong in practice." In theory, the president, Mansfield says, is an "errand boy" for Congress, carrying out its laws. But he also has certain special powers (to veto legislation, to command the armed forces). Moreover, he is vested with "the executive power" which, in practice, gives him wide latitude. He takes an oath not to execute the laws, but to faithfully execute his *office*. This Constitutional ambivalence, says Mansfield, is recognition of "the ambivalence of human freedom against, or in concert with, the things that limit and enslave men."

NASA's Troubles

"Accountability in the Public Sector: Lessons from the Challenger Tragedy" by Barbara S. Romzek and Melvin J. Dubnick, in *Public Administration Review* (May-June 1987), 1120 G St. N.W., Washington, D.C. 20005.

What caused the space shuttle Challenger to explode 73 seconds after liftoff on January 28, 1986?

The president's Commission on the Space Shuttle Challenger Accident seemed to provide clear and succinct answers. The so-called Rogers Commission blamed two factors—design flaws in the solid rocket boosters, and the National Aeronautics and Space Administration's (NASA) errant decision to launch in marginal weather. But Romzek and Dubnick, both professors of public administration at the University of Kansas, argue that the commission's focus was too narrow; moreover, its reform proposals, they say, are likely to lead to more, not fewer failures.

Romzek and Dubnick believe that NASA blundered because it became accountable to too many parties, including the White House, Congress, various federal agencies, and the press.

When NASA was founded in 1958, the authors say, it was a simpler, less political organization. Its mission, at least after 1961, was clear: by the end of the decade, they were to land a man on the moon and return him safely to Earth. Aeronautical engineers filled the agency's ranks and made key decisions. NASA became one of "the most innovative organizations (public or private) in recent American history."

During the late 1960s, however, members of Congress and the press began to doubt whether the space effort was worth the cost. To survive, the agency had to become more politically and bureaucratically astute. NASA's future looked promising when administrator Dr. James Fletcher (1971–77) won White House and congressional approval for a continuing, partly commercial venture: the space shuttle.

To control the shuttle's costs, the authors say, NASA decentralized and contracted out many of its tasks. Meanwhile, members of Congress and the press expected the shuttle to perform without a hitch. On the eve of Challenger's last flight, CBS News anchorman Dan Rather announced another "costly, red-faces-all-around space shuttle delay."

After its Challenger investigation, the Rogers Commission called for

the creation of an independent Solid Rocket Motor Design Oversight Committee, and a separate Office of Safety, Reliability and Quality Assurance to monitor NASA. But such reforms, the authors believe, would exacerbate the agency's troubles by relying increasingly on "enhanced bureaucratic structures," and "legal accountability mechanisms."

The Challenger exploded, Romzek and Dubnick argue, not because such "mechanisms" failed, but because, for a technology-oriented agency like NASA, they are inappropriate altogether.

Pulpit Power?

"An Experimental Study of the Influence of Religious Elites on Public Opinion" by Bruce McKeown and James M. Carlson, in *Political Communication and Persuasion* (Vol. 4, #2, 1987), 1755 Massachusetts Ave. N.W., Ste. 324, Washington, D.C. 20036.

Churches have become more politicized in recent years, as liberal activists and conservative evangelists have used the pulpit to inveigh against everything from the evils of pornography to the evils of apartheid. But does all this sermonizing have any political impact?

Probably not, say McKeown and Carlson, political scientists at Seattle Pacific University and Providence College, respectively. The "conventional wisdom" that preachers have the ability to sway millions of Americans may be false.

The authors asked two groups of Catholic and evangelical Protestant students whether they agreed or disagreed with five statements about welfare, tax reform, public service jobs, military deterrence, and nuclear missile targeting. One-third of the students were told the statements were written by Billy Graham; one-third were told the statements came from recent pastoral letters by the American Catholic bishops; and one-third were not told the statements' source.

McKeown and Carlson found that authorship had "no influence" over student belief in any statement. Catholic students rated statements attributed to Graham only two-tenths of a point lower (on a ten-point scale) than when the statements were attributed to the Catholic bishops. Protestant students rated statements attributed to Catholic bishops only two-tenths of a point lower than when the same statements were attributed to Graham. In seven out of 10 cases, students' support was highest when the statements were not attributed to any source.

Billy Graham, the authors conclude, "may be a fading star in the political heavens of ascendant fundamentalism and an anachronism in the political domain." Because the Catholic bishops provoked neither strong support among Catholic students nor strong disdain among Protestant students, the opinions the bishops express may well be equally irrelevant to both denominations.

The authors conclude that "the recent politicization of American religion" has not changed the political beliefs of church congregations. Americans, they suggest, have deeply rooted political convictions, not easily altered by a sermon or a "policy statement."

FOREIGN POLICY & DEFENSE

Gorbachev's Chances

"Gorbachev the Bold" by Peter Reddaway, in *The New York Review of Books* (May 28, 1987), 250 West 57th St., New York, N.Y. 10107.

Since taking office in 1985, Soviet Communist Party Chief Mikhail Gorbachev has advocated a policy called *glasnost*, or "openness." To Westerners, the word, like the policy, sounds new. But Reddaway, secretary of the Wilson Center's Kennan Institute for Advanced Russian Studies, points out that 30 years ago, Soviet leader Nikita Khrushchev also espoused a *glasnost* movement.

"Can Gorbachev the Bold hope to succeed where Khrushchev the Intrepid failed?" Reddaway asks. His answer: probably not.

To "get the country moving again," Khrushchev introduced wide ranging economic and political reforms, says Reddaway. He released millions of political prisoners, and curbed the powers of the *nomenklatura*, or high government officials, before he was ousted in 1964.

Like Khrushchev, Gorbachev is trying to restructure the Soviet economy and bureaucracy. Although his policy is known as *glasnost*, Gorbachev has stressed *perestroika*, or "reconstruction"—which requires, as he expresses it, "the serious, deep democratization of Soviet society." Among other things, Gorbachev has pushed for differential wage rates, which reward the industrious. In agriculture, he has favored market-oriented small-scale cooperatives and the use of private plots over the larger, more cumbersome state farms.

The Kremlin under Gorbachev has released more than 100 political

"Gorbachev's gone too far!" says a Soviet official. Despite glasnost, *only about 100 political prisoners have been released.*

prisoners, tolerated political demonstrations, and permitted Soviet diplomats to discuss the sensitive topic of human rights. Against the Central Committee's wishes, Gorbachev has supported multi-candidate elections for some party posts. "Democracy is not the opposite of order," the Soviet Communist Party chief has said. "It is order of a higher degree, based not on . . . the mindless carrying out of instructions, but on whole-hearted, active participation by the whole community in all of society's affairs."

Thus, *glasnost*, Reddaway suggests, represents a sincere effort to reform Soviet society, and one that will meet fierce resistance from Moscow's entrenched *nomenklatura*. That is why Gorbachev's revolution is not likely to succeed.

Unfortunately, Reddaway says, Soviet society is no more likely to change now than it was 30 years ago. "I suspect that the only likely remedies for this situation," he observes, "may be the ones that have been required in Russian history for nearly two centuries—either a serious breakdown in public order, or defeat in a war."

NATO Works

"NATO Defense: No Need for Basic Change" by David C. Hendrickson, in *Parameters* (Summer 1987), U.S. Army War College, Carlisle Barracks, Penn. 17013.

Should the North Atlantic Treaty Organization (NATO) be preserved? Some strategists argue that Soviet military might and European neutralism have rendered NATO ineffective. American tax dollars, they say, would be better spent on the Strategic Defense Initiative and defending American frontiers than on maintaining an antiquated alliance.

Hendrickson, a political scientist at Colorado College, says that critics have not proved that NATO needs to be overhauled or abolished. Defects in NATO, he writes, "have been greatly exaggerated"; it is still capable of countering Soviet aggression.

A quick Soviet invasion of Western Europe would face formidable obstacles. In order to conquer West Germany, for example, Warsaw Pact commanders would have to reinforce 25 Soviet divisions with troops from the client states of Poland, Czechoslovakia, and East Germany whose "reliability under fire is doubtful." Should the initial invasion fail to produce a decisive victory, Soviet generals would have to rely on "short-term conscripts with inadequate training and no experience" in fighting a protracted war of attrition.

U.S. defenses in West Germany are becoming more reliable, Hendrickson writes. The U.S. Seventh Army is "a far more capable fighting force" than it was in the late 1970s. American air power is also better prepared to respond to Soviet aggression.

Moreover, the Soviet Union lacks any credible excuse for an invasion. The USSR does not have "standing grievances" similar to those which helped provoke the First and Second World Wars. Unlike Germany after the Versailles treaty of 1919, the Soviet Union is not a defeated nation thirsting for revenge. The current European balance of power was shaped and approved at the Yalta and Potsdam conferences of 1945, where the

Soviet Union negotiated with the United States and Great Britain on an equal footing.

Lastly, Hendrickson concludes, the Soviets "lack a plausible theory of victory." NATO's forces remain strong; three Western powers (Great Britain, the United States, and France) retain the ability to annihilate the Soviet Union with nuclear weapons. NATO leaders should formulate strategy based on two principles: "one is to recognize that the Russians wish to intimidate us; the other is not to be intimidated."

Balancing Trade

"Economic Imbalances and World Politics" by C. Fred Bergsten, in *Foreign Affairs* (Spring 1987), 58 East 68th St., New York, N.Y., 10021.

As everyone knows, the 1980s have produced dramatic changes in the world economy. Thanks mostly to rising budget deficits and Japan's aggressive entrepreneurs, the United States, which has recorded surpluses in trade with other nations for decades, now has the largest trade deficit of any nation in history.

Bergsten, director of the Institute for International Economics, suggests that such trade deficits are symptomatic of American economic decline. To reduce the trade deficit ($150 billion in 1986), Americans must first accept that a worldwide "Pax Americana" is no longer affordable. "It is obvious," Bergsten warns, "that the United States can no longer play the role of global economic benefactor."

The changing trade balances will eventually have "enormous psychological effects" both in the United States and in Japan. Despite its vast debts, the U.S. still acts as if it had the strength of a creditor nation, notably by such actions as forcing the dollar to rise so high that its own industrial and agricultural products were priced out of world markets. Japan, with massive trade surpluses, still sees itself as a weak, isolated island with "few global responsibilities," instead of a nation whose annual trade surpluses are almost as large as American trade deficits.

Bergsten suggests that reducing U.S. trade deficits through protectionist measures, while providing temporary relief for some U.S. manufacturers, may set off "a full-scale trade war" which would gravely weaken Third World debtor nations and threaten the foundations of the North Atlantic Treaty Organization. The best strategy to restore America's economic health would be to reduce the federal *budget* deficit by $100 billion by the early 1990s. Such self-discipline in Washington would free funds which could be used by export-oriented American manufacturers to expand and retool their plants.

Japan will have to adjust its economy to reduce unhealthy trade surpluses. By cutting existing taxes and postponing new ones (most notably a proposed value-added tax), Japan could shrink its trade surplus by increasing *domestic* demand for goods. For example, Japan's houses, on average, are half the size of American houses, and many lack modern plumbing. If the Japanese government could reduce land prices by slashing domestic farm subsidies and by removing arbitrary building restrictions, Japan could

launch a "10-year housing boom."

The U.S. and Japan, Bergsten concludes, should form a "Group of Two" to stabilize world currencies and form the basis for a new economic order. Americans and Japanese "must either learn to work closely together or they will continually square off in hostile confrontations."

Exporting Democracy?

"Is Democratic Theory for Export?" by Jacques Barzun, in *Ethics and International Affairs* (1987 Annual), 170 East 64th St., New York, N.Y. 10021.

One of the Reagan administration's goals has been to encourage democracy abroad. The National Endowment for Democracy, with a $15 million budget, was created in 1983 to push this effort.

Can democracy be exported? Barzun, university professor emeritus at Columbia, thinks not. In the first place, democratic institutions differ widely around the world. For example, in Australia the national referendum, and in Holland proportional representation are considered essential. In France, the police are allowed to gather and keep information on ordinary citizens to a much greater degree than in the United States.

Second, Barzun argues, democracy, whatever its form, "cannot be promoted from outside." Rather, a "cluster of disparate elements and conditions" which may include literacy, a common language, and common traditions, must develop internally. Then a people must learn democratic behavior for themselves. Democratic principles imposed from above will fail to take root. In Africa and Asia, many of Europe's former colonies have not formed democratic regimes because they were "let go" by their colonial rulers too soon. They had not yet learned "the ways of freedom."

Troubles within democracy further cloud its appeal elsewhere. Barzun argues that in the West, recent popular demands for equality conflict with democratic freedoms. "Freedom calls for a government that governs least; equality for a government that governs most," says Barzun. Ultimately the quest for equality leads to a "conflict of claims [and] a division of the body politic." In some cases, demands for equal rights lead to separatist movements (such as that of the Basques in Spain) within long-established states.

Because democracy is so complex, Barzun says, "the parts of the machine are not detachable" for export. Americans, he concludes, "cannot by any conceivable means" teach other countries democratic ways.

Beyond Hiroshima

"Third-Generation Nuclear Weapons" by Theodore B. Taylor, in *Scientific American* (Apr. 1987), 415 Madison Ave., New York, N.Y. 10017.

In 1945, the first generation of atomic weapons was introduced—fission bombs that leveled Hiroshima and Nagasaki. The 1949 U.S. test explosions at Bikini Atoll in the Pacific signaled the introduction of a second generation of nuclear weapons—fusion or "thermonuclear" hydrogen

bombs with enormous destructive power.

Taylor, a former nuclear weapons designer who is now president of NOVA, Inc., an energy development firm, predicts that a third generation of nuclear weapons will soon be developed. "These weapons," Taylor writes, "would be as removed from current nuclear weapons in terms of military effectiveness as a rifle is technologically distant from gunpowder."

Unlike that of current weapons, energy produced by third-generation nuclear weapons will be targetable and controllable. Designs now under consideration at the Lawrence Livermore National Laboratory can theoretically direct nuclear energy towards a target, perhaps by converting the explosion energy into pulses of electricity with magnetohydrodynamic generators. The wavelengths of the radiation produced by the explosion can also be modified to produce increased levels of microwaves, gamma rays, or neutrons.

Containing and directing radiation from nuclear weapons is particularly important in space, where the products of a nuclear explosion could affect a much wider area than a similar explosion in the Earth's atmosphere. Because there is no resistance to objects propelled through space, even small explosions can yield large results. For example, converting five percent of the energy produced by a one-kiloton explosion in space could produce enough microwaves to severely damage electrical equipment over 250 square kilometers, an area larger than Washington, D.C.

Deployment of third-generation nuclear weapons will depend on the support the Soviet Union and the United States give to their respective weapons research laboratories. Taylor predicts that if the two superpowers continue underground nuclear testing, "it will probably be just a matter of time before these new types of offensive and defensive nuclear weapons are developed."

ECONOMICS, LABOR & BUSINESS

Rubber Numbers

"Whom Do You Trust? An Analysis of Executive and Congressional Economic Forecasts" by Mark S. Kamlet, David C. Mowery, and Tsai-Tsu Su, in *Journal of Policy Analysis and Management* (Spring 1987), 605 Third Ave., New York, N.Y. 10158.

In a December 1981 interview in the *Atlantic Monthly*, David Stockman, then director of the Office of Management and Budget (OMB), charged that the Reagan administration had created "political numbers" in preparing economic predictions for the 1982 fiscal year budget statement. Stockman declared that unduly optimistic economic predictions had been used to justify the 1981 round of tax cuts.

But Stockman was only partially right, say Kamlet and Mowery, associate professors, and Su, a doctoral student, all at Carnegie-Mellon University. The long-range economic forecasts released by the Reagan administration in 1981 *were* overly optimistic, predicting that the gross national product (GNP) would grow at an average rate of 1.5 percent more each

year than it actually did.

However, the authors say, "the Stockman critique of the 1981 long-run forecasts overlooks widespread bias in long-run Executive branch forecasts prior to 1981." The 1981 long-range economic forecast was *more* accurate than the forecasts of 1976, 1977, 1978, and 1979. The mean annual overestimation of long-range GNP growth made between 1962 and the start of the Reagan administration was 2.1 percentage points; the Reagan administration has reduced the error to 0.9 percentage points.

While short-run government economic forecasts "appear to be accurate and unbiased," long-run forecasts often face political pressures. For example, the Carter administration's long-run economic forecasts were prone to error because the Humphrey-Hawkins full-employment bill required that forecasts be prepared as if full employment would be reached "in the more distant years" of the projection. The authors expect OMB forecasts prepared under the 1985 Gramm-Rudman-Hollings deficit-reduction law will continue to be overly optimistic.

The authors suggest that private forecasters are likely to issue more reliable long-range forecasts. Unlike the government, the authors conclude, private forecasters "have a considerable financial incentive to issue forecasts with the least bias and greatest accuracy possible."

Some Lessons In Development

"Why Isn't the Whole World Developed? Lessons from the Cotton Mills" by Gregory Clark, in *The Journal of Economic History* (Mar. 1987), Hagley Museum and Library, P.O. Box 3630, Wilmington, Del. 19807.

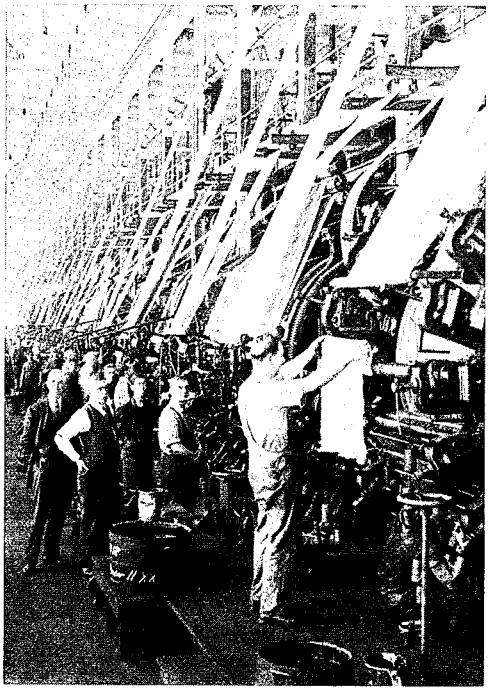
What causes some countries to be less developed than others? Developed countries, says Clark, an assistant professor of economics at Stanford, use labor more efficiently than their less-developed competitors.

Clark makes his case by studying Britain's domination of the world textile market in the years before the First World War. In 1911, Britain produced 81 percent of the world's cotton yarn and cloth exports with only 40 percent of the world's cotton-spinning mills. Yet all of Britain's cotton had to be imported, and British wages were over five times as high as Japanese and Chinese wages and twice as high as wages paid to Italian and Russian workers.

British workers earned their high wages by being much more efficient than their counterparts in competing nations. Workers in British mills could tend four times as many looms as workers in Indian or Chinese mills and twice as many looms as workers in Spanish, Italian, or Portuguese mills, even though most mills in the world used British looms and many used British mechanics.

Efficiency was related neither to experience nor to a worker's origins. Employees of Southern U.S. mills tended 30 percent more looms than British workers, yet Southern mills usually hired "hill farmers and their families, who were completely inexperienced not only in textiles but in any kind of factory work." In Italy, between three and six times as many workers were required per machine as in New England.

ECONOMICS, LABOR & BUSINESS



Britain built the first modern cotton mill in 1771. This 1916 photograph shows managers and workers in the "printing room" of a large textile mill in Lawrence, Mass.

Worker efficiency, Clark argues, is "determined by the local environment." For example, in some less-developed countries, workers refuse to increase their productivity for fear of increasing unemployment. Indian mill hands during the 1920s refused to operate more spindles because they did not want to deny jobs to unemployed countrymen. Indian workers, wrote one American observer, "cannot be persuaded" to work harder "by any exhortation, ambition, or the opportunity to increase their earnings."

Novelties

"Gross National Products" by Robert A. Mamis, in *Inc.* (Apr. 1987), 38 Commercial Wharf, Boston, Mass. 02110.

The novelty products industry in America is thriving. Chattering teeth, Slinkies, Wacky Wallwalkers, and other novelties are steady sellers. Yet the family-owned firms which build novelties are threatened by cheaper Far East imports and rising production costs.

Many novelty products, says Mamis, an *Inc.* senior writer, sell well for generations. The Joy Buzzer was perfected by 1928. The Slinky was invented in 1943, when naval engineer Richard James saw a torsion spring slink off a shelf. Graham Putnam, chief executive officer of Fun Inc., says he wants to manufacture products that will have a "steady [sales] volume year in and year out."

American novelty products face stiff foreign competition. For example, most of the 400,000 whoopee cushions sold each year are made overseas, because hand-crafting the cushion bladders is labor-intensive. Inventor Ken Hakuta packaged his Wacky Wallwalkers in South Korea because U.S. packaging would have added nearly 20 percent to the cost of his product.

U.S. novelties manufacturers hope to survive through superior technology. Fun Inc. uses ultrasonic welding equipment to manufacture its renowned Talking Teeth. S. S. Adams Co. replaced its Joy Buzzer with less costly foreign versions after the patent expired in 1960. Faced with declining sales due to the "inexplicable junkiness" of imitations, the company reintroduced its original zinc-cast model in 1985.

Novelty manufacturers are also selling their technological expertise to other businesses. James Industries, producer of the Slinky, has also made coiled springs for Xerox. The chemical component used in Wacky Wallwalkers may soon provide a sticky coating for the tops of surfboards and the fingers of gloves worn by football wide receivers.

Most novelty firms' executives rely on their own instincts to create new products. Ken Hakuta, however, has set up a toll-free hot line to give advice to would-be novelty inventors. The next big seller, Hakuta says, will be "something you look at and go, 'Wow!'"

Too Much Housing?

"Dividing Up the Investment Pie: Have We Overinvested in Housing?" by Edwin S. Mills, in *Business Review* (Mar.-Apr. 1987), Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, Penn. 19106.

To most Americans, a house is a place where people live. But to economists, a house is an investment, which, like a savings account, accumulates and preserves capital for future use.

The current tax code provides many advantages for people who invest in their own homes. Mortgage and real estate taxes are deductible, and homes (for tax purposes) depreciate faster than other buildings. The federal government directly subsidizes homeowners by providing reduced-interest mortgages as well as low-cost housing for military personnel.

Mills, a visiting scholar at the Federal Reserve Bank of Philadelphia, believes that tax breaks and subsidies have created an imbalance. "The U.S. economy," Mills says, "has overinvested in owner-occupied housing relative to industrial and other kinds of capital."

A housing investment yields two kinds of returns: a "private return," or profit to the investor, and a "social return," the amount of new capital produced by the investment. While the private return from housing is competitive with other investments, the "social return" is not. Because Americans "overinvest" in housing, more homes are built than are necessary, resulting in lower prices for homes and comparatively lower rates of return for the investor. Mills calculates that, in 1983, housing was only 55 percent as efficient at producing capital as were nonhousing investments.

Suppose that capital was distributed as efficiently as possible by reducing the capital allocated to housing from 32 percent (the 1983 figure) of

total investment to 24 percent. The drop in construction of new houses and apartments would boost housing costs by 28 percent. But the reallocation of capital to better uses (e.g., new plant and equipment) would increase wages by 13 percent and the gross national product by 10 percent, while cutting interest rates from eight to seven percent. Because income from earnings is more equally distributed than income from property, according to Mills, "the move to a socially efficient capital allocation could also reduce income inequality."

While many tax breaks for housing were eliminated in the Tax Reform Act of 1986, most, including the mortgage interest deduction, remain. The fall in marginal tax rates due under tax reform, Mills concludes, will make housing deductions less attractive, thus increasing the "social return" of future housing investments.

SOCIETY

The Back Alley Myth

"Good News for the Fetus" by Ian Gentles, in *Policy Review* (Spring 1987), 214 Massachusetts Ave. N.E., Washington, D.C. 20002.

Many Americans who favor abortion often make two related arguments: Women who become pregnant against their wishes, they say, will have an abortion whether it is legal or not; prohibiting women from having legal abortions will only drive them into the unsafe hands of back-alley butchers.

But Gentles, research director of the Human Life Research Institute in Toronto, Canada, believes that both of these assertions are untrue.

Abortions, says Gentles, became safe long before they became legal. The number of maternal deaths resulting from illegal abortions in the United States, Britain, and Canada, he argues, has never been high, and had been decreasing steadily since long before the U.S. Supreme Court ruled the procedure constitutional, within limits, in 1973. In 1940, there were fewer than 350 deaths in the United States resulting from abortion; on the eve of the Court's decision, the figure stood between 20 and 25.

Why did abortion become safer? Gentles credits the discovery and increasing use of sulfonamides, penicillin, and other antibiotics that abortionists, most of whom were qualified physicians, employed. "The vast majority of [illegal] abortions," observes Gentles, "were conducted by doctors trying to make some extra money on the side. These doctors had access to the latest in medical technology and put it to use."

Since 1971, abortion has become increasingly common. Citing research conducted by Barbara Syska, Thomas Hilgers, and Dennis O'Hare, authors of a study published in 1981, Gentles maintains that the number of illegal U.S. abortions in 1967 was probably no more than 135,000. Even if that figure were doubled or tripled, it would still fall far short of the 1.5 million U.S. abortions that Planned Parenthood's research agency, the Alan Guttmacher Institute, estimates now take place every year.

The rising number of legal abortions, says Gentles, suggests that a woman's willingness to terminate an unwanted pregnancy largely depends on how difficult it is for her to have an abortion.

"The vast majority of abortions today," says Gentles, "are sought out by unmarried teen-aged women and by married women who simply do not want an additional child .... [and who] would prefer legal abortion to the embarrassment [or] inconvenience of having a baby. On the other hand, it is hard to believe that all, or even most, of them would go to the extent of having an illegal abortion."

The Still-Wild West

"Violent Death, Violent States, and American Youth" by Michael R. Greenberg, George W. Carey, and Frank J. Popper, in *The Public Interest* (Spring 1987), 10 East 53rd St., New York, N.Y. 10022.

Murder, robbery, and other violent crimes are common occurrences in the nation's largest population centers, such as New York, Philadelphia, Boston, Chicago, and Los Angeles.

But according to Greenberg, Carey, and Popper, all Rutgers University professors, young white people (counting Hispanics as whites, as the U.S. Census Bureau does) stand a greater chance of dying violent deaths on the streets of some rural towns in Montana, Nevada, and New Mexico than they do in dense urban areas.

Every year, thousands of young Americans, aged 15 to 24, die violent deaths—mostly from murder, suicide, and auto accidents.

Most of these fatalities take place where the majority of Americans live, in large towns and cities. But the authors found that six rural Western states (Arizona, Idaho, Montana, Nevada, Wyoming and New Mexico) suffer from the highest number of youthful deaths per capita in the nation (excluding deaths among blacks, Orientals, native Americans, and other minorities). Death rates among young white people living in those states, the authors found, have, since 1939, stood some 20 percent above the national rate for young whites. And in the six most dangerous Western counties, the death rate among young white men even exceeds the rate for their black counterparts in Atlanta, Baltimore, and Washington, D.C. Youths living in seven Eastern states (Connecticut, Massachusetts, New Jersey, Rhode Island, New York, Maryland, and Pennsylvania), the researchers found, are least likely to die violent deaths.

Why is the West so dangerous, at least for young people?

The authors blame various forms of social instability. Divorce rates in the six most violence-prone Western states, they point out, are two to three times higher than those in the Northeast, and the unemployment rate is one-third higher. Population migration is also more common in the West. About two-thirds of Northeasterners, but only two-fifths of Westerners, are still living in the states where they were born.

They also discovered the same relationship between instability and violence within the Western states. The rates of violent deaths in rural northwest New Mexico were 5.6 times higher than those around urban Utah County (Provo), Utah, where divorce and unemployment rates are

Thanks to beer and fast cars, some of today's western youth are as dangerous to themselves as the The Wild Bunch *(1969) were to others.*

low and the influence of the Mormon Church is strong.

Finally, the authors blame violent deaths among Western youths on "the rural white ethos of the American West." This cowboy mentality, they say, emphasizes "outdoor machismo, individualism, risk taking, conspicuous athleticism, danger seeking and nature conquering."

Multiplying Errors

"The Nine Lives of Discredited Data" by Diane B. Paul, in *The Sciences* (May-June 1987), The New York Academy of Sciences, 2 East 63rd St., New York, N.Y. 10021.

College textbooks have changed dramatically during the past 20 years. Until the mid-1960s, textbook authors were academic specialists who wrote to ensure their reputations in their field.

Paul, an associate professor of political science at the University of Massachusetts, Boston, contends today's textbooks are "slicker, more elaborate, and more expensive" than in the past. They are also less demanding.

The quadrupling of community college enrollment (to 2.5 million students) between 1960 and 1970 created a new market. Community college instructors, faced with ill-prepared students, demanded that textbooks not only be "dumbed down" to 10th-grade levels, but also that they have such "bell and whistle" supplements as slides, photographs, and tests.

Textbook authorship has also changed. Instead of being written by

scholars, textbooks are increasingly authored by free-lance writers. Their work is then edited by experts and "market knowledgeable" reviewers chosen "for their preferences as consumers" of textbooks.

Because developing new textbooks is quite expensive (a $500,000 budget is not uncommon), many publishers model new texts on successful predecessors. Many textbook authors "crib" by plagiarizing other textbooks. Because dozens of textbooks compete for each market, plagiarists "can feel secure that their sources will not be easily identified."

Plagiarists often copy errors. For example, British psychologist Cyril Burt claimed that intelligence differences are primarily genetic. Burt's research was challenged in 1976 and proven fraudulent three years later; yet 19 of 28 genetics textbooks published after 1978 cited Burt's data as true. Some textbooks even use Burt's research as "evidence" in one section—while denouncing Burt in another.

Textbook publishing will become increasingly competitive in the future, as markets decline due to shrinking college enrollments. Instead of improving texts, publishers are adding more frills and increasing marketing budgets. Intense competition, Paul warns, has created a world where "textbooks are being produced and sold like toothpaste."

A Homeless Crisis?

"The Homeless Issue: An Adman's Dream" by Martin Morse Wooster, in *Reason* (July 1987), 2716 Ocean Park Blvd., Ste. 1062, Santa Monica, Calif. 90405.

How many homeless people are there in the United States?

Homeless advocates such as Mitch Snyder, head of the Community for Creative Non-Violence (CCNV), claim that between two and three million Americans lack a place to live. The U.S. Department of Housing and Urban Development (HUD) estimated in 1984 that there were between 192,000 and 586,000 homeless people in America.

The debate over numbers, says Wooster, a *Wilson Quarterly* editor, is not just academic. Estimates of massive homelessness are being used to justify a $500 million "emergency" federal aid bill pending in Congress.

The dispute began in 1982, when the CCNV published *Homelessness in America*, a report that tried to show that the number of U.S. homeless "could reach 3 million or more during 1983." The CCNV produced this figure not by counting homeless people, but by collecting anecdotal evidence from several major cities.

The government countered the CCNV with a 1984 HUD report alleging that between 250,000 and 350,000 people were homeless "on an average night in December 1983 or January 1984." HUD researchers did not count the homeless either, but relied instead on four estimates derived from newspaper articles and surveys of shelter operators.

HUD analysts based one estimate of homelessness on news reports written as much as two years before the December 1983 "snapshot" date. Shelter operators also gave HUD widely ranging estimates; citing their claims, HUD stated that the homeless in New York numbered between 12,000 and 50,000 and in Los Angeles between 19,500 and 39,000.

While Snyder has attacked HUD's report as "a political document"

meant to "undercount" the homeless population (and thus reduce the need for more federal aid), there is some evidence that HUD's estimates are too high. Sociologists at the University of Massachusetts, Amherst, surveyed 245 blocks in downtown Chicago in 1985 and 1986 and estimated that 5,000 people were without shelter at least one night each year—one-third of HUD's estimate for the city.

Wooster concludes that Snyder and Co. have yet to prove that more federal aid for the homeless is necessary. Indeed, he asks, given the "sketchy evidence offered by the homeless lobby, why should taxpayers believe there is a 'homeless crisis?'"

PRESS & TELEVISION

A 'Living-Room War'?

"Television Reporting of the Vietnam War; Or Did Walter Cronkite Really Lose the War?" by Edward Fouhy and Lawrence W. Lichty, in *The World and I* (Apr. 1987), 2850 New York Ave. N.E., Washington, D.C. 20002.

Watching overseas mayhem on a 19-inch screen has now become a common American experience. But for those who watched the struggle in Vietnam, America's first "living-room war" (1965–73), on television, seeing burning huts and bloodied villagers was disconcerting. Did these and other images cause public disaffection and American defeat in Vietnam?

No, say Lichty, a communications professor at Northwestern University, and Fouhy, an executive producer at NBC News. They argue that the electronic media *followed* rather than *molded* public opinion.

The authors analyzed televised evening news coverage of Vietnam beginning in August 1965. Until the summer of 1967, TV news reports were generally very positive about the course of the war. Sixty-six percent of guests appearing on television interview shows between 1966 and 1970 could be classified as "hawks" (as opposed to 41 per cent by 1971).

Journalists actually stressed new technology, superior weaponry, and bombing capabilities, which, the authors say, "gave a feeling of progress." In August 1965, CBS's Morley Safer ended a broadcast about Cam Ne village saying "there is little doubt that American firepower can win a military victory here." Three weeks later Walter Cronkite said that "in the biggest American victory yet, the Marines . . . are rooting the isolated Viet Cong out of bunkers and pillboxes."

As early as 1966, however, public support was ebbing in spite of these optimistic reports. In March of that year, Gallup polls showed that 25 percent of the American public thought that sending troops into Vietnam had been "a mistake"; by May that figure rose to 36 percent.

Media coverage began to reflect public pessimism. Harrison Salisbury's Christmas 1966 *New York Times* stories from Hanoi reported that bombing "was more likely stiffening the will of the North Vietnamese." With televised coverage of the operations code-named Cedar Falls and Junction City, TV reporters began to question official estimates of success.

PRESS & TELEVISION

The Tet Offensive of 1968 united Washington opinion and the media against Lyndon Johnson's conduct of the war. Tet, the surprise communist attacks on South Vietnam's cities, "paralyzed the administration," say the authors. "Whatever ability President Johnson might have had to rally public opinion to the war was lost."

The myth that television caused America to lose the Vietnam war persists. "The war that Americans saw was almost exclusively violent, miserable, or controversial," wrote General William Westmoreland in his memoirs. But in the end, Lichty and Fouhy conclude, TV's impact was mostly to reinforce the prevailing homefront mood of the time.

Freeing the Airwaves

"The Empire Builders" by Rinker Buck and Peter Ainslie, in *Channels: The Business of Communications* (Apr. 1987), 19 West 44th St., New York, N.Y. 10036.

In Western Europe, television has traditionally been controlled by the state. But during the past five years, nearly 20 privately owned networks have been created to compete with state-owned broadcasters for viewers.

Television in Europe is attracting so many entrepreneurs, say Buck and Ainslie, a senior editor and the managing editor, respectively, of *Channels*, that "if every channel and satellite service planned in Europe comes to fruition, by 1990 there will be an annual need for 500,000 hours of programming to fill them."

Private television has existed in Britain and Italy for years. Since 1982, five other European nations have introduced private networks. France has licensed two new private networks, La Cinq and Canal Plus, and plans to sell off the state-owned TF-1 network sometime this year. Belgium has authorized both French- and Flemish-language ad-supported networks, and the Roman Catholic Church will soon begin operating Portugal's first commercial channel.

Many investors in private European television control other media. In West Germany, the Bertlesmann publishing conglomerate co-owns the RTL Plus network. French newspaper baron Robert Hersant has a minority interest in La Cinq and is one of two bidders for TF-1.

Some European governments are resisting for-profit television. In West Germany, the postal service charges $400 to have a home wired for cable television, and German states have imposed lengthy licensing delays for the private Sat 1 and RTL Plus networks. Opposition Social Democrats have vowed to "protect the franchise" of the state-owned ZDF and ARD networks from private competitors.

Although private European networks buy many American TV shows, the authors suggest that "reliance on cheap American programming" may diminish as commercial networks become more profitable. Profits should rise as limits on advertising revenues are lifted. For example, France is the fourth largest industrial power in the world, but only the 15th largest advertising market, due to restrictions on commercials on state-owned television. The eventual lifting of these restrictions, the authors conclude, will be "a bonanza for those in control" of privately run networks.

RELIGION & PHILOSOPHY

The Devil You Know

"Speak of the Devil" by Jaroslav Pelikan, in *Commentary* (Apr. 1987), 165 East 56th St., New York, N.Y. 10022.

"Better the devil you know than the devil you don't," the old adage goes. But what can we truly know about the Devil?

Pelikan, a Yale professor of history, argues that "diabology," the study of the Devil, is a useful way to examine an age-old question: How can evil persist if men can freely choose God?

In the Old Testament, the Devil "functioned as one deity among many others." But by the third century A.D., the Devil had become, to theologians, the chief agent of evil in the world. Manichean heretics of the time believed the world divided into two equal realms—the Kingdom of Light, ruled by God, and the Kingdom of Darkness, ruled by Satan. While Manicheanism vanished by the seventh century, its views were a major influence on Saint Augustine, who helped ensure the Devil's importance for the next thousand years.

In the 18th century, philosophers began to question the need for the Devil. Rationalists such as Immanuel Kant and Jean Jacques Rousseau explained the persistence of evil without assuming such "superstitious nonsense" as the Devil. Christians, unable to counter rationalist arguments,

Satan, as portrayed by French artist Gustave Doré in an 1861 edition of Dante's Inferno.

began to abandon their belief in Satan.

Yet Satan has his place in the 20th century. Pelikan sees Satan as "a personification of evil," a way to explain such acts as the mass slaughter of Ukrainians under Stalin or Jews at Auschwitz. It was not the bureaucratic "banality of evil" that butchers such as Adolf Eichmann practised. These men were simply satanic, evil men whose crimes transcend their time.

We should not, however, follow the Manicheans and assume that Satan is as powerful as God. Human beings, Pelikan teaches, have free will and can freely choose either good or evil paths in the course of their lives. But beyond this world, "beyond the antitheses of light and darkness, good and evil, heaven and hell," lies the One Who Is, the Creator, who, for believers, will ultimately triumph.

Satan can thrive—and win converts—in a world where many doubt his existence. "Satan is quite happy to be what we still call a gray eminence," Pelikan concludes, "who can rule even if he does not reign."

Explaining Stonehenge

"Stonehenge: A New Theory" by Benjamin C. Ray, in *History of Religions* (Feb. 1987), Univ. of Chicago Press, P.O. Box 37005, Chicago, Ill. 60637.

Why was Stonehenge built? Historians through the centuries have suggested that Stonehenge was everything from a Druidic shrine to a temple to the Sun God. The most popular contemporary theory is that of Gerald Hawkins, who proposed in *Stonehenge Decoded* (1965) that Stonehenge was a gigantic calculator built to perform astronomical observations.

Ray, a professor of religious studies at the University of Virginia, argues that Hawkins failed to take into account the religious motivations of Stonehenge's builders. While Stonehenge was used for some astronomical purposes (such as determining the dates of solstices), "Hawkins was clearly wrong about Stonehenge's possible use as a calculating machine."

Hawkins believed that the "trilithons"—the pairings of two upright "sarsen" stones supporting a third "lintel" stone that form the central ring of Stonehenge—were positioned so that priests could see when the Sun and Moon were aligned in the sky. Because the Sun and Moon were aligned in 32 out of 240 possible positions, Hawkins concluded that Stonehenge was a finely tuned observatory.

Yet Stonehenge is less precise than Hawkins made it out to be. Astronomer Richard Atkinson found that even a random placing of trilithons in a circle would result in 48 alignments out of 240 positions. Moreover, the wide space between stones resulted in errors so large that Stonehenge can "hardly be said to indicate solar or lunar positions at all."

Stonehenge, Ray suggests, was built as a temple to communicate with the dead. Alignments were not "astronomically specific," but were perhaps placed so that rituals could be conducted when the Sun and Moon were "at their strongest moments." The trilithons were placed in a circle so as to "imitate in imperishable stone a great timber house," with "the vault of the sky" acting as a symbolic roof.

Ray admits that much of his theory of Stonehenge's significance is speculation. "Any attempt to explain the function of the monument is necessarily interpretive," Ray concludes. However, "it is clear that the current astronomical interpretations are no longer viable, at least in their present form."

SCIENCE & TECHNOLOGY

Politics and Science

"Science and Scientists in the Public Arena" by Edward Shils, in *The American Scholar* (Spring 1987), 1811 Q St. N.W., Washington, D.C. 20009.

Should science and politics mix?

Shils, a sociologist at the University of Chicago, believes that politics has corroded scientific thought by creating a "new world" where scientists increasingly doubt the traditional methods of conducting research.

In Shils's view, the politicization of science began when atomic bombs exploded over Nagasaki and Hiroshima in August 1945. After the explosions, Manhattan Project scientists Leo Szilard and Harold Urey campaigned to bring atomic weapons under international control. Their efforts convinced many scientists to support a variety of causes, ranging from the Pugwash meetings of the 1950s to environmental protests of the 1980s.

While scientists discovered politics, Congress and the White House saw

Physicist Leo Szilard drafted Albert Einstein's 1939 letter to Franklin D. Roosevelt calling for development of the atomic bomb.

utility in controlling science. "Mission-oriented research" such as the $11.5 billion spent since 1977 in the "war on cancer" has meant more federal money for research grants but less scientific autonomy for grantees. The rising proportion of research ordered and funded by the Pentagon has resulted in the "secret" classification of growing numbers of scientific papers, breaking with the scientific tradition of free access to ideas.

All this, says Shils, has resulted in a "new collective self-consciousness" among scientists. Belief in the scientific method is being replaced by a belief in a vaguely defined "responsibility of science"; researchers worry about the consequences of experiments (such as recombinant DNA research) instead of the validity of the experiments themselves. Those who argue against performing experiments whose results might be put to harmful purposes use flawed logic. They assume that the results of an experiment can be known before the experiment itself is carried out, and place themselves above legislators and supervisors in determining what research *should* be performed by their peers, creating a "scientistic theocracy . . . repugnant to the traditions of scientists."

Scientists should try to be accurate within the laws of their field, but, they should not assume that their political views devolve from scientific principles. There is no equivalent of the traditional scientific method to guide scientists in the political world. While codes of ethics created by scientific associations may be useful, Shils concludes, the best guide for a scientist's conduct is "reflective self-examination."

Deadly Winds

"Mastering the Microburst" by Richard Monastersky, in *Science News* (Mar. 21, 1987), 1719 N St. N.W., Washington, D.C. 20036.

Airplanes fly through many kinds of hazardous weather—hail, snow, thunderstorms. Yet the most dangerous weather is that which creates a "microburst."

Since microbursts were discovered in 1974, says Monastersky, assistant to the editor of *Science News*, they have been found to be the cause of three accidents in which 398 people have died. Meteorologist John McCarthy says that microbursts "are the largest source of air carrier death in the United States."

A microburst begins as a stream of air (or "downflow") descending from a cloud. When the downflow hits the ground, the wind blows outward from the center of the burst in a pattern similar to that made by water from a faucet when it hits the sink, which causes "wind shear."

An airplane flying through a wind shear initially confronts a headwind, which increases the speed of the air over the wings, "lifting" the plane. From the center of the microburst, the airplane then flies into the spreading winds; the headwind quickly becomes a tailwind, decreasing "lift."

Microburst accidents happen when an airline pilot fails to adjust to these sudden shifts. (Wind velocity shifts in microbursts average 60 mph, but they can be as high as 172 mph.) Microbursts are particularly deadly to airplanes during landings, when engine power is reduced.

Most microbursts are not detectable by conventional radar or by cloud

observation. Doppler radar systems, now under development by the National Center for Atmospheric Research in Colorado, bounce microwaves off objects that move with the wind (such as raindrops or ice particles) to gauge wind speed, and are thus more accurate at searching for microburst warning signs than conventional radar.

The Federal Aviation Administration plans to deploy Doppler radar at O'Hare, Kennedy, and 14 other major airports by 1989, and to require all airline pilots to undergo training to detect microbursts. The goal, McCarthy says, is to make wind shear accidents "a 20- to 30-year phenomenon instead of a one- to two-year phenomenon."

Sweet Memories

"Sweet Memories" by Paul E. Gold, in *American Scientist* (Mar.-Apr. 1987), Sigma Xi, 345 Whitney Ave., New Haven, Conn. 06511.

Doctors and dentists warn of the health hazards of too much sugar. But one sugar, glucose, and one hormone, adrenaline, may be key substances in forming memory.

Twenty five years ago, writes Gold, a professor of psychology and a member of the Neuroscience Program at the University of Virginia, scientists had no proof that "brains were biologically altered by experience." They knew only that important events were remembered better than other events. But Gold has now pinpointed "a physiological system that appears to determine which memories will be stored best."

While studying amnesia and memory enhancement, Gold found that test rats' level of arousal—specifically, associated levels of certain hormones in the blood—"appear[ed] to be the major contributor of additional information telling the brain to make new memories." The stronger the arousal, the better the memory of the event causing it.

Adrenaline, a hormone produced in response to environmental stresses, figures prominently in this process. Even when anesthetized, Gold's rats learned to be wary of a musical tone accompanied by an electric shock if they also received adrenaline injections; when the tone was later played without the shock, the rats still showed fear.

One consequence of high adrenaline levels in the blood is hyperglycemia (an increase in glucose levels). So Gold examined the effect of glucose on memory in rats, and found that injecting it had an effect similar to adrenaline's on memory performance. But unlike adrenaline, glucose has no harmful effects on the cardiovascular system, and can be used safely to study human memory. When healthy 70-year-old men and women were given glasses of lemonade, some prepared with glucose, some with saccharine, those who drank the glucose-sweetened beverage performed better on subsequent memory tests than their saccharine-only counterparts. And, Gold notes, older people who suffer from poor memory generally have poor regulation of blood glucose levels as well.

Gold cautions that scientists do not yet know *how* glucose affects the physiology of memory. But, he adds, research on adrenaline and glucose offers sweet promise of eventually "ameliorating memory impairments with pharmacological agents."

RESOURCES & ENVIRONMENT

Regulatory Chaos

"Electricity and the Environment: In Search of Regulatory Authority" by Peter Huber, in *Harvard Law Review* (Mar. 1987), Gannett House, Cambridge, Mass. 02138.

By now, electric power regulation has become extremely fragmented. Three competing federal agencies control their respective portions of the electric power industry in "regal isolation" from bureaucratic competitors. State agencies and federal courts also act as regulators determining where and when new plants can be built.

"The abundance of regulators," says Huber, senior associate at Science Concepts, a Washington consulting firm, "has created a dearth of real regulatory authority." Each government agency has enough authority to delay change, but not enough to make needed reforms.

Utilities counter governmental inertia by following "the path of least regulatory resistance." Instead of proposing new plants, which would require environmental impact statements, utilities either prolong the life of existing plants or import power from Canada.

Yet each new plant "removes risk" from the environment. Two new coal-fired plants equipped with scrubbers emit less than one-fifth of the pollution of one unscrubbed older plant. The power provided by new plants reduces the incentive to pursue extreme energy conservation measures that make buildings so airtight that occupants are exposed to dangerous accumulations of pollutants such as asbestos, radon, and formaldehyde.

Canadian power imports, which increased sixteenfold between 1970 and 1984, also endanger the environment. For example, electricity that would have been produced by the Dickey-Lincoln Dam in northern Maine (postponed because of threats to the endangered furbish lousewort) will be provided with power from the James Bay in Quebec, a project that will flood over 30 times as much land. New transmission lines built to carry Canadian power often cut through previously unspoiled wilderness.

Huber argues that consolidating federal electric power regulation into a single agency—an electric power safety administration—would provide the "affirmative regulatory leadership" needed to ensure safe, environmentally sound, and cost-effective electric power production.

Safe Nuclear Power?

"Inherently Safe Reactors: They'd Work if We'd Let Them" by Mark A. Fischetti, in *IEEE Spectrum* (Apr. 1987), 345 East 47th St., New York, N.Y. 10017.

Nuclear power plant accidents can be prevented—by creating nuclear power reactors that cannot melt or explode.

Yet these plants, says Fischetti, associate managing editor of *IEEE Spectrum*, will probably not be built for generations because of market forces and bureaucratic inertia.

"Inherently safe" nuclear reactors are built so that the substance cool-

ing the reactor's radioactive core can also stop the reactor's operation in an emergency. For example, the PIUS (Process Inherent Ultimately Safe) water-cooled reactor, designed by the Swedish firm AB Asea Atom, immerses the radioactive parts of a reactor in a massive pressurized pool of water, which also cools the reactor's radioactive core. Should the flow of water through the core stop (thus causing the temperature of the core to rise), water from a tank placed above the core floods the area. Because this flooding occurs automatically due to a change in pressure instead of through mechanical or human means, breakdowns such as the ones at Three Mile Island in 1979 or Chernobyl in 1986 will not happen.

Other new models use different coolants. The HTGR (high-temperature gas-cooled reactor) designed by the West German firm Interatom GmbH uses liquid helium to cool a core composed of 360,000 graphite-coated uranium "pebbles." The IFR (integral fast reactor) breeder reactor prototype built at the U.S. Argonne National Laboratory submerges all radioactive elements of the reactor in heat-absorbing liquid sodium. But all inherently safe reactors have much more coolant (and larger vessels to contain the coolant) than do current nuclear plants.

Few new nuclear plants are being planned in the West; none have been ordered in America since 1978. The few electric power utilities that might choose to build a reactor will not want a new, untried model. Congress's 1983 cancellation of the Clinch River breeder reactor plant in Tennessee casts doubt on the ability of either government or industry to assemble the funds needed to build a demonstration reactor.

ARTS & LETTERS

Opening Diaries

"Some Myths About Diaries" by Lawrence Rosenwald, in *Raritan* (Winter 1987), Rutgers Univ., 165 College Ave., New Brunswick, N.J. 08903.

"Do you really keep a diary?" Algernon asks Cecily in Oscar Wilde's *Importance of Being Earnest*. "I'd give anything to look at it. May I?"

"Oh no," responds Cecily. "You see, it is simply a very young girl's record of her own thoughts and impressions, and consequently meant for publication. When it appears in volume form I hope you will order a copy."

Cecily's remark, says Rosenwald, an associate professor of English at Wellesley College, challenges the myth that in diaries writers commit to paper honest and revealing information about their private lives.

Few writers' diaries, Rosenwald says, are, or were, written to remain private. Before 1800, diaries were generally not published. But many were quoted extensively in biographies. During the 19th century, the posthumously published journals of such well-known authors and poets as Samuel Pepys and Lord Byron won widespread acclaim. "By the 1830s," says Rosenwald, "well-read diarists were surely looking ahead to posthumous publication, and thus thinking of their diaries as *books*."

Rosenwald rejects the notion that diarists penned their thoughts spon-

taneously, with little afterthought. Samuel Pepys polished his journal entries describing the Great Fire of London into a single narrative several weeks after the fire was over. And Ralph Waldo Emerson rewrote the journal of his travels through Italy while sailing back to Boston.

Moreover, Rosenwald doubts that even the most candid authors can write objective diaries, because a diary, he says, is "a commodity within its author's power." Diarists must choose, from many possibilities, the several ideas and events about which they will write. And how truthful can a diarist be about himself? Rosenwald quotes Byron: "I fear one lies more to one's self than to any one else."

Nevertheless, Rosenwald believes that readers can still learn a great deal about an author's life and work by reading his diary, if they understand "the conventions within which the writer operates." While "we need not accept our friends' sincerest self-assessments as truth," he observes, we should remember "how much we give away of ourselves in our best attempts at concealment."

Lewis and Clark

"Beyond the Shining Mountains: The Lewis and Clark Expedition as an Enlightenment Epic" by John Seelye, in *The Virginia Quarterly Review* (Winter 1987), 1 West Range, Charlottesville, Va. 22903.

The expedition that Meriwether Lewis and William Clark undertook between 1804 and 1806 did more for America than secure the Oregon Territory and discover the grizzly bear. The *Journals of Lewis and Clark*, says John Seelye, a professor of American literature at the University of Florida, are "the premier epic of the Enlightenment in America."

Lewis and Clark were, Seelye states, on a "voyage of inquiry . . . bent to the utilitarian necessity which defined so many expressions of the Enlightenment in America." They were instructed to bring momentary order to the wilderness, not only to study the Indian tribes they encountered, but also to teach those tribes white American ideals.

The explorers greeted each tribe with "imperial theatrics." Each chief was given a medal with a portrait of President Thomas Jefferson on the front and symbols of agriculture and peace on the back. Tribesmen usually behaved peacefully while the expedition passed through their territory, but once Lewis and Clark left, the tribes resumed their lawless ways.

The names that Lewis and Clark gave to many features devolved from 18th-century rationalist principles. The three tributaries of the Jefferson River were named "Philosophy," "Philanthropy," and "Wisdom." A large rock carved by Indians became "Pompey's Pillar," converting an Indian totem pole into a pedestal for heroic statuary.

The Enlightenment aesthetics of English essayist Edmund Burke also provided ways for the explorers to see the landscape as an expression of the sublime. For example, the Great Falls of the Missouri was "one of the most beautiful objects in nature . . . [with] all the regular elegances which the fancy of a painter would select to form a beautiful waterfall."

Yet Nature was destined to pierce the Enlightenment notions that Lewis and Clark carried in their heads. For Nature—as manifested in both

animals and Indians—mocks artificial hierarchies. "Wilderness," Seelye concludes, "is more infectious than law and order, [drawing] upon deep, dark springs in the human psyche."

Sargent's Dream

"John Singer Sargent's 'Gift' and His Early Critics" by Trevor J. Fairbrother, in *Arts Magazine* (Feb. 1987), 23 East 26th St., New York, N.Y. 10010.

John Singer Sargent (1856–1925), the most popular high society portraitist of the late 19th century, was no rebel. His technical brilliance, says Fairbrother, an *Arts Magazine* associate editor, combined with restrained experimentation to ensure Sargent's rapid success.

In 1879, the prestigious Paris Salon awarded Sargent, then 23, a prize, passing over works by Manet and Renoir. His "progressive moderate" style was deemed "impressionistic without transgressing the limits set by the jurors." To offset any unconventional aspects of his portraits, Sargent also submitted a series of "picturesque" crowd-pleasers featuring beautiful women in exotic settings.

Yet, over the next four years, Sargent's experiments pushed Salon judges. Drawing inspiration for compositions from Velázquez, Goya, and Franz Hals, Sargent painted with a "marked flourish of the brush and

John Singer Sargent's 1903 painting, Mrs. Fiske Warren and her Daughter Rachel, *displays the classic society portrait style that earned him high commissions. At this stage of his career, Sargent increasingly painted watercolors, which provided him with greater satisfaction than the more lucrative portraits in oil.*

palette knife" in the Impressionist manner. In 1882 his *El Jaleo*—a boldly asymmetrical scene of Spanish dancers with contorted faces painted in clear tribute to Goya—was seen by critics as a *tour de force*.

Sargent's 1884 portrait of Madame Pierre Gautreau proved more controversial. In the portrait, one fallen shoulder strap provocatively emphasizes the whiteness of the lady's powdered shoulders above her black, low-cut bodice. The show's critics, who had acclaimed Le Brun's *Bacchante* (a nude woman lolling on the grass in a mythical setting), dubbed this fallen shoulder strap of a known society matron "indecent." Against the advice of his friends, Sargent retouched the painting.

After moving to London, Sargent concentrated on painting studio portraits of British high society. By the 1910s, critics on both sides of the Atlantic had labeled him "merely a commercial portrait painter" whose great "manual dexterity [and] dazzling brushwork" served only to record "mundane elegance." Sargent himself may have agreed, for in his later years he increasingly devoted himself to experimenting with charcoal drawings and watercolor sketches.

Yet Sargent's 1917 uncommercial *Nude Study of Thomas E. McKeller* (McKeller was a young Negro model) shows all his old, "passionate manipulation of pigment" of earlier portraits in oils. And, far from banal, his paintings of society women—as Henry James noted—often manage to convey "the beauty that resides in exceeding fineness."

Heroes' Return

"Of Mermaids and Magnificence" by John R. Silber, in *Reason* (May 1987), 2716 Ocean Park Blvd., Ste. 1062, Santa Monica, Calif. 90405.

Marxists such as playwright Bertolt Brecht argue that heroism is an antique aristocratic emotion obsolete in the modern world. "Unhappy the land that needs heroes," Brecht wrote in his play *The Life of Galileo*.

Silber, president of Boston University, believes the study of heroes is as vital to modern education as it was to U.S. schools in the 19th century. Heroes are important because their all-consuming passions—the rage of Achilles, the nobility of Ivanhoe, the steadfastness of Horatio—can be used as models from which students can derive codes of conduct. By reading King David's lament on the death of his brother Jonathan ("Very pleasant hast thou been unto me/Thy love to me was wonderful"), students can learn how to grieve at the loss of a close friend or relative.

Heroic models need come not only from antiquity. Thomas Jefferson is heroic not just for his writing of the Declaration of Independence, but also for his delight in new ideas. Sam Houston inspires Americans not only for his courage at the Alamo, but also for his refusal to swear an oath of allegiance to the Confederacy—a decision that resulted in his impeachment in 1861 as governor of Texas.

Villains such as Iago, Tamerlane the Great, and Satan in *Paradise Lost* are incomplete heroes because of their self-centeredness and arrogance. Their grand passions, however perverse, differentiate villains from "antiheroes" such as T. S. Eliot's character J. Alfred Prufrock, who vows that while others can play Hamlet, he will merely be "an attendant lord,

one that will do/To swell a progress, start a scene or two."

The true hero is someone who bases his ideal on the firm ground of democratic tradition. We should live at the golden mean between acting as if we were gods and acting as if we were preordained failures. "The genius of democracy," Silber concludes, "is found in this paradox: we are all a dime a dozen and we are all magnificent."

OTHER NATIONS

Hope After Amin

"Uganda: Starting Over" by Robert D. Kaplan, in *The Atlantic Monthly* (Apr. 1987), 8 Arlington St., Boston, Mass. 02116.

During his eight-year reign (1971–79) as president of Uganda, Idi Amin Dada earned a reputation as Africa's most brutal dictator.

But Uganda, says Kaplan, a specialist on Africa, rests in better hands today. The nation's young, well-educated president, Yoweri Museveni, has managed to restore "a modicum of stability" in Uganda's capital. "One foreign resident," writes Kaplan, "told me it is now so quiet in Kampala that he has trouble sleeping at night."

To Ugandans, the silence must be golden. Their country suffered from intertribal warfare long before Amin came along. Indeed, several Bantu kingdoms—each of which boasted its own army, law courts, and administrative system—ruled the territory now called Uganda when the colonizing British arrived in 1894. The British, Kaplan says, exacerbated tribal rivalries. They placed members of the advanced Baganda tribes in civil service posts, and enlisted members of rival northern tribes (the Tesos, Langis, and Acholis) in the colonial army.

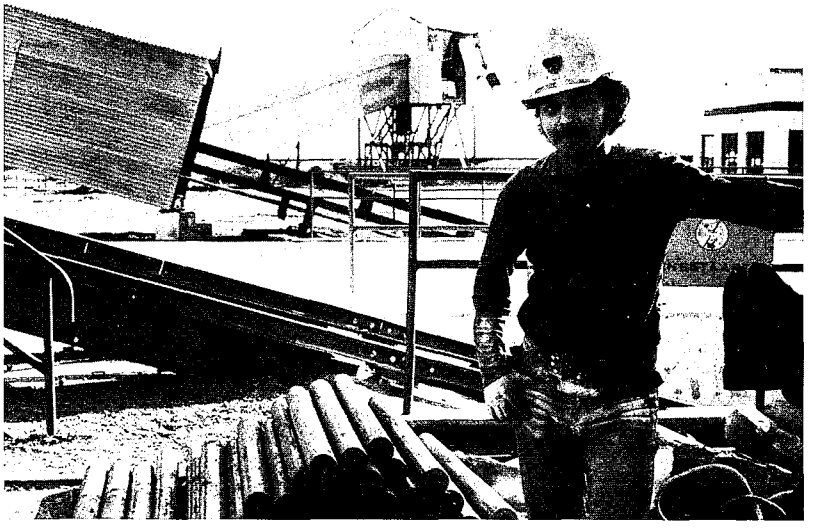
Thus Uganda was a divided nation when it gained independence in 1962. The country's first prime minister, Apollo Milton Obote, favored his fellow Langi tribesmen and the closely related Tesos and Acholis in filling government posts, until his own commander in chief, Idi Amin Dada, staged a successful coup in 1971. A Muslim from the Kakwa tribe, Amin stirred up tribal hate. Langi, Teso, and Acholi soldiers were slain in their own barracks. The Ugandan dictator, says Kaplan, "soaked this lush, sylvan country with the blood of several hundred thousand people."

Amin, however, proved to be his own worst enemy. Tanzanian troops deposed him in April 1979 after he tried to annex part of their country. Then a fresh succession of dictators ruled Uganda until Yoweri Museveni and his popular National Resistance Army marched into Kampala, and peacefully took power in January 1986.

Unlike his predecessors, Museveni, whom Kaplan calls "Uganda's first nationalist," has managed to unite the country's roughly 40 tribes. "Our political line is a broad, patriotic line," he has said. "It is antitribalism, antidictatorship, and nationalistic."

Uganda, Kaplan concludes, has now achieved independence—not just from the British, but from "the Ugandan heirs to their . . . legacy."

OTHER NATIONS



Worker at Palau coal mine in Mexico's Coahuila state. Mexico's economy must cope with a million new job-seekers entering the labor market each year.

Siesta for Mexico

"The Dilemma of Mexican Labor" by Jeffrey Bortz, in *Current History* (Mar. 1987), 3740 Creamery Rd., Furlong, Pa. 18925.

Mexico's collapsing economy requires major rebuilding of that nation's industries. But Bortz, coordinator of the Program on Mexico at the University of California, Los Angeles, argues that Mexico's entrenched labor relations system, which "promotes industrial inefficiency, does not represent workers democratically, and maintains a highly privileged labor bureaucracy," may block needed reforms.

In 1917, at the close of the Mexican Revolution, a compromise or "social pact" was made among Mexico's warring groups. Organized labor came under government control; in return, union members were guaranteed a minimum wage, job stability, and the right to strike.

The nationalization of industry and labor unions went hand in hand with protectionist economic policies. This "noncompetitive industrialization" allowed domestic Mexican industries to flourish artificially without the threat of foreign competition, and to pay workers higher wages than they could earn in unsubsidized industries. By 1976, however, massive Mexican trade deficits brought on a crisis. The government was forced to limit wage increases, while prices inflated drastically. When prices for Mexico's exported oil plummeted in 1982, the crisis worsened.

President Miguel de la Madrid's attempts to reform the Mexican economy since his election in 1982 have met resistance from leaders of the major unions, united under Mexico's labor federation, CTM. Labor leaders protested so strongly when the Ministry of Planning eliminated the work

sometimes subcontracted to union officials at the state-owned oil monopoly, PEMEX, that most of the union's other privileges were left intact. The government did succeed, in 1986, in closing the Fundidora Monterrey steel mill. This move saved millions in subsidies but cost 8,000 workers their jobs. Union leaders' corruption and their failure to stop such plant closings has led to worker resentment and unofficial strikes by some of the few unions unaffiliated with the ruling party, PRI (Institutional Revolutionary Party). However, government labor boards can simply shut down strike-bound state enterprises, frustrating the independent unions' efforts.

Bortz thinks that the economy cannot improve without industrial reform, and industrial reform will not succeed without union reform. But, he notes, tampering with the labor system threatens the "social pact" that has kept Mexico stable since World War I. Government officials and dissatisfied workers alike must face this dilemma: Is union reform worth the risk of social instability, and if not, what is the price for the Mexican economy?

Soviet Inequality: Wealth and Wages

"Life, Work, and Politics in Soviet Cities: First Findings of the Soviet Interview Project" by James R. Millar and Peter Donhowe, in *Problems of Communism* (Jan.-Feb. 1987), U.S. Information Agency, 301 4th St. S.W., Washington, D.C. 20547.

Seventy years after the Russian Revolution, the USSR is a society in which high income is allocated to a small portion of the population and where these highly paid workers increasingly distrust the Soviet regime.

So say Millar, an economics professor at the University of Illinois and director of the Soviet Interview Project (SIP), and Donhowe, a business and economics editor at the University of Illinois News Bureau. Their findings come from the SIP, a survey of 2,793 emigrants conducted in 1982–83 by the National Council for Soviet and East European Research and the National Opinion Research Center. Emigrants were selected so that the sample would conform as closely as possible to the demographics of Soviet cities.

Soviet income distribution is quite stratified. SIP researchers estimate that, in 1979, the top 20 percent of Soviet households received 46.4 percent of Soviet wage income (compared to 44.3 percent in the United States). The lowest 20 percent of Soviet workers controlled 7.4 percent of Soviet wage income (compared to 4.1 percent in the United States).

There are many roads to earning high incomes. Some Soviet workers use *blat* (bribery) or *protektsiya* (influence) to rise. Many Soviet workers make high wages moonlighting in the illegal underground economy. Doctors and dentists earn 1.2 rubles per hour when they work for the state—and 33 rubles per hour when they work for themselves. On the average, Soviet workers earn 1.08 rubles an hour in public-sector work and 8.14 rubles an hour for work done privately.

High-income workers and young people are the groups most likely to rebel. Forty-five percent of upper-level professionals regularly read *samizdat* (underground literature), and 96 percent listen to foreign radio broadcasts. Dissatisfaction with Soviet life rises as incomes rise.

OTHER NATIONS

While young people increasingly belong to "the correct social and political organizations," such as the Komsomol, they are also the most likely group to perform such "politically deviant" acts as refusing to vote and reading foreign books. Young people believe that because the KGB concentrates on arresting major dissidents, minor acts of defiance are "a calculated risk they were willing to take."

The Soviet Union can regain support among the young and well-off by increasing the supply and quality of goods and services. "Otherwise," Millar and Donhowe conclude, "... the best and brightest are likely to remain discontented."

Dissent in Iran

"The New Iranian Left" by Nozar Alaolmolki, in *The Middle East Journal* (Spring 1987), The Middle East Institute, 1761 N St. N.W., Washington, D.C. 20036.

The Iranian Left was a potent force in the political revolution that overthrew the shah of Iran in the spring of 1979. Leftists overran police and military installations in many Iranian cities, and half a million marched through Tehran streets during a May Day demonstration.

Yet four years later the Iranian Left had become a spent force, with all left-wing parties banned and scores of leftist leaders in jail.

Why did the Iranian Left collapse? The answer, says Alaolmolki, an assistant political science professor at Hiram College, lies in its "debilitating organizational factionalism."

Modern Iranian leftism began with the creation in 1941 of the Tudeh or "party of the masses," a Communist party aligned with the Soviet Union. During the 1960s, young Marxist militants angered by the Tudeh's tacit support of the shah created violent Maoist "new left" parties, such as the Komalah ("committee"), a Kurdish guerrilla movement.

After Mao Zedong's death in 1976, the Chinese regime supported the shah, causing Iranian Maoists to choose more esoteric role models. The Paykar ("struggle") faction said that the only Communists who were not "bourgeoisie" and "anti-revolutionist" were the North Koreans. A Komalah spinoff, the Communist Party of Iran, said that Albanian dictator Envar Hoxha was the only "true hero of the international communist revolution," even though the Albanian regime supports Ayatollah Khomeini. These "deep ideological cleavages," Alaolmolki says, frequently led to factional warfare, such as Maoist attacks on the Tudeh.

Ayatollah Khomeini's regime has created "ideological confusion" among leftists, as Marxist doctrine has little to say about combating theocracy. The Ayatollah's condemnation of the United States has led many leftist leaders and the Tudeh to support him, leaving the left divided.

The new Iranian leftists are more pragmatic than their predecessors. The Komalah has become Iran's largest leftist party by replacing violent Maoism with political education in "Islamic socialism" as its main tool for winning support. However, Alaolmolki concludes, "the persistence of ideological disputes" and Khomeini's repression bar a leftist revival.

RESEARCH REPORTS

Reviews of new research by public agencies and private institutions

"Is There An Economic Rationale for Subsidizing Sports Stadiums?"

The Heartland Institute, 59 East Van Buren St., Ste. 810, Chicago, Ill. 60605. 27 pp. $3.00.
Author: Robert A. Baade

Twenty major U.S. cities are now planning to build new sports arenas and stadiums, some of which will cost more than $200 million. Many city planners, contractors, and sports fans argue that the price is well worth it. The new arenas and stadiums, they say, will pay for themselves (through ticket sales), and prime local economies.

But Baade, an economist at Lake Forest College, argues that many of these new stadiums are neither necessary nor economical to build or operate. That is why private groups have, by and large, left the sports stadium business. Of the 29 stadiums constructed since 1960, only four have been built with private funds.

State and local governments, Baade says, have become "the key player[s] in stadium construction"—and not always to the taxpayers' benefit. In many cases, revenues have not kept pace with the rising cost of building and operating sports arenas. Louisiana residents, for example, pay $3 million to $5 million every year to operate the New Orleans Superdome.

Nevertheless, the stadium business is flourishing, thanks to generous (and sports-minded) state and local officials. Many of the new, atmosphere-controlled domed stadiums come equipped with expensive panavision scoreboards and luxurious "sky-boxes." Baltimore, Phoenix, and San Antonio all plan to build football stadiums even before they have teams to play in them, hoping to lure new football franchises to their communities. There are "too many facilities," as Baade says, "chasing too few [sports] events."

Contrary to conventional wisdom, Baade argues that sports facilities and events do not necessarily stimulate local economies. They are more likely, he says, to divert dollars from manufacturing to service industries, or from one leisure activity to another. "A dollar spent at the Spectrum [Sports Arena] in Philadelphia," he found, "may well be a dollar less spent at a movie theatre in [suburban] Bucks County."

Why do public officials seem so eager to build new sports arenas? It is a matter of prestige, Baade suggests. "The Superdome is an exercise of optimism, a statement of faith," he writes, quoting former New Orleans mayor Moon Landrieu. "It is the very building of it that is important, not how much it is used or its economics."

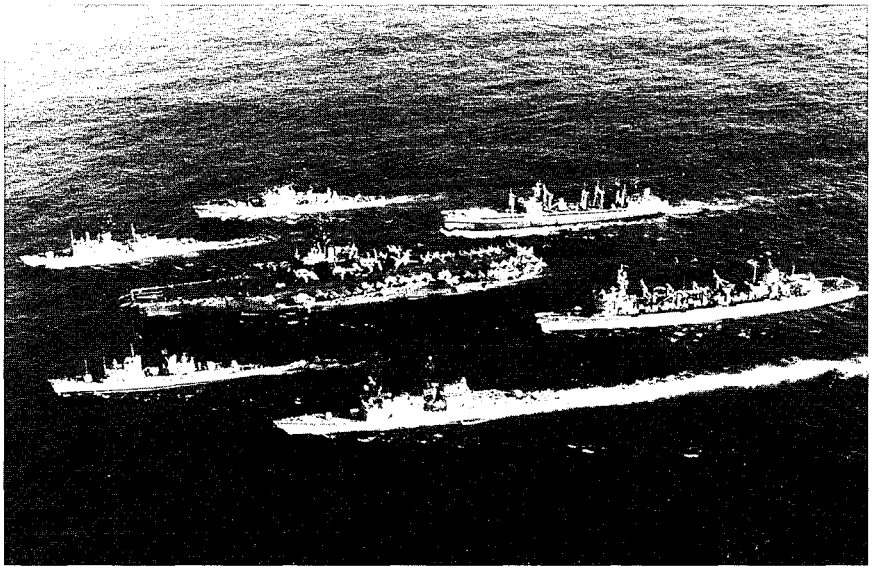
"A Thoroughly Efficient Navy."

Brookings Institution, 1775 Massachusetts Ave. N.W., Washington, D.C. 20036. 130 pp. $8.95.
Author: William W. Kaufmann

Since 1974, the United States Navy has planned to build and maintain a fleet of at least 600 ships, which would include 15 aircraft carrier battle groups, 100 attack submarines, and ships to transport four Marine Corps brigades. The Navy now hopes to reach that goal by 1989.

Kaufmann, a professor at Harvard's John F. Kennedy School of Government, believes that such a large fleet is not only too costly, it is also unnecessary.

In today's world, Kaufmann says, the U.S. Navy must play a more modest role in deterring and fighting war. He takes issue with Admiral James D. Watkins, who, in *The Maritime Strategy* (1986), advocated a "forward strategy," according to which U.S. naval forces would be deployed immediately to fight their Soviet counterparts in the Mediterranean, the Indian Ocean, and



Carrying 80 aircraft, the USS Midway *patrols the Indian Ocean (1980) with a cruiser, two destroyers, a frigate, and two replenishment oilers.*

other distant seas.

Technological advances, Kaufmann says, have ended some of the U.S. Navy's operational advantages. Long-range bombers, which can be refueled in mid-air, can attack targets that once could be reached only by planes flying from nearby aircraft carriers. Moreover, ships have become far more vulnerable with the advent of sophisticated surveillance systems. As a result, an increasing proportion of a carrier group's weaponry is now designed simply to defend the carrier itself.

Thus, the Navy, he says, could not most effectively counter a Soviet attack against northern Norway or the North Atlantic Treaty Organization's Mediterranean flank. Nor would the Navy fare better than the Air Force in a major raid against Soviet bases on the Kola Peninsula near Murmansk. B-52 bombers, Kaufmann argues, could reach the peninsula and attack Soviet forces as effectively as U.S. carrier groups, and at a far lower cost.

What role, then, should the Navy play?

The Navy, he says, should continue to provide the most mobile (and therefore most survivable) leg of the nation's strategic "triad" (composed of sea-based, land-based, and air-borne nuclear weapons): the 37 nuclear weapons-equipped submarines. Moreover, the Navy should be able to perform three tasks in a conventional war: "form the key barriers to submarines in the Atlantic and the Pacific; handle three simultaneous but limited contingencies with carrier battle groups and Marine amphibious brigades; and furnish the escorts for nine U.S. convoys a month to Europe, Northeast Asia . . . [or] the Persian Gulf."

For all this, Kaufmann says, an "efficient force," numbering 570 ships, and including only 12 carrier groups, would more than suffice. "Despite its somewhat smaller size," he says, "the efficient force would have no difficulty in exercising U.S. rights to the freedom of the seas, whether in the Gulf of Sidra, the Black Sea, the Arctic Ocean, or the Sea of Japan."

Kaufmann's navy has another attractive feature: It would save the U.S. taxpayer $120 billion over the next 10 years.

"The Question of Pornography: Research Findings and Policy Implications."

The Free Press, 866 Third Ave., New York, N.Y. 10022. 267 pp. $24.95.
Authors: Edward Donnerstein, Daniel Linz, and Steven Penrod

Does pornography cause crime?

In 1970, the president's Commission on Obscenity and Pornography said that "it is not possible to conclude that erotic material is a significant cause of crime." But, in 1986, the attorney general's Commission on Pornography (the "Meese Commission") declared that there was a definite "causal relationship" between violent pornography and aggression against women.

Which commission was right? The answer, say the authors—professors of communications and psychology at the University of California, Santa Barbara, the University of California, Los Angeles, and the University of Wisconsin, Madison, respectively—is that both were, because violent pornography only became widely distributed after the first pornography commission had published its findings.

Evidence that nonviolent pornography causes violent crime such as rape is "inconsistent." For example, researchers Larry Baron and Murray Straus have shown a correlation between rape rates in the United States and the circulation of such sex magazines as *Playboy*, *Penthouse*, and *Hustler*. But, Joseph Scott of Ohio State University discovered no relationship between the number of adult bookstores and theaters in particular states and the frequency of rape in those states. Moreover, studies of child molesters have found no relationship between molesters' use of pornography and the nature and number of their crimes.

Most pornography is nonviolent. Joseph Scott found that only four photographs out of 1,000 in *Playboy* were violent. T. S. Palys of Simon Fraser University in Canada determined that between 1979 and 1983, violence decreased in X-rated films and increased in R-rated films.

It is these R-rated "slasher" films—not considered obscene under current laws—that the authors find most dangerous, because of their easy availability in video stores. The authors showed one of these films (such as *I Spit on Your Grave* or *The Toolbox Murders*) to a test group of male college students each day for five days. By the fifth showing, the students perceived the films as being less violent and substantially less degrading to women than they had after the first showing. Because "slasher" films usually alternate "mildly erotic" scenes with violence against women, the films "may make viewers less sensitive to female victims of violence."

This "desensitization" to violence also occurs in more conventional films. Neil Malamuth of the University of California, Los Angeles, and James Check of York University in Canada have shown that men who watched *The Getaway* (where Ali MacGraw is willingly raped) were more likely to accept "interpersonal violence" between men and women.

Since violence and sex are largely linked, not in obscene material, but in R-rated films, the authors suggest that the Meese Commission's belief that prosecution of pornographers "be treated as a matter of special urgency" is misguided. The authors suggest education as the best strategy for countering the effects of violent pornography. Combining public service announcements at home with lessons in school designed to "denounce myths about sexual violence," the authors conclude, would be the wisest way to prevent the harm caused by films that show the torture of women.

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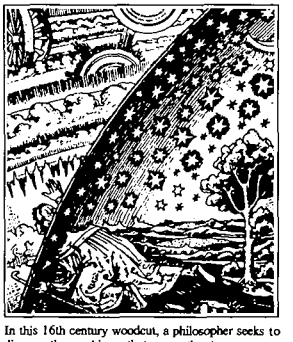

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Santa Barbara, Calif., Jan. 30, 1969: An oil-soaked Common Murre, a kind of sea bird, gazes at an oil-slicked sea, shortly after a massive oil spill. Thanks to the media, this local accident became a national event, one that helped to set the stage for the "Environmental Decade" of the 1970s.

The Politics Of the Environment, 1970–1987

Twenty-five years ago, Rachel Carson warned of a "chain of evil," the growing contamination of "air, earth, rivers, and sea" by manmade pollutants. In effect, Carson's best-selling *Silent Spring* set the tone for Earth Day, 1970, when some 20 million Americans attended rallies in support of a cleaner environment. The federal government joined the crusade, committing billions of dollars. The overall gains have been modest. Why? David Vogel here analyzes the rise of the U.S. environmental movement; Robert Crandall discusses the complexities of environmental regulation.

A BIG AGENDA

by David Vogel

"Earth Day may be a turning point in American history," declared Senator Gaylord Nelson (D.-Wisc.). "It may be the birth date of a new . . . ethic that rejects the frontier philosophy . . . and accepts the idea that even urbanized, affluent, mobile societies are interdependent with the fragile, life-sustaining systems of the air, the water, the land." Others were less impressed. "A Giant Step—Or a Springtime Skip?" asked *Newsweek*.

On April 22, 1970, millions of Americans around the country turned out to observe the nation's first Earth Day. It brought together on one podium, in the shadow of the Washington Monument, Senator Edmund Muskie (D.-Maine), Old Left journalist I. F. Stone, and New Left agitator (and Chicago Seven defendant) Rennie Davis. Just the week before, the Vietnam Moratorium Committee, chief organizer of nationwide antiwar protests in 1969, had closed its doors: The Nixon administration was reducing draft calls and withdrawing U.S. troops, as "Vietnamization" of

the war in Indochina began in earnest. (However, the short-lived U.S. "incursion" into Cambodia from South Vietnam on April 29, a week after Earth Day, momentarily revived the antiwar movement.) Earth Day dwarfed the earlier antiwar demonstrations, and, moreover, gravely offended almost no one.

In Manhattan, 100,000 festive New Yorkers thronged Fifth Avenue to listen to folk singers and speeches by environmental activists. A block-long polyethylene "bubble" of filtered, "pollution-free" air was soon filled with the unmistakable odor of marijuana smoke.

Picnicking in the Wasteland

In Miami Beach, students wearing gas masks and brandishing bottles of sewage and pesticides staged a Dead Orange parade. At the University of Wisconsin, Madison, undergraduates at an "Earth service" greeted the dawn with incantations in Sanskrit. In Philadelphia, Chicago, and San Francisco, in New Orleans and Minneapolis, tens of thousands of demonstrators listened to speeches, frolicked, marched, and toted "Save the Earth" banners on crowded streets.

In a show of solidarity with the youthful demonstrators, both houses of Congress recessed, and legislators joined the popular agitation. "It was Earth Day," explained the *New York Times*, "and, like Mother's Day, no man in public office could be against it." Indeed, Earth Day was the brain child of Senator Nelson, one of Capitol Hill's own.

Even Big Business lined up behind the event. Ford, Mobil, and Standard Oil of New Jersey offered financial contributions to Earth Day's organizer, Environmental Action, Inc.—and were haughtily rebuffed. Scott Paper announced that it would spend $36 million to reduce pollution at its mills in Maine and Washington; and Dow Chemical Company, under attack by the antiwar Left for producing the napalm munitions used by U.S. fighter-bombers in Vietnam, sent speakers to some of the many Earth Day "teach-ins" held on college campuses.

But, despite their festive air, the Earth Day crowds—"predominantly white, predominantly young, and predominantly anti-Nixon," as Walter Cronkite put it in a special broadcast that night—were not to be placated by soothing gestures. "Things as we know them are falling apart," declared Denis Hayes of Environmental Action. "Even if the war stopped tomorrow, we would still be destroying our planet."

"If we don't get our president's attention, this planet may soon die," novelist Kurt Vonnegut, Jr., told a rally in New York City's Bryant

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At the base of a Sequoia tree in Yosemite National Park (1903): President Theodore Roosevelt, Columbia University President Nicholas Murray Butler (third from right), and conservationist John Muir (fourth from right).

Park. "I'm sorry he's a lawyer; I wish to God that he was a biologist."

Richard M. Nixon turned the other cheek: Earth Day, the president said, showed "the concern of people of all walks of life over the dangers to our environment." The celebration's critics were few and far between. Among them was Georgia state comptroller James L. Bentley, who noted ominously that April 22 was also Lenin's birthday.

Earth Day seemed to mark a radical upsurge in public anxiety about the environment. Just 18 months earlier, during the bitter 1968 presidential campaign, Nixon and his Democratic rival, Hubert H. Humphrey, had said next to nothing about environmental issues. But, by 1970, a Harris poll found that Americans regarded pollution as "the most serious problem facing their communities." *Time* named protection of the environment the "issue of the year"—ahead of the Vietnam War. Within three years, almost without serious opposition, Congress voted half a dozen sweeping new environmental statutes into law.

Why did environmentalism suddenly catch fire in 1970?

In a sense, the tinder had been smoldering for years. America had a history of sporadic environmental "awareness." President Theodore Roosevelt, the great outdoorsman, founded the U.S. Forest Service in 1905 to protect selected wilderness areas from exploitation by miners, ranchers, and loggers. At the urging of Gifford Pinchot, the Forest Service's first director, federally owned national forests grew from 38 million acres to more than 172 million acres. During the New Deal, President Franklin D. Roosevelt built on his cousin's legacy, creating the

conservation-oriented Tennessee Valley Authority and the Civilian Conservation Corps, in which 2.5 million youths eventually served.

None of these measures required—or aroused—great public support: Conservation was a preoccupation of the well-to-do and a few enlightened leaders. Nor were the conservationists animated by the holistic "ecological" theories that became popular during the 1970s. "Conservation" emphasized "multiple uses" of America's natural resources—for preservation, recreation, and prudent use by loggers, miners, and others. "The first great fact about conservation," declared Pinchot in 1910, "is that it stands for development [not just] husbanding of resources for future generations."

The upper classes' virtual monopoly on access to the nation's wilderness parks ended with America's growing prosperity after World War II. Harvard's John Kenneth Galbraith greeted the coming of *The Affluent Society* (1958) and its egalitarian materialism with a snort: "The family which takes its mauve and cerise, air-conditioned, power-steered, and power-braked automobile out for a tour passes through cities that are badly paved, made hideous by litter, blighted buildings, [and] billboards.... They pass on into a countryside that has been rendered largely invisible by commercial art.... They picnic on exquisitely packaged food from a portable ice box by a polluted stream."

Gradually, the growing American college-educated population—especially its younger members, who had crowded the back seats of those gaudy automobiles—made Galbraith's lament their own. "The search for environmental quality was an integral part of [the] rising standard of living," historian Samuel P. Hays later observed.

America's Dead Sea

A few lonely critics were already warning that air and water pollution was something more than an insult to the senses. In 1962, Rachel Carson's best-selling *Silent Spring* caused a nationwide sensation with its contention that DDT and many other widely used pesticides and herbicides threatened to render planet Earth "unfit for all life." She declared that "along with the possibility of the extinction of mankind by nuclear war, the central problem of our age has therefore become the contamination of man's total environment" by chemicals.

Few Americans were ready to embrace Carson's apocalyptic vision. But the nation's post–World War II abundance *had* been accompanied by the creation or wider use of hundreds of new and little-understood synthetic chemicals such as DDT, as well as a marked increase in the output of certain industrial wastes.* And all of these side effects of affluence

*Estimates of historical pollution levels vary widely. A conservative assessment by the U.S. Environmental Protection Agency suggests that particulate emissions fell slightly between 1940 and 1960, while the output of carbon monoxide rose by 10 percent, sulfur oxides by 11 percent, and nitrogen oxides by 91 percent.

were becoming increasingly difficult to ignore.

As *Time* reported in a cover story on "The Polluted Air," a "whisky-brown smog" often offended the residents of Los Angeles, New York, Chicago, and other big cities. The magazine's editors saw a portent of things to come in the Japanese port city of Yokkaichi, where the air was so foul that youngsters donned bright yellow face masks before playing outdoors. And America's rivers and streams were no more pure than its air was. Many served industry as open sewers, slimy with algae, laced with heavy metals and toxic compounds. In 1965, after the U.S. Public Health Service held a widely publicized series of public hearings on the deterioration of Lake Erie, the newspapers and TV evening news broadcasts spoke ominously of the "North American Dead Sea."

Reacting to such early alarms, presidents John F. Kennedy and Lyndon B. Johnson sponsored a few modest initiatives: the 1963 Clean Air Act, the 1965 Motor Vehicle Air Pollution Control Act, and the 1967 Air Quality Act. Most of the Kennedy-Johnson measures left the setting and enforcement of standards to the 50 states; in most cases, very little was actually required of industry. But the new laws did mark a turning point: Washington's attention had turned from conservation to the reduction (through regulation) of pollution.

'Now or Never'

By the late 1960s, however, the failings of the Kennedy-Johnson remedies were glaringly apparent. And Rachel Carson's view that pollution threatened the existence of life itself was gaining support. Another best-seller, *The Population Bomb* (1968), by Stanford's Paul Ehrlich, not only predicted that "hundreds of millions of people" would die during the 1970s in famines caused by overpopulation, but warned that "the progressive deterioration of our environment may cause more death and misery than any conceivable food-population gap." Over and over, Americans were told that the industrial society that had generated unprecedented affluence now seemed poised to destroy itself.

With increasing frequency, television brought images of ecological disaster into American homes: the 1967 wreck of the oil tanker *Torrey Canyon* off the British coast, which fouled British and French beaches; the 1968 poisoning of 1,300 Japanese on the island of Kyushu by the chemical PCB, which causes severe skin rashes and vomiting; a 1969 pesticide spill in the Rhine River that killed 40 million fish.

But the most disturbing images of all came from the beaches of Santa Barbara, California. In January and February 1969, an 11-day blowout at a Union Oil Company rig off the coast spread black goo over 40 miles of beach near the palm-shaded city, and stained 400 square miles of the blue Pacific. Thousands of sea birds and otters were smothered in the tarlike crude oil. [See box, p. 56.] Then, in June 1969, Lake Erie was featured on the front pages again when an oily, sludge-clogged

OIL, WATER, AND POLITICS

A single doomed sea gull, mired in sticky black crude oil, flounders helplessly on a sunny stretch of California beach.

That was one of hundreds of alarming images from Santa Barbara on the TV news during the winter of 1969. For 11 days, beginning on January 28, oil gushed out of an underwater fissure beneath Union Oil Company's Platform A, staining Santa Barbara's lovely beaches with a "black tide" and suffocating thousands of grebes, loons, and cormorants. It was, said former U.S. secretary of the interior Stewart Udall, "a conservation Bay of Pigs."

Congress was impelled to enact several laws that radically altered the rules of the game for offshore oil drilling. Among them: the National Environmental Policy Act of 1969, which required an environmental impact statement (inviting lengthy court challenges) for new wells, and the 1972 Coastal Zone Management Act, which mandated that federal leasing efforts be "consistent with approved state management programs."

•

Only months after the Santa Barbara disaster, a University of California study concluded that the oil had inflicted no permanent damage on the local ecological system—a finding confirmed by a 1985 U.S. National Research Council study. In fact, Mother Nature spills about twice as much oil into California's waters *every year* (up to 220,000 barrels) through natural "seeps" as the accident at Platform A did.

Largely as a result of the 1969 and 1972 laws, annual oil production in the federally owned Outer Continental Shelf has remained virtually unchanged at some 390 million barrels since the early 1970s. And about 90 percent of that oil is pumped from sites in the Gulf of Mexico off Louisiana, Alabama, and Texas. (Next to Alaska's three billion or more barrels, California's estimated two billion barrels are the nation's largest offshore reserves.) Only 14 percent of U.S. domestic oil output is now pumped from offshore wells.

Court challenges by activists in California have slowed new leasing, and the governors of California and other states with offshore oil (e.g., Maine, Massachusetts, Alaska) have themselves often blocked development on the grounds that it might harm fisheries and tourism (due to "visual pollution"). Nor does Big Oil always want the tracts that Washington does put on the auction block. But all of this was rendered academic in 1982, when Congress, reacting to a come-and-get-it leasing proposal by Secretary of the Interior James Watt, imposed a moratorium on all new lease sales off California.

Last July, Watt's successor, Donald P. Hodel, announced a compromise authorizing new leases on a modest 18.5 million acres off the California coast. But the auctions are not scheduled to begin until 1989. That leaves the courts, Congress, or a new administration plenty of time to veto leasing again. But even the Californians' friends have run out of patience. As the *New York Times* noted recently, the threat posed to California's sea birds and scenery by drilling for more oil "if not zero, is low, and given the national need for secure sources of oil, it's a risk well worth taking."

stretch of Cleveland's Cuyahoga River, one of the lake's tributaries, burst into flames.

"By the time 1969 was over," recalls Rice Odell of the Conservation Foundation, "the Environmental Revolution was in full swing." Wrote John C. Whitaker, an aide to President Nixon at the time: "There is still only one word, *hysteria*, to describe the Washington mood [in 1969] on the environment issue."

Ironically, the conservative Republican in the White House gave the new environmental movement perhaps its biggest push. On January 1, 1970, four months *before* Earth Day, President Richard Nixon signed the National Environmental Policy Act into law. It established an advisory Council on Environmental Quality and, in a little-noticed provision, required comprehensive "environmental impact statements" for virtually all large-scale government-sponsored construction projects. By the end of the decade, federal agencies would prepare some 12,000 environmental impact statements.

Calling attention to his "first official act of the new decade," Nixon proclaimed: "The 1970s absolutely must be the years when America pays its debt to the past by reclaiming the purity of its air, its waters, and our living environment. It is literally now or never." This, he declared, would be "the environmental decade."

In December 1970, Nixon issued an executive order creating the U.S. Environmental Protection Agency (EPA). The new agency was the result of a governmental reorganization, combining under one roof responsibilities for writing and enforcing many of Washington's new pollution regulations, as well as for conducting research. Later, Nixon named former deputy attorney general William D. Ruckelshaus as the EPA's first administrator. The EPA grew quickly. Within three years, the agency boasted a budget of more than $500 million and a staff of some 8,200, and it was still expanding.

'Mr. Pollution Control'

By all accounts, much of Nixon's apparent zeal for the environmental cause stemmed from political calculation. In an America torn by conflict over the war in Vietnam and over race relations, "the environment" promised to be a unifying cause. As the *New Republic* commented in 1970, "everyone's interested in survival." Nixon also aimed to steal the spotlight from his likely opponent in the 1972 presidential election, Senator Edmund Muskie (D.-Maine), who was known in Washington as "Mr. Pollution Control."

During the spring and summer of 1970, Nixon and Muskie competed in what amounted to a bidding war to expand Congress's 1970 amendments to the old Clean Air Act. The unintended result was an enormously expensive, complex piece of legislation which, as a government report later expressed it, mandated a cleanup "clearly beyond the

technological capability which industry was known to possess at the time." It also marked a turning point in policy by transferring the responsibility for overseeing the cleanup from the states to Washington, with strict timetables.

As Ruckelshaus later recalled: "Congress in that era of Vietnam and general disillusionment with the existing order was in no mood to trust any administrative actors—state or federal. [It] gave EPA 90 days from the date of enactment to propose national ambient air standards for the major pollutants... and told us we had five years to attain them. This was done in the face of evidence that the problem in such [smog-ridden] cities as Los Angeles would take 25 years to solve."

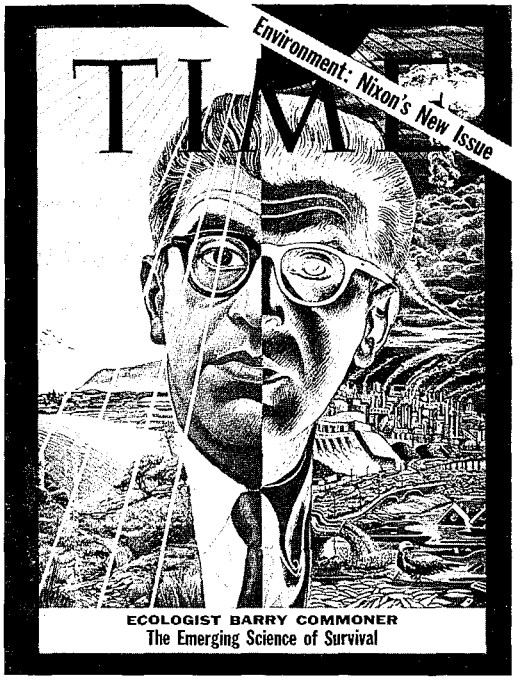
Limits to Growth

Throughout the "environmental decade" (and beyond), the EPA was whipsawed by political demands for instant clean air and water and by the uneven, even primitive, level of scientific knowledge about major pollutants. Congressmen drafting the early statutes assumed that all hazards were easy to identify. Said Ruckelshaus: "EPA's strict enforcement mandates [from Congress] were based on the belief that we knew our targets and how to hit them." But the regulators were shooting in the dark. In 1970, for example, when the agency established its first standards for permissible automobile emissions of carbon monoxide, it could only guess the level at which the invisible gas posed a threat to human health. "The original standard," wrote Ruckelshaus, "... was based on a single study involving 12 individuals."

Although the Clean Air Act goals seemed unrealistic at the outset to scientists and some politicians, Congress was not deterred. By the end of 1972, the legislators had passed six more major pieces of legislation. *Congressional Quarterly* hailed the 92nd Congress for "the most productive record for environmental protection in the nation's history."

The 1972 Federal Water Pollution Control Act (FWPCA) Amendments (passed over Nixon's veto) called on the EPA to establish strict standards for municipal and industrial discharges into the nation's waterways. They also authorized more than $18 billion for construction of new municipal sewage treatment plants. Governors and mayors, always keen on job-creating federally subsidized local public works projects, lobbied fiercely for the measure. Five other bills created strict requirements for ocean dumping, coastal zone management, marine mammal protection, pesticide control, and, last but not least, *noise* control.

Reviving the spirit of Lyndon Johnson's Great Society, Congress announced new antipollution goals with a near utopian optimism. Section 101 of the FWPCA, for example, called for the prompt restoration of the "natural chemical, physical, and biological integrity of the nation's waters." All of America's rivers, lakes, and streams were to be "fishable and swimmable by 1983." All hazardous municipal and industrial dis-



Depicted on TIME*'s cover (Feb. 2, 1970), was Barry Commoner, then a 52-year-old biologist at Washington University, St. Louis, and the "Paul Revere of Ecology." In 1980, Commoner made an unsuccessful bid for the U.S. presidency, on the now-defunct Citizens Party ticket, gaining 234,000 votes.*

charges were to be "eliminated" by 1985. Few newsmen were skeptical.

Big Business, trying to avoid seeming "pro-pollution," lobbied quietly (and in vain) against such catchall remedies. In fact, the overall costs of the pollution measures mandated by Congress were not a significant burden on the economy. In 1973, according to the EPA, corporations, government, and consumers spent some $13 billion on pollution-abatement measures—about one percent of the gross national product (GNP). (Such outlays have since averaged between 1.5 and two percent of the GNP.) The problem was that a few key industries (e.g., autos, steel, nonferrous metals, and electric utilities), some of them already ailing, bore the brunt of the costs.*

As time went on, popular demand for action grew louder. During the early 1970s, biologists Paul Erlich and Barry Commoner spoke of imminent "ecocatastrophe." In *The Limits to Growth* (1972), an impressive team of researchers headed by the Massachusetts Institute of Technology's Dennis L. Meadows warned of a "sudden and uncontrollable decline in both population and industrial capacity" if "the present growth trends in world population, industrialization, pollution, food pro-

*During the mid-1970s, the paper industry was forced to divert 17.6 percent of its capital investment to pollution control; nonferrous metal companies spent 17.2 percent, steel 15.8 percent, and electric utilities 8.7 percent. Hit hardest of all was Detroit, which spent $38.2 billion between 1970 and 1977 to satisfy Washington. However, Japanese and other foreign cars sold in the United States were required to meet the same pollution standards as U.S.-manufactured automobiles.

duction, and resource depletion continue unchanged." Alarmed readers snapped up four million copies of the book.*

During 1973–74, the Arab oil embargo forced Washington to confront for the first time some of the tradeoffs involved in protecting the environment: Reducing harmful fumes from auto exhausts cuts fuel economy; preserving federal lands from exploitation means less domestically produced coal and oil. As a new "energy crisis" preoccupied Washington, President Nixon asked Congress to relax scores of costly environmental regulations. Capitol Hill grudgingly made concessions. In 1974, for example, it granted Detroit the first of many delays in meeting federally mandated deadlines for reducing auto exhaust emissions.

In a curious way, however, the "energy crisis" seemed to dramatize some of the gloomy predictions of *The Limits to Growth*. Spaceship Earth was a small and fragile place: If the world was indeed running out of oil, then perhaps it might also exhaust its clean air and water, just as the doomsayers predicted. As Harvard's George Wald put it in the title of a 1975 essay, "There Isn't Much Time."

Looking for Ecotopia

Like many activists of the era, Wald blamed the evils of capitalism for the globe's impending calamity—thus overlooking the fact that well-intentioned government agencies, such as FDR's Tennessee Valley Authority or the Army Corps of Engineers, had committed some of the most grievous assaults on the environment.

Wald was a bit more apocalyptic than most—he thought that The End might be only 10 years away, while Barry Commoner reckoned that mankind could hope to survive for another 50 years. But all of the more radical environmentalists and their followers were fond of utopian schemes, from the relatively sober "Buddhist economics" of E. F. Schumacher's *Small Is Beautiful* (1973) to Ernest Callenbach's *Ecotopia* (1975), an underground best seller that described a fictional environmentalist community of the future carved out of Northern California and the Pacific Northwest. In Callenbach's novel, San Francisco, the capital of female-ruled Ecotopia (male attitudes have been discarded as "outdated and destructive"), is practically a ghost town: Most of the residents have gone "back to the land."

But, by the mid-1970s, the environmental movement was beginning to encounter its own era of limits. The energy scare, a steep recession, and soaring inflation had distracted many Americans and dampened public ardor for the cause. In Manhattan, the celebration of Earth Day 1975 attracted only 100 of the faithful. That year, according to a Harris poll, only six percent of the citizenry continued to regard "ecology" as one of

*In 1974, the Club of Rome, which had sponsored *The Limits to Growth*, did a nearly complete but little noticed about-face. In *Mankind at the Turning Point*, it called for *faster* economic growth in the Third World to close the gap between rich and poor countries.

the nation's top domestic problems.

Americans still broadly supported environmental regulation—more than half believed that the federal government should increase its outlays for environmental protection, according to opinion surveys. And the environmentalist ethos lived on, at least among the upper-middle class, in fads for natural fiber clothing, natural foods, indoor greenery, and in bumper sticker sentiments: Split Wood Not Atoms, Save the Whales. However, except during sporadic episodes, such as the 1977 Love Canal affair [see box, p. 76], most of the crusading zeal was gone. The environment, wrote Cynthia Colella of the U.S. Advisory Commission on Intergovernmental Relations, had "joined the ranks of such 'institutionalized' and enduring problems as education and health."

The Sierra Club, the Friends of the Earth, and other environmentalist groups (having accomplished the nominal regulation of air and water pollution) shifted their attention to other threats, many of them newly perceived. This trend was reflected in significant congressional legislation protecting endangered species (1973), and regulating the transport of hazardous materials (1975), the production of toxic chemicals (1976), and the methods of strip mining (1977). Environmentalists also cheered when Congress established a national 55 mph speed limit (1974), mandated greater fuel economy in new cars (1975), and vastly expanded the national parks and wilderness areas.

During the 1976 presidential campaign, President Gerald Ford and candidate Jimmy Carter sparred only lightly over pollution. Environmentalists in Washington backed Carter. They were rewarded after Carter's election by his appointment of veterans of the Environmental Defense Fund and allied lobbyists to important second-echelon posts at the EPA, the Department of the Interior, and the White House. But, in his first major speech on the environment (in May 1977), Carter proposed no new programs. Instead, he called for stricter enforcement of the complex laws already on the books.

Saving the Snail Darter

Increasingly, the battle over environmental regulation was to be an "inside the (Capital) Beltway" affair, waged in EPA hearing rooms and the courts in Washington, where the growing need of corporate clients for counsel led to a lawyers' boom.*

Environmentalists were not dismayed; many of the laws passed during better days had yet to be implemented. For example, regulations had been written for only a few of the tens of thousands of chemicals included under the Toxic Substances Control Act of 1976. "Much of the initial legislation overestimated the speed with which new technologies could be developed and applied," wrote Norman J. Vig and Michael E.

*The Washington, D.C. bar association, established in 1972, quickly grew to 35,000 members, equivalent to about five percent of the city's population. (Of course, many of the attorneys lived in the suburbs.)

Kraft, of Carleton College and the University of Wisconsin, respectively. "The laws also underestimated the compliance costs and the difficulties of writing standards for hundreds of major industries."

As the *Federal Register* bulged (from 10,000 pages annually in 1970 to nearly 80,000 pages in 1980) with new regulations issued by the EPA and other agencies such as the Occupational Safety and Health Administration, the Fish and Wildlife Service, and the Consumer Product Safety Commission, costs that had once been vague estimates suddenly had to be paid in hard cash. In 1977, for example, the EPA, along with state and local regulators, forced U.S. Steel to agree to spend $600 million over seven years to eliminate noxious smokestack emissions at its Clairton Coke Works in Pittsburgh. Antiregulatory sentiment grew.

"The situation we have gotten ourselves into would be ridiculous if it were not so serious," argued columnist Irving Kristol in the *Wall Street Journal* in 1977. "We have been much exercised... by the fact that the OPEC monopoly has cost this country well over $30 billion in increased oil prices since 1972. But in that time we have inflicted upon ourselves much larger economic costs through environmental and other regulations."

Publicity, which had once done so much to promote the environmentalists' cause, now occasionally undermined it.

In June 1978, Americans gasped in disbelief when the Supreme Court, enforcing the Endangered Species Act, halted construction of the

The "No Nuke" rallies of the 1970s and '80s were among the offshoots of the environmental movement. Above, a 1976 protest in Madison, Wisconsin to fight the planned construction of a nuclear power plant.

Tennessee Valley Authority's $100 million Tellico Dam to preserve the habitat of a tiny species of minnow, the snail darter.* Few newsmen noticed, New York University's Lawrence J. White observed, when a Department of Interior cost-benefit study the next year revealed that the dam was "a losing proposition at its conception and was still a losing proposition"—a dubious product of Capitol Hill's pork barrel politics. (In 1979, Congress opened a loophole in the Endangered Species Act and authorized completion of the dam. The snail darters were transplanted to nearby rivers; later it was discovered that the fish were present all along in a creek safely distant from the Tellico Dam site.)

Mistaking a Mandate

By 1977, as the nation's economic woes deepened, Carter and the Democrat-controlled Congress were backing away from some of the harsher provisions of federal environmental law. (The annual expense for environmental protection, paid mostly by business, had climbed to an unexpected $38 billion, not counting conservation outlays.) That year, for example, Congress again deferred Detroit's deadline for reducing auto exhaust emissions. Quixotically, however, it stiffened penalties against cities and regions that failed to meet the 1970 Air Quality Act's extraordinarily rigorous standards for clean air.†

In 1979, as the "environmental decade" drew to a close, Americans were again lining up at the gas pumps (due to a cutoff of Iran's oil exports), and the Federal Reserve Board was struggling to cope with soaring inflation and interest rates. Japanese competition in steel, autos, and other products was battering Smokestack America. On July 15, in his famous "crisis of confidence" speech, Carter asked Congress to endow an Energy Mobilization Board with the power to override EPA (and other) regulations. Congress refused. Moreover, in 1980, by an overwhelming majority, Congress created the $1.6 billion Superfund to clean up toxic waste dumps, such as New York's Love Canal. Capitol Hill no longer insisted on putting the environment ahead of the economy, but it was not willing to "pull the plug" on environmental protection.

That summer, at the 1980 Republican Convention in Detroit, a triumphant Ronald Reagan seemed to grasp the nation's mood. "Make no mistake," he assured his nationwide TV audience. "We will not permit the safety of our people or our environmental heritage to be jeopardized, but we are going to reaffirm that the economic prosperity of our

*Between 1973 and 1980, the federal courts heard a total of 3,076 environmental cases, an average of 439 a year. According to Lettie M. Wenner's study *The Environmental Decade in Court* (1982), environmentalists (or the government) won only about half of their court battles. But a single lawsuit could be extremely time-consuming and costly. As early as 1973, fear of such litigation prompted Congress to bar court challenges to the Alaska oil pipeline's environmental impact statement.

†To meet those requirements, Los Angeles, for example, would have had to slow construction of new factories and shopping centers, curb driving, and even limit the use of charcoal-lighter fluid in backyard barbecues. In practice, major federal sanctions against cities have never been imposed.

CLEANING UP THE CHESAPEAKE

Before sunrise on Chesapeake Bay, some 4,300 watermen are already offshore in their boats—raising crab pots near Annapolis, hauling nets near Solomons, dredging up mollusks off Tilghman Island. Since the 19th century—the heyday of Bay fishing—Chesapeake watermen have supplied U.S. markets with up to half the annual harvest of oysters, clams, and blue crabs.

Lately the catch is getting skimpy. This year, oystermen will bring fewer than one million bushels to market, compared to 12 million in 1880. Rockfish and shad are so scarce that fishing for them in Maryland waters is now illegal.

The culprits are overharvesting and pollution. Today, the "queen" of America's estuaries is an ecosystem in decline.

The Chesapeake is big. Its watershed covers 64,000 square miles; it stretches 200 miles from Norfolk, Virginia, to the mouth of the Susquehanna River, and has 4,600 miles of shoreline. The Susquehanna, Potomac, James, and four other major rivers (plus 150 lesser tributaries) feed the estuary, where fresh waters mix with Atlantic tides. Though shallow, the Bay has a deep central channel that serves large ships.

But population growth has put a big strain on the Chesapeake. Today, 12.7 million people live on its watershed, up from 3.7 million in 1940. Some 200 major sewage treatment plants spew 1.6 billion gallons of phosphorus- and nitrogen-laden waste water into the Bay each day. Local

factories—e.g., steel and plastics—spill toxins and heavy metals (lead, zinc) into its waters. Rainwater run-off from soybean and tobacco fields washes pesticides and fertilizers into its tributaries.

One result of this pollution is a nutrient-rich broth that sustains "algal blooms." Microorganisms cloud the water, block sunlight, and steal oxygen (creating "anoxia"), killing rooted underwater plants and bottom-dwelling organisms such as oysters. Meanwhile, near industrialized areas such as Baltimore, heavy metals poison the food chain, and pesticides and toxins collect in crustaceans and fish. Due to the Bay's shape and sluggish circulation, only a small fraction of the pollution flows out into the Atlantic.

In 1983, Virginia, Maryland, Pennsylvania, and the District of Columbia launched their own cleanup efforts—amounting to $47 million per year. To reduce run-off, the states are stressing "no-till" farming; to lower waste discharges, they are cracking down on "point-sources"—notably treatment plants and factories. Maryland and Virginia recently banned the sale of products containing phosphates; Annapolis is regulating Maryland's shoreline development.

Since 1983, U.S. agencies have spent roughly $690 million in the Bay area on sewage treatment plants. Recently, Maryland began installing overdue nitrogen controls at two treatment plants, after studies by marine biologists proved sewage-borne nitrogen could be more harmful than phosphorus is to the Bay's health.

The cleanup has made some progress: Between 1980 and 1983, the Bay's annual phosphorus load fell nearly 20 percent, although no one knows how much phosphorus remains in the Bay's sediments. In Maryland's Anne Arundel County, only four creeks among hundreds are closed for health reasons. But other signs are not as encouraging. Of Maryland's sewage treatment plants, 30 percent exceed their discharge limits. Overall, rapid suburban, urban, and industrial development is outstripping conservation efforts.

Trying to clean up the Bay, says William C. Baker, president of the Chesapeake Bay Foundation, is "like rowing three knots against a four-knot current."

THREE AFFLICTIONS OF THE CHESAPEAKE

The Chesapeake Bay supports an intricate web of life: Animals, plants, and insects must coexist under proper soil, water, and weather conditions. Otherwise, the ecosystem begins to break down.

Man is the chief threat to the Bay's health, as he is elsewhere. Because of extensive sewage dumping and run-off from city streets and farmlands, the Bay, in parts, has become too rich in phosphorus and nitrogen. Feeding on these nutrients, phytoplankton are breeding out of control, and mottling the waters.

Not only do these microorganisms steal oxygen from the water (especially when they decay), but they also block sunlight from rooted underwater plants. Since 1950, the amount of the Bay's water showing "anoxia" (no dissolved oxygen) during the summer months has increased 15-fold. Today, much of the water below 40 feet is anoxic from mid-May through September, along a stretch reaching from the Bay Bridge to the mouth of the Rappahannock River [see Figure 1]. Anoxic waters are especially lethal to "benthic" organisms, such as clams and oysters.

Mainly because of lost sunlight and herbicide run-off from farms, 10 species of "submerged aquatic vegetation" (SAV)—e.g., coontail, water nymph, widgeongrass, and horned pondweed—have been steadily dying off. SAV now occupies only 25 percent of the area it did two decades ago [see Figure 2]. The loss of these underwater plants has upset the Bay's ecological balance, since they provide habitats and spawning grounds for many fish and shellfish, as well as food for waterfowl. SAV also cleanses and reoxygenates the Bay's sometimes stagnant waters.

Compounding these troubles, the sediments on the Bay's bottom, close to heavily industrialized Baltimore and Norfolk, are tainted with high levels of toxins, pesticides, and metals. In Baltimore Harbor, some 480 toxic compounds have been detected. Many of the metals (e.g., cadmium, chromium, copper, iron, zinc, and lead) first enter the James, Potomac, and Susquehanna rivers before going into the Bay. In modest quantities, such metals are not harmful; but when their concentrations become too high, as they now are in certain Bay waters [see Figure 3], they can be hazardous to marine life and human beings.

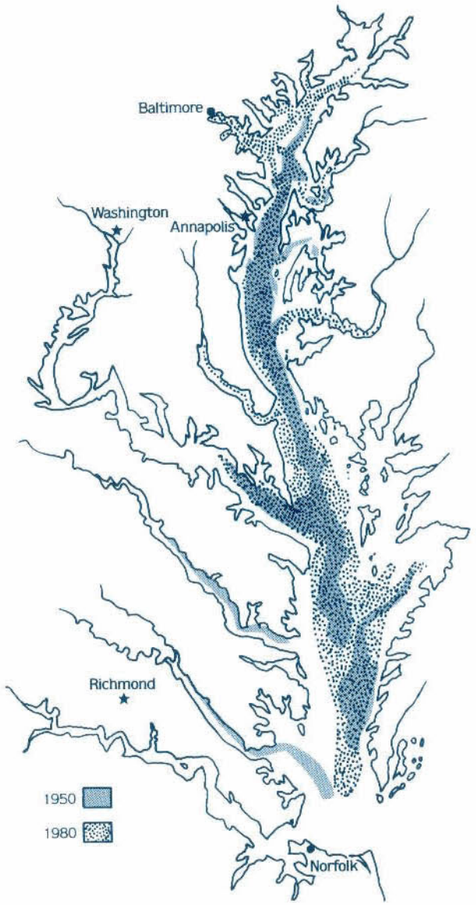


Fig. 1: Areas of the Bay with little or no dissolved oxygen in the water, 1950 vs. 1980.

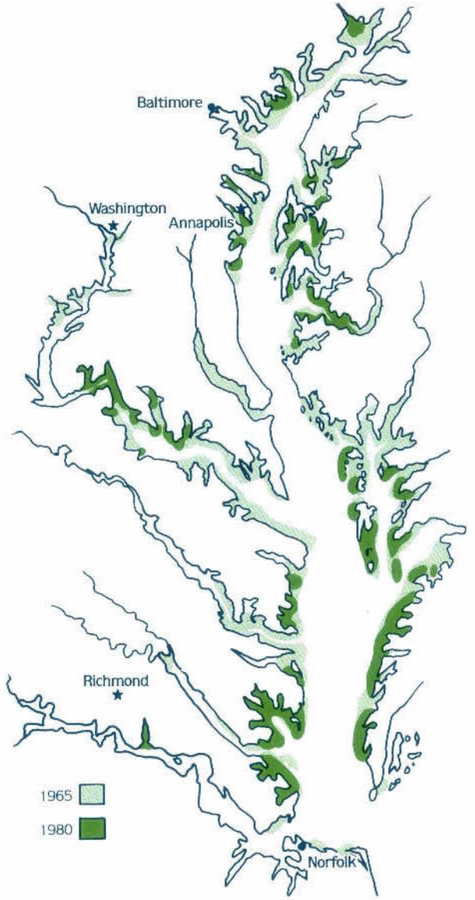


Fig. 2: Areas of the Bay where submerged aquatic vegetation still grows, 1965 vs. 1980.

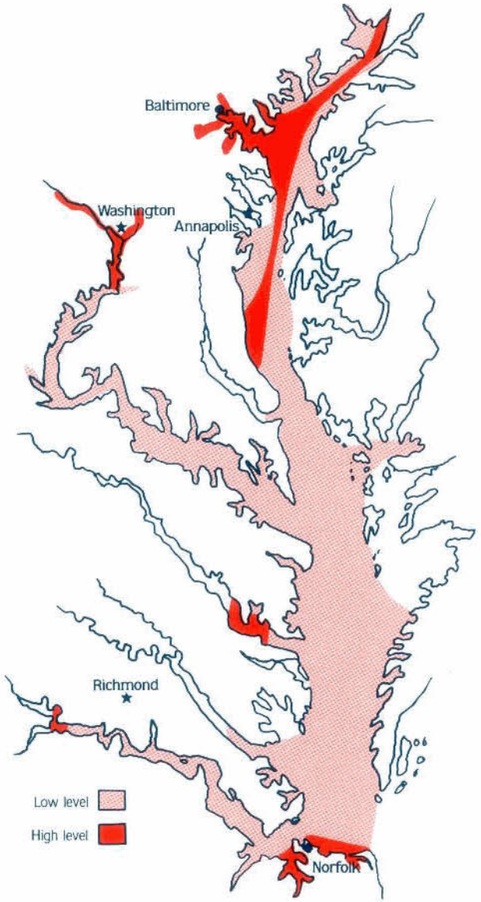


Fig. 3: Areas of the Bay now contaminated by metals, based on the EPA's contamination index.

PENNSYLVANIA
MARYLAND
Susquehanna River
Wilmington
Newark
Emmitsburg
Taneytown
Manchester
Westminster
Hereford
Elkton
Havre de Grace
Bel Air
Aberdeen
Elk River
Gunpowder River
Cockeysville
Reisterstown
Owings Mills
Towson
Bush River
SEPSUTTLE ISLAND
Delaware River
Frederick
Mt. Airy
Sykesville
Damascus
Ellicott City
Baltimore
Dayton
Columbia
Elkridge
Chestertown
Dover
Gaithersburg
Glen Burnie
Riviera Beach
Centreville
Rock Hall
Chester River
MD.
Maryland City
Laurel
Severna Park
Lake Shore
Rockville
Cape St. Claire
Potomac River
Wheaton
Greenbelt
Crofton
CHESAPEAKE BAY BRIDGE
VA.
Bethesda
Silver Spring
Bowie
Chester
Severn River
Reston
Annapolis
South River
KENT I.
Edgewater
Milford
Arlington
Washington, D.C.
Eastern Bay
Denton
Fairfax
District Heights
Shadyside
Matthews
Alexandria
Upper Marlboro
St. Michaels
Easton
Camp Springs
Deale
Springfield
Manassas
Bridgeville
Mt. Vernon
Tilghman
Oxford
Brandywine
Chesapeake Beach
Federalsburg
Woodbridge
Seaford
Bryans Road
Waldorf
Choptank River
Thomas
Laurel
Quantico
La Plata
Hughesville
Prince Frederick
Cambridge
Little Choptank River
Golden Beach
Long Beach
DELAWARE
MARYLAND
Patuxent River
Nanticoke River
Blackwater
Salisbury
Dahlgren
Maddox
Solomons
Elliot
Fishing Bay
Wicomico River
Fredericksburg
Leonardtown
Lexington Park
King George
Colonial Beach
Princess Anne
Potomac River
St. Mary's City
BLOODSWORTH I.
Deal Island
Wenona
Pocomoke River
Montross
SOUTH MARSH I.
Pocomoke City
MD.
VA.
Bowling Green
Point Lookout
Ewell
Tangier Sound
Crisfield
Shelltown
SMITH I.
Pocomoke Sound
Chincoteague
Warsaw
Tappahannock
Heathsville
Smith Point
TANGIER I.
Reedville
Rappahannock River
Lancaster
Laneview
Onancock
Accomac
Mattaponi River
King William
Irvington
CEDAR I.
Windmill Point
Saluda
Wachapreague
Belle Haven
Pamunkey River
PARRAMORE I.
Richmond
West Point
New Kent
Nassawadox
Chickahominy River
Mathews
HOG I.
Gloucester
York River
Mobjack Bay
Eastville
COBB I.
Hopewell
Williamsburg
Cape Charles
WRECK I.
Gloucester Point
Yorktown
SHIP SHOAL I.
Petersburg
Jamestown
MYRTLE I.
Kiptopeke Beach
PLUM TREE I.
Surry
Poquoson
Cape Charles
James River
Hampton
CHESAPEAKE BAY BRIDGE-TUNNEL
Smithfield
Newport News
Cape Henry
Norfolk
Portsmouth
Virginia Beach
Chesapeake
Suffolk
Pungo
Chesapeake Bay
Atlantic Ocean

Built-up area
Wetland
Critical fish spawning area
Fossil fuel power station
Chemical plant
Petroleum facility
Steel mill
Other industry
Sewage treatment plant

0 5 10 15 20 25 miles

people is a fundamental part of our environment."

Reagan's stray remarks—e.g., "80 percent of air pollution comes not from chimneys and auto exhaust pipes, but from plants and trees"—hinted that he took a more radical view. But, as political scientist Michael E. Kraft later recalled, environmental issues were seldom discussed during the campaign; none of Reagan's statements point "with any clarity to a well-defined environmental policy agenda."

As William Ruckelshaus was to note, the new administration misinterpreted Reagan's stunning 44-state electoral sweep in 1980. The White House mistook the public's apparent wish to streamline environmental regulations for a desire to change course altogether.

Taking office in January 1981, Reagan chose a conservative activist, James Watt of Colorado, as secretary of the interior. He picked a little-known Watt protégée, former Colorado state legislator Anne Gorsuch (later, Burford), to head the EPA. As president of the Denver-based Mountain States Legal Foundation, Watt had spearheaded the Sagebrush Rebellion's courtroom attacks against restrictions on the uses of federally owned lands in the West.

In Washington, the abrasive new secretary of the interior pledged to "unlock" more than 500 million acres of protected federal lands to ranchers, coal miners, and loggers, and to lease up to one billion acres of offshore tracts for oil exploration. To promote "administrative efficiency," Gorsuch slashed $300 million from the EPA's $1.3 billion budget, forced out dozens of senior staffers, and slowed the flow of new regulations and lawsuits against polluters to a trickle. In the *Washington Post*, Russell E. Train, EPA administrator under Nixon and Ford, deplored the EPA's "demoralization and institutional paralysis." Gorsuch, he suspected, was actually trying to destroy the EPA.

Washington's Green Giant

In March 1982, the leaders of 10 environmental and conservation groups—the so-called green lobby—issued a much-publicized 227-count "indictment" of the president. They charged that he had "broken faith with the American people" and "veered radically away from the broad bipartisan consensus" in favor of strict environmental protection.

Many Americans seemed to agree. The actions of Watt and Burford revived the sagging fortunes of the National Audubon Society, the Environmental Defense Fund, and their allies. The Sierra Club's membership nearly tripled (reaching 310,000) during the two years after Reagan's election. (All told, the national organizations claimed more than five million members.) Opinion surveys showed that public sentiment in favor of environmental regulation "regardless of cost" was soaring—hitting 58 percent by 1983.

In 1981, lobbying on Capitol Hill, a coalition of Washington-based groups scuttled Reagan-backed efforts to eviscerate the Clean Air and

WHO WILL STOP THE RAIN?

"Right as rain" and "pure as the driven snow" are the expressions of a sweeter, bygone era, laments Harvard's Roy Gould. "Now the storms that sweep across eastern North America carry an acid rain—a rain gone sour."

The debate over the nature and menace of acid rain—what former Environmental Protection Agency (EPA) administrator William D. Ruckelshaus calls "the most difficult, complex public policy issue" of his career—is flavored by all the rhetorical excesses (on both sides) of an earlier era. It has also divided scientists, deadlocked Congress, embarrassed the Reagan White House, and strained U.S. ties with the conservative government of Canada's Prime Minister Brian Mulroney. "You can't continue to dump on us the garbage that you are producing on your own property," warned Canada's former environment minister, Charles Caccia.

•

A decade ago, few Americans had heard of acid rain. It was a local phenomenon, barely noticed until long after Congress passed the Clean Air Act in 1970. In response to the act's strict local air quality standards, utility companies in the industrial Midwest built "tall stacks" (up to 1,200 feet) to shoot soot and smoke high into the air, where it would be swept away by the jet stream. By the end of the decade, scientists in upstate New York and in Ontario were puzzled by the gradual acidification and "death" of hundreds of freshwater lakes. They began to target the tall stacks after they learned that Scandinavian scientists had linked similar problems in Sweden to rising sulfur dioxide emissions from the factories of Great Britain and Central Europe.

In 1984, Sweden persuaded nine other nations to join a "30 Percent Club," whose members pledged to cut their sulfur dioxide output by almost one-third within 10 years. Notable nonmembers: the United States and Great Britain.

President Reagan has been reluctant to endorse sweeping controls. Instead, he has proposed a five-year, $2.5 billion research effort, even though most researchers (including Reagan's own blue-ribbon advisory panel) agree that coal-burning industrial plants are the chief source of the problem. But then uncertainty sets in. Is acid rain responsible for all of the ills blamed on it? The charges, says the Hudson Institute's William M. Brown, range "from reasonably convincing to far-fetched."

Endangered Species acts. When Watt attempted to win congressional approval of oil and gas leasing in some federal wilderness areas after the year 2000, the "green lobby" persuaded the House of Representatives to vote overwhelmingly for a perpetual ban on such leasing. The Senate demurred, but Watt nevertheless had to retreat. Washington, said *Fortune*, was "in the grip of the Green Giant."

But even Ronald Reagan showed little grief when Burford and Watt were forced to resign in 1983. Burford departed under a cloud after being cited for contempt for refusing to release documents to a congressional committee investigating EPA mismanagement of the Superfund.

Scientists have pinned the blame firmly on acid rain for the "death" of some 400 alpine lakes in New York's Adirondack Mountains. These "dead" lakes are now as acid as vinegar, devoid of plant life, trout, bass, and many bacteria. From the air, the lake surfaces are an unnaturally beautiful shade of blue, "like flowers at a funeral," as one naturalist expressed it. Lakes in Vermont, New Hampshire, and Ontario are probably also victims of acid rain.

But environmentalists have also contended, less plausibly, that acid rain is stunting or killing off forests, corroding city skyscrapers and other structures to the tune of $5 billion annually in damage, and driving 50,000 to 200,000 Americans with respiratory ailments to early graves.

Mulroney and Reagan

Congress seems eager to do *something*, but the peculiar politics of acid rain has tied lawmakers in knots.

An obvious solution to the acid rain problem would be to have utility companies use low-sulfur Western coal. But that would cost some 30,000 coal mining jobs in the Eastern high-sulfur coal mines that now supply the Midwestern utilities. Congress could require all existing utilities to install smokestack "scrubbers"—at a cost of $100 million to $300 million apiece—but who would pay? The Edison Electric Institute claims that some consumers might see their electricity bills jump by 50 percent. Proposals for various national acid rain "taxes" also founder: Why should Georgia pay to clean up the Midwest's dirty utility plants and the Northeast's lakes?

Any remedy is expensive. The price for U.S. membership in the 30 Percent Club would be high: $10 to $20 billion, or up to "$6,000 per pound of fish" saved, in the pithy summary of former budget director David Stockman.

Science provides no easy answers to the cost-benefit quandary. "The benefits of a properly functioning ecosystem are much more than matters of dollars and cents," concluded President Reagan's advisory panel in 1983. Only one thing is certain. If Washington delays, and if acid rain is as destructive as many specialists suspect, it may never be possible to correct the damage.

Watt was tripped up by his own offhand remarks about the "balanced" makeup of an Interior Department advisory commission. The panel, he said, included "a black . . . a woman, two Jews, and a cripple."

When Reagan put William Ruckelshaus back at the helm of the EPA, and a Reagan confidant, William P. Clark, at the Department of the Interior, the storm over environmental policy suddenly ended. The *status quo ante* was restored. In 1984, even a Sierra Club "report card" awarded Ruckelshaus "a gentleman's 'C.'"

Perhaps the most significant legacy of the Reagan years may be the complete absence of any fresh regulatory initiatives. Reagan's election

wrote *finis* to the exuberance of the "environmental decade." "The major role of the Reaganites," concluded Samuel P. Hays, "was to retard or halt emerging action on such matters as acid rain, toxic air emissions, indoor air pollution, and hazardous waste."

Reagan's "wrecking ball," as environmentalists termed it, never did much permanent damage. "Deregulation" did not progress very far at the EPA, though Reagan has carried forward some reforms (e.g., a requirement that all new regulations pass a cost-benefit test) planned by the Carter administration.

Seventeen years after Earth Day, on the eve of a presidential election year, virtually none of the ambitious goals set by Capitol Hill during the "environmental decade" have been met. The nation's air quality remains spotty at best; its rivers and streams are, with a few happy exceptions, little cleaner than they were in 1970.

A few dangerous toxic chemicals, such as 2, 4, 5-T and EDB, have been identified and banned, but thousands more have not even been studied. Ironically, the clearest gains have been recorded in the area of traditional conservation: Congress, for example, has nearly tripled the size of the National Park System since 1970, mostly by the addition of lands in Alaska (in 1980). Private groups have bought and preserved wetlands and wildlife reservations.

Yet, by any conceivable measure, the outlook for the nation's environment is far brighter than it was in 1970—if only because Americans, by all accounts, are now firmly committed to curbing *additional* despoilation of the air, land, and water. The nation's overreaction to the much publicized environmental "crisis" of the early 1970s may have been a necessary spur to awareness; the Reagan "counter-revolution" was an overreaction to the excesses of environmentalism.

Next on the environmentalist agenda are, among other items, control of acid rain and indoor "air pollution," and tighter regulation of toxic wastes and air pollutants (the Clean Air Act is due for revision by next year). As the nation seeks continued improvement in the quality of the environment, its politicians must find rational ways to accommodate scientific realities, ideological visions, and the needs of the economy.

LEARNING THE LESSONS

by Robert W. Crandall

"It's one of the greatest success stories in American history," said Russell E. Train, former administrator of the U.S. Environmental Protection Agency (EPA).

Train's enthusiasm in 1976 over the cleanup of the Great Lakes may have been excessive, but it was not wholly unwarranted. In 1965, Lakes Erie, Michigan, and Huron were so polluted that hundreds of beaches were closed. Fish perished in waters choked with algae, and raw sewage washed up on the shores.

Today, Erie's surface is blue again. Lake trout and walleye dart through its waters. Most beaches have reopened. And, while serious difficulties remain—notably, high levels of dangerous PCBs (polychlorinated biphenyls), mercury, lead, and various pesticides in certain areas—most scientists agree that all five of the Great Lakes are healthier than they were 20 years ago.

There are other success stories. The northern tributaries of the Mississippi, such as the Maunesha River—whose waters once swirled with discharges from a sauerkraut and pickle cannery, a cheese factory, and a slaughterhouse—are all cleaner, now that a treatment plant processes the industrial wastes. New York's Hudson River, Virginia and Maryland's Potomac River, and Wisconsin's Fox River were once among the most polluted in the country. But today anglers pull bass, pike, or salmon from the rivers. Twenty miles south of the nation's capital, the Potomac is now clean enough to swim in. Hudson River boaters and water-skiers no longer joke about the health hazards of a fall into the river's murky waters.

In the skies over the Northeast and Northwest, many rare birds that were once nearly extinct because of DDT and other pesticides (e.g., the peregrine falcon, bald eagle, and brown pelican), are now increasing in number. And in New York, Pittsburgh, Chicago, and Denver, city dwellers are literally breathing easier. The number of "unhealthful" days in many cities, according to the EPA, has dropped.

But these successes do not tell the whole story. Overall, the national trends in pollution abatement are not encouraging.

Between 1972 and 1985, U.S. industries spent $395 billion, federal and state governments spent $154 billion, and consumers spent $83 billion (mostly for catalytic converters and other auto-pollution-control devices). Total: $632 billion, to clean up America's air and water, improve solid waste disposal, control the harmful effects of pesticides, and pursue other environmental objectives. But those sizable outlays have

yielded only modest gains [see "Report Card," p. 74]. For example, air quality throughout the United States has improved only marginally. Despite the costly 17-year regulatory effort to control motor vehicle exhaust emissions, photochemical smog is nearly as bad in most places as it was on Earth Day 1970. Nationwide, the average airborne concentration of particulate matter, sulfur dioxide, and carbon monoxide fell by about one-third between 1976 and 1985.

After reviewing the latest research on water pollution in 1986, the U.S. General Accounting Office (GAO) came to the less than glowing conclusion that, overall, "water quality probably improved in particular streams but, in general, the nation's water quality did not significantly change" between 1972 and 1982. According to the U.S. Council on Environmental Quality's report *Environmental Quality* (1984), the "average" U.S. stream or lake showed only limited improvement between 1972 and 1983. In fact, out of approximately 350,000 miles of streams evaluated, only 47,000 improved in quality, while 11,000 declined in quality, and the remaining 292,000 miles showed no change. Of roughly 16 million acres of lakes evaluated, only 390,000 acres showed gains in quality, while 1.65 million acres actually declined.

Too Much, Too Soon

Looking beyond the fundamentals of air and water pollution, Jay D. Hair of the National Wildlife Federation concludes that Washington made "only limited progress in controlling [such problems as] soil erosion and nonpoint pollution, and in protecting wildlife habitat."

Furthermore, not all of the credit for reducing air and water pollution belongs to EPA regulators. The decline of the U.S. steel industry in the Midwest, price hikes for gasoline, oil, and coal during the mid-1970s, and two steep economic recessions have all helped to ease pollution, variously by depressing industrial production, forcing energy conservation, and putting a crimp in Americans' driving habits.

Recently, a disillusioned Barry Commoner reviewed the "course of environmental improvement" after more than a decade of sometimes draconian regulatory efforts. The veteran environmentalist and one-time presidential candidate found progress "spotty, gradual, and now [under the Reagan administration] diminishing.... There is a consistent explanation for the few instances of environmental success," he argued. "They occur only when the relevant technologies of production are changed to eliminate the pollutant." That implies a truly radical (and, in most cases, unworkable) solution to most of the nation's environmental

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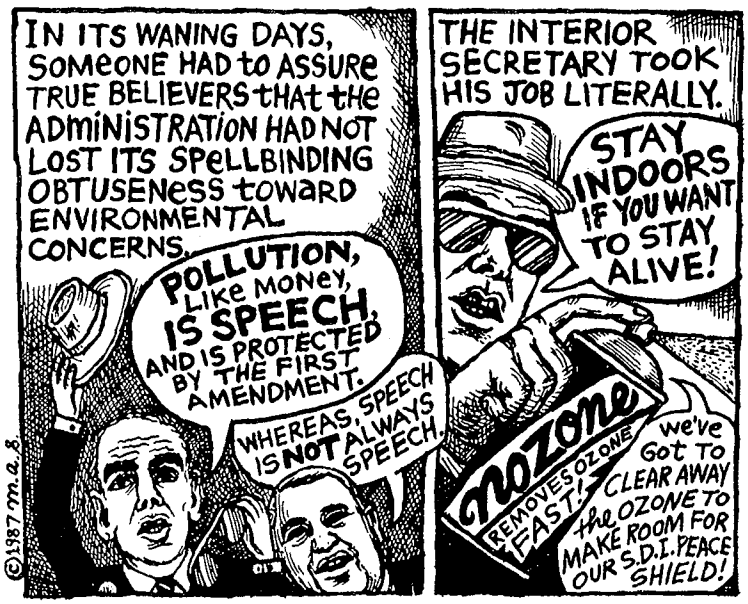

In May, Reagan administration aides reportedly suggested that Americans use sun lotion rather than worry about the ozone layer's decay. Above, Mark Alan Stamaty slaps U.S. Interior Secretary Donald Hodel in "Washingtoon."

difficulties. Commoner proposes, for example, a near-total ban on the production of plastics, pesticides, and detergents.

Such conclusions lead to the obvious question: After all the furor, all the money spent, and all the effort, why has U.S. environmental policy not been more effective?

The answer begins with the creation of the Environmental Protection Agency in December 1970, shortly after Earth Day's premier.

In brief, Congress gave the EPA too much to do in too little time. Trying to eliminate as many environmental hazards as possible, and acting in great haste, the legislators on Capitol Hill instructed the EPA to set standards for *all* major air pollutants (1970) and water pollutants (1972), to regulate pesticides (1972), to control solid waste disposal (1976), and to eliminate the toxic substances among the thousands of industrial chemicals (1976).

It was like asking a five-year-old boy to split an atom.

Even at the time, EPA scientists thought it was "difficult, if not impossible, to meet these needs within the generally recognized standards of scientific validity," according to William D. Ruckelshaus, the first EPA administrator. Politics also hampered the new agency. In the Clean Air Act of 1970 (as in many other environmental laws), Congress did not allow the EPA to assign higher priorities to the greatest known threats to human health. Congress considered the reduction of bother-

some but relatively less harmful photochemical smog, for example, to be just as important as lowering levels of much more dangerous airborne lead, arsenic, and acid sulfates.

Congressional pressure on the EPA (abetted by the environmentalist "green lobby") to solve all problems at once merely diminished the agency's ability to solve any of them. Today, struggling with an awesome workload, the EPA is five years or more behind schedule in setting standards for many pollutants. And it is often so busy devising new rules that it cannot properly enforce the old ones.*

A Piece of the Pie

On grounds of efficiency alone, the best way to curtail pollution is to make the expense of abatement (per pound of pollutant) the same for all plants. In practice, this would mean closing many antiquated factories, while leaving newer, "cleaner" plants in production. But for Congress, that would be too painful politically. It would concentrate the loss of jobs and corporate profits in a few highly visible industries and regions, notably the Frost Belt. By using vague standards—e.g., requiring the use of the best "reasonably available" pollution control technology—Congress has passed the hot potato to the EPA. Without a clear mandate to pursue efficiency, the EPA must weigh the political costs of its actions. As a result, corporations that operate old, dirty, inefficient plants generally pay *less* to control pollution (per pound) than do more prosperous firms with new facilities.

Often, the direct influence of Frost Belt legislators can be seen in the way laws are written. In 1977, for example, congressmen from Pennsylvania, West Virginia, and other Eastern and Midwestern coal mining states joined forces with environmentalists on Capitol Hill to push through a curious amendment to the Clean Air Act. It requires, in effect, the installation of expensive smokestack "scrubbers" that remove harmful sulfur dioxide emissions from all new coal-fired factories and utility plants, regardless of the sulfur content of the coal they burn.† The Easterners thus rigged the Clean Air Act to encourage Midwestern utilities not to switch from high-sulfur Eastern coal to the cleaner, low-sulfur coal mined in the Western plains. Thousands of Eastern coal mining jobs were saved. The practical effects of the amendment were twofold: It discouraged the replacement of aging, inefficient "dirty" plants

*In 1979, the GAO found that the EPA had actually tested smokestack emissions at only 498 of 19,973 plants and factories that were supposedly in full compliance with Clean Air Act regulations. When the GAO audited 921 of the "clean" firms, it found that 200 (22 percent) were not, in fact, meeting federal standards.

†Congress's track record in choosing pollution abatement technologies is not flawless. In 1970, it mandated that automakers use the "best available technology" to cut auto and truck emissions, effectively forcing Detroit to install catalytic converters in its vehicles. Yet, doing so not only raised the price of each car by roughly $150, but also discouraged owners of older, "dirtier" cars from purchasing newer, "cleaner" ones—not to mention the catalytic converters' tendency to break down.

by new ones, and it substituted a costly and uncertain remedy (scrubbers) for a sure-fire solution (low-sulfur coal).

Washington's water-pollution-control programs have their own set of expensive incongruities. Few taxpayers realize that the EPA's popular subsidies for municipal sewage treatment grants (the Construction Grants Program) are now one of the nation's biggest public works "pork barrels." Since 1972, Washington has spent $44 billion to help finance local sewage treatment facilities.

There is no solid evidence to show that this massive public works outlay has produced markedly cleaner lakes and streams. As the *Washington Post* observed in 1981, "after nine years of massive federal investment to build or upgrade sewage treatment works in 18,000 communities, about 2,000 of the projects have been completed, and most are small plants in small communities where pollution threats are often the least serious."

Yet, while the Reagan administration made deep cuts in the EPA's regulatory budget during the early 1980s, federal outlays for sewage treatment plants have remained at more than $2 billion per year.

Such "pork barrels" are all too common in Washington's War Against Pollution. The Superfund program is another example. In 1980, Congress created the Superfund amid a great hue and cry over the threat from toxic waste dumps such as New York's Love Canal. The cost to clean up 419 sites: $1.6 billion, raised chiefly by relatively painless (for Congress) and obscure new levies on industry. The scramble to get a piece of the Superfund pie created the spectacle of congressmen and mayors competing fiercely to have dumps in their communities certified by the EPA as "threats to public health."

Risk Assessment

Not surprisingly, when the Superfund legislation came up for renewal in 1986, Congress expanded the national priority list to 850 sites, and put another $8.5 billion into the Superfund. Seldom criticized, Superfund is not the product of careful risk analysis, but of public hysteria over the toxic waste threat—"an environmental problem," says Elizabeth Whelan of the American Council on Science and Health, "turned into an environmental fiasco."

The EPA, observes Fred L. Smith, a former agency official, "finds itself selecting projects based on their political and public relations value....The EPA has made Superfund [clean-up] monies available whenever penalizing the real polluters... would be politically difficult. As a result, Superfund's 'priority' list now includes a number of sites operated by viable companies [which could be forced to pay the cleanup costs] and even by the Department of Defense."

Assessing the risk of any pollutant is a tedious, uncertain process. The exact cause-and-effect relationship between a toxin and the mala-

REPORT CARD, 1970–87

On Earth Day 1970, few Americans guessed that the War Against Pollution would be so difficult. Assessing environmental change is no simple matter; many of the official statistics cited below are rough estimates. Items:

AIR U.S. industry's $58.3 billion investment in smokestack "scrubbers" and other devices (plus $12.8 billion from Washington) since 1972 has reduced emissions of most major air pollutants, such as sulfur dioxide and particulates. More than 2,600 (of 3,151) U.S. counties now meet air quality goals. Problems still to be fully defined and addressed: "acid rain," depletion of ozone in the Earth's upper atmosphere, and rising levels of carbon dioxide, a contributor to the "greenhouse" effect.

WATER Results are mixed. Only 11 percent of U.S. streams and two percent of lakes evaluated in 1982 were cleaner than they were in 1972. Overall, sewage-borne bacteria and certain nutrients (e.g., phosphates) have been cut by 46 percent nationwide, thanks to some 10,000 federally subsidized water-treatment plants (cost: $44 billion). Perhaps 65,000 industrial polluters, large and small, are still virtually uncontrolled, as is "run-off" from farms and city streets, which accounts for more than half of all water pollution.

TOXICS Since 1976, the Environmental Protection Agency (EPA) has registered more than 70,000 chemical compounds for commercial use: Fewer than 1,500 have been fully tested; only six have been banned. Outlawed compounds linger in landfills, in rivers, and in the fat cells of humans, fish, and game. The EPA, with 951 abandoned hazardous waste dumps on the $8.5 billion Superfund National Priority List, has begun cleanup work on roughly half of those sites. Also troublesome: growing quantities of nuclear waste.

PESTICIDES Of the 50,000 products registered since 1972, the EPA has banned 812 and suspended 3,200 for further testing. Production of U.S. pesticides dropped from 1.6 billion pounds in 1975 to one billion pounds in 1986. (Production of agri-chemicals reflects the farm economy's ups and downs.)

WASTE America now produces 26,000 pounds of solid waste (garbage) per person per year. Space for garbage dumps (landfill) is scarce. But new recycling techniques can recapture 40 percent of discarded aluminum and eight percent of glass. And 70 federally subsidized "waste-to-energy" plants now burn refuse to generate electricity.

LAND CONSERVATION Since 1970, U.S. national parks have grown in size by 50 million acres, wildlife reserves by 60 million acres, and national forests by 4 million acres (cost: $3 billion). Yet the loss of four million acres of private wetlands to farmers and developers has offset some of these gains.

ENDANGERED SPECIES Since 1973, five species (e.g., blue pike) have become extinct and three have recovered, leaving 973 species "endangered" or "threatened," by official count.

dies it causes is often obscure. There are other thorny questions: How many people will be exposed to a pollutant? What will their dosage be? How much exposure is harmful?

"Like most human endeavors, risk assessment is as much art or philosophy as science," observed the Conservation Foundation in its report *Risk Assessment and Risk Control* (1985).

A 1981 study of perchloroethylene (PCE), a solvent used by neighborhood dry cleaners, reveals the degree to which arbitrary decisions can affect risk estimates. Researchers Gregory L. Campbell and D. Warner North considered three crucial choices that scientists made in assessing the risk of liver cancer posed by PCE: the kind of test animals to use (rats or mice), the method of translating the results from animal to human terms (body surface area or weight), and the "dose-response" model (linear or quadratic) with which to estimate the effects of low doses that humans are exposed to based on data about high test doses.

There are no absolute scientific guidelines favoring one test method over another. But depending on the method chosen, the risk assessment can vary by a factor as large as 35,000—at current levels of exposure, that means that the risks of PCE use range from 347 human cancer cases per year in one scenario, to only .01 cases in another.

$250,000 Per Day

Even when the EPA has accurate risk estimates in hand, it still faces a dilemma: What level of risk is "acceptable?" At what price? Although some environmentalists argue otherwise, zero-risk is not an option in an industrialized society. To demand that automobiles pose no risks—to passengers or to those exposed to tail-pipe emissions—is, essentially, to forbid anyone from starting a car engine. And then what? Even walking or riding a bicycle entails risks.

In the case of air pollution, the 1977 Clean Air Act amendments required the EPA to set its national ambient air quality standards by using as a yardstick the susceptibilities of the most sensitive segment of the population—generally Americans suffering from respiratory or heart disease (e.g., asthma or angina pectoris).

As a result, the health benefits of reduced levels of carbon monoxide, for example, have been very costly indeed. In 1980, President Carter's Regulatory Analysis and Review Group compared two carbon monoxide standards, the EPA's nine parts per million (ppm), and a less stringent 12 ppm. Each "man-day" of sickness among those with cardiovascular disease averted by EPA's stricter standard, the group calculated, costs U.S. taxpayers and industry as much as $250,000.

Consider another example. To reduce arsenic emissions from a copper smelter, the EPA now fixes a level of control that lowers the risk of premature death for everyone in the area by five percent. The cost: $20 million per year.

FLEEING THE LOVE CANAL

"Everybody's come to town,/Those left we all do pity;/For we'll have a jolly time/At Love's new model city."

With this 1890s advertising jingle, set to the tune of "Yankee Doodle," William T. Love hoped to lure factories and 600,000 Americans to his new town near Niagara Falls, New York. There, the visionary entrepreneur planned to build a new canal, diverting part of the Niagara River around Niagara Falls to supply hydroelectric power to industry at no cost.

Love never completed his dream city. During the 1940s, the Hooker Electrochemical Company chose the partially completed canal as a dump for dioxin, chlorobenzene, and other wastes from its Niagara Falls factory. A decade later, Hooker was compelled to sell the site to the local school board, which parceled off plots to housing developers. By the late 1970s, William T. Love's ill-fated canal was front page news again. It had become, said *Newsweek* in 1978, a national symbol of America's "Faustian" bargain: "the products and by-products of industrial efforts to improve consumers' standards of living are threatening those same people with disease and death."

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Since the 1940s, people living near the canal had complained on and off of nauseating vapors, black sludge seeping into their basements, and, on a few occasions, burns and blisters from contact with the wastes. In 1976, amid growing national publicity about industrial "poisons," the issue caught the attention of Michael Brown, an enterprising reporter for the *Niagara Gazette* (circ.: 33,000). Brown ferreted out reports of alarming ills. Most ominously of all, he hinted, the Love Canal chemicals might be causing cancer.

A 1978 study by the New York State commissioner of health did not encourage calm. Its title: "Love Canal: Public Health Time Bomb." Governor Hugh Carey announced that the state would relocate, at taxpayers' expense, some 240 families living nearest the old canal site. Meanwhile, investigators seemed to find more horrors: an abnormally high incidence of nervous breakdowns, miscarriages, and birth defects.

President Jimmy Carter's Environmental Protection Agency (EPA) stepped in early in 1980, commissioning a quick "pilot" study to search for evidence of chromosome damage among Love Canal residents. On Saturday, May 17, before scientists could scrutinize the survey, its frightening results appeared on page one of the *New York Times*—leaked by an unnamed government source.

"It did not take long for the [media] hysteria to manifest itself," wrote Harvard's Martin Linsky. On Wednesday, the EPA announced the emergency evacuation of some 2,500 Love Canal residents from their homes. Later, Carter ordered the abandonment of all the Love Canal homes; the U.S. government paid the residents more than $30 million for their property.

But the very morning of the EPA press conference, an outside panel of scientists presented their review of the pilot study to EPA officials. They found

"inadequate basis for any scientific or medical inferences . . . concerning exposure to mutogenic substances because of residence in Love Canal." Later studies confirmed that Love Canal residents had not suffered abnormal rates of cancer, miscarriage, chromosome damage, or other serious ills.

The following year, a rueful *New York Times* concluded that "it may well turn out that the public suffered less from the chemicals there than from the hysteria generated by flimsy research irresponsibly handled."

Yet alarm over the possible "poisoning of America" set the tone for the disposition of other hazardous waste sites. Late in 1980, Congress established the $1.6 billion Superfund to begin cleaning up the most dangerous dump sites. Another ghost town was born in 1983, after the EPA found traces of a suspected carcinogen, dioxin, in the soil of Times Beach, Missouri, and ordered the evacuation of all 2,000 residents. Yet, as the editors of *Science* wrote, there was no "basis for believing that [dioxin] is a dangerous carcinogen in humans."

A cartoonist's response to Love Canal (1980).

By 1987, the EPA had concluded that hazardous waste dumps represented "relatively low risks." While certain chemicals caused burns or other injuries, scientists studying hundreds of suspected carcinogens had so far proved that only a few (notably, chromium) caused cancer in humans. The EPA said it would rather spend less on Superfund, more on urgent problems (e.g., "global warming," caused by carbon dioxide emissions). But Congress had other ideas: In October 1986, it added $8.5 billion to the Superfund.

Critics of Superfund, such as Murray Weidenbaum, former chairman of President Reagan's Council of Economic Advisers, favor more emphasis on economic incentives, such as taxes on hazardous waste producers and cash bonuses for communities that accept new dumps—"a birth control approach to pollution." Even critics agree that some cleanup efforts are necessary; none, as far as is known, have volunteered to buy homes near the Love Canal.

Still, seven years after Congress created the Superfund, notes Weidenbaum, "the hazardous waste dump problem is little improved." Only 13 of 951 target sites have been completely cleaned up. Since the Love Canal panic, no major new dumps have been built. "Midnight dumping" is likely to increase as hazardous wastes pile up on old sites and in "temporary" storage.

Should the EPA require such an expensive degree of control if only one person is exposed? Or 100? Or 1,000? On the other hand, if a million people are exposed, should the EPA require the copper firm to spend millions of dollars more just to reduce the risk to human health by another one or two percent?

There is no "correct" answer to this kind of dilemma. Regulators must decide subjectively what each life is "worth"—or how much to spend to prevent another death. While such decisions typically evoke angry responses ("How can you put a dollar value on a human life!"), the fact is that every regulatory decision involves such money-versus-safety calculations; they cannot be avoided.

Cancer Scare

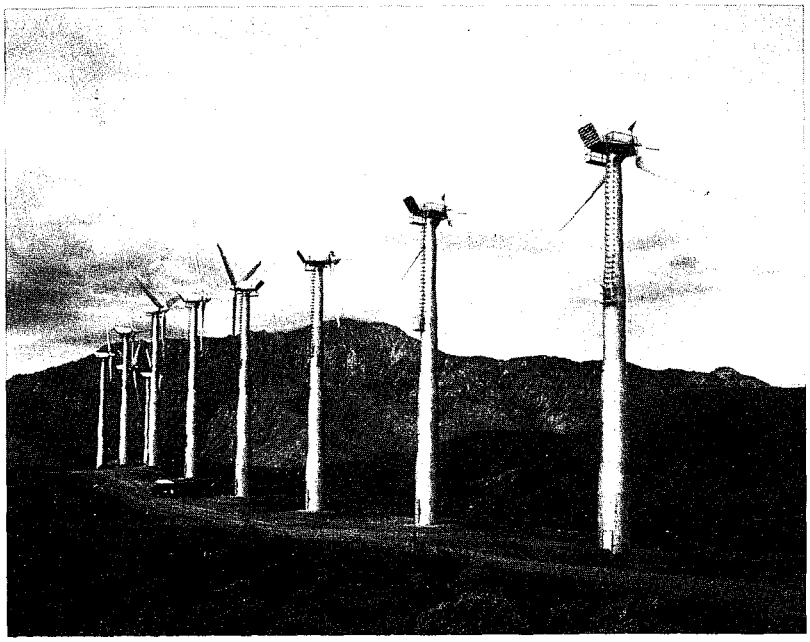
Indeed, the EPA and other U.S. regulatory agencies assign different values to life in every decision they make. The EPA's 1979 regulation of trihalomethanes (a hazardous by-product of chlorine in drinking water) calls, in theory, for the spending of $300,000 to save one life; by contrast, its 1986 rules on arsenic emissions require outlays of $19.2 million per life saved. (The all-time high is the U.S. Occupational Safety and Health Administration's [OSHA] 1985 formaldehyde regulation, which, in effect, demands expenditures of $72 ***billion***, mostly by U.S. industry, for each life saved.)

In part because of the nation's "cancer scare," Washington regulators are willing to force industry to spend, on average, 75 times as much to save someone from cancer as they are to prevent the accidental on-the-job death of a blue-collar factory worker. Overall, according to John F. Morrall III, an economist with the White House's Office of Management and Budget, the median cost-per-life-saved by cancer regulation is $37.6 million. But the average cost-per-life-saved by OSHA's workplace safety regulations is only $500,000.

To a certain extent, such discrepancies are created as each standard is set. The most difficult part of the risk assessment process is estimating what dosage of a pollutant, or toxin, or carcinogen is "acceptable" for an average individual.

The EPA takes the position that, when faced with risk uncertainties, one should "err on the side of safety." Yet Albert L. Nichols and Richard J. Zeckhauser, both Harvard economists, have shown that such "conservatism" in risk assessment can lead to regulatory decisions that actually jeopardize public health.

The debate surrounding the EPA's 1985 decision to require further reductions in the lead content of gasoline is one example. The agency had based its decision on, among other things, an estimate that such reductions would spare 150,000 children each year from exposure to "potentially hazardous levels of lead in their blood" (which can cause neurological damage). Critics of the decision argued that cracking down



The "Environmental Decade" spurred development of "alternative" methods of energy production. Above, the Painted Hills Wind Project, in Palm Springs, Calif., where 66 turbines each generate 65 kilowatts of electricity.

on lead would probably increase exposure to benzene, a lead substitute in gasoline, and a known carcinogen.

But, as Nichols and Zeckhauser note, early risk assessments for benzene had erred too much on the side of safety and greatly exaggerated benzene's dangers relative to those posed by lead, implying that lead levels in gasoline should not be lowered. Fortunately, the EPA did go ahead with a lead-reduction program, although it came uncomfortably close to making a very wrongheaded decision that would have *increased* the U.S. population's risk of illness.

Despite such pitfalls, the EPA is moving, albeit slowly, in the direction of rational, cost-efficient regulation of air and water pollution. For example, it is attempting to use market-oriented financial incentives to control pollution discharges.

Under the 1970 Clean Air Act amendments, Congress rashly outlawed the construction of new smokestack factories in cities and towns that violated Washington's air quality guidelines. But by 1976, it became clear that this policy was politically and economically foolhardy. Thus, the EPA devised a scheme to allow industrial growth without increasing the total level of pollution. That scheme was an "offset" policy. It permits the owners of, say, a new plastics plant to buy pollution "credits"

from local factory owners whose smokestacks spew forth *fewer* pollutants than the law allows.

Recent studies by economists Robert W. Hahn, Gordon L. Hester, and Thomas Tietenberg suggest that, so far, these market approaches to pollution abatement work only moderately well. For a variety of reasons, few "clean" businesses are actually selling pollution credits. One reason: The EPA has made it difficult to secure clear titles to the credits. And corporate executives fear that if they profit from selling their credits, public pressure will force the EPA to tighten the air quality rules.

Nonetheless, the market approach appears to be gaining support. In time, no doubt, it will prove itself to be a more effective way to reduce pollution than the command-and-control style of federal regulation dominant throughout the 1970s.

Where does that leave the nation's $73.8 billion-per-year environmental effort undertaken by business, government, and consumers?

It is making slow headway. It costs too much. It needs a legislative overhaul. Among other things, the EPA should continue to expand and improve its system of tradable air pollution credits, and extend the scheme to water pollution as well. Congress should revise the environmental statutes to eliminate ***uniform*** "technology-based" standards for all air polluters throughout the nation. In other words, it should give up the unrealistic notion that the air in cities such as Los Angeles can ever be as clean as the air in cities like Cheyenne.

Have we learned anything since the first Earth Day? Ironically, as the nation has prospered, and Americans enjoy ever longer, healthier lives, anxieties about the "invisible" threats to health have increased. Every freshly perceived hazard summons forth a new Rachel Carson to warn, in apocalyptic terms, of a grave danger to humanity, and to denounce the technological society that produced it. Toxic chemical waste—proclaimed the harbinger of a "carcinogenic century" by consumer advocate Ralph Nader—is only the latest example. In reality, for all of the anxiety and discomfort that pollution causes, it is *directly* responsible for relatively few deaths. When compared to other modern hazards (each year, automobile accidents kill approximately 46,000 people, smoking causes 150,000 cases of lung cancer, and exposure to asbestos induces 136 cases of fatal lung disease) the discernable effects of pollution on human health are minor.

Today, as legislators ponder action on acid rain, indoor air pollution, toxic waste, and other items on the environmentalist agenda, thoughtful Americans must aim for realistic goals. Seventeen years after Earth Day, the nation must move, as Winston Churchill once said in another context, "from the wonderful cloudland of aspiration to the ugly scaffolding of attempt and achievement."

THE ENVIRONMENT

The "invasion of Nature by Trade with its Money, its credit, its Steam, its Railroads, threatens to upset the balance of Man, and establish a new, universal Monarchy more tyrannical than Babylon or Rome."

Ralph Waldo Emerson's *cri de coeur* in his **Journals** (1840) reflected the fear among 19th-century naturalists that the rise of industry was threatening the American wilderness.

By the late 19th century, a new breed of "conservationists," notably George Perkins Marsh, author of **Man and Nature** (1864), was beginning to worry about the practical effects of overfarming, irrigation, and the lumber industry's "clear cutting" of virgin forests. At the same time, as Joseph M. Petulla observes in **An American Environmental History** (Boyd & Fraser, 1977), Emerson's spiritual heirs still looked to nature as "the ultimate restorer and purifier of a humanity corrupted by civilization."

These two traditions merged in the person of America's first great conservationist, John Muir (1838–1914). A Wisconsin farm boy turned inventor, Muir abandoned a career in industry after a factory accident nearly cost him an eye. He founded the Sierra Club in 1892, and penned polemics against, for example, the evil effects of overgrazing by sheep ("hoofed locusts") in the West. An 1876 essay in the Sacramento *Record-Union* asked: "God's First Temples: How Shall We Preserve Our Forests?"

Early triumphs, such as creating the Yosemite and Sequoia national parks in 1890, were largely the results of Muir's campaigns. But the preservation-oriented Muir broke with Theodore Roosevelt and other conservationists who favored some public works in the parks.

Petulla sees conservation as a populist cause, but many scholars disagree.

In **Conservation and the Gospel of Efficiency** (Harvard, 1959), Samuel P. Hays argues that the conservation movement "grew out of the political implications of applied science." The leading conservationists came from such new fields as hydrology, forestry, geology, and anthropology. "Loyalty to [their] professional ideals," says Hays, "not close association with the grass-roots public, set the tone of the Theodore Roosevelt conservation movement."

That tone was essentially optimistic. Even as they advocated wise "stewardship" of the nation's waters and forests, the conservationists "emphasized expansion, not retrenchment; possibilities, not limitations....They were not Malthusian prophets of despair and gloom."

As chief of the U.S. Forest Service under Roosevelt, Gifford Pinchot, a Yale-educated Bull Moose Progressive, brought 194 million acres of Western land under the federal umbrella. Both Pinchot and Roosevelt, born to wealth, exemplified the "noblesse oblige tradition," notes Martin L. Fausold in **Gifford Pinchot** (Syracuse Univ., 1961). They were passionate about the Great Outdoors and the "vigorous life." Thanks to their advocacy, conservation for the first time took a top position on Washington's domestic agenda, adds Paul Russell Cutright in **Theodore Roosevelt: The Making of a Conservationist** (Univ. of Ill., 1985).

What prompted the shift in outlook, from optimistic conservationism to the pessimistic environmentalism of the 1970s?

In a sense, argues journalist William Tucker in **Progress and Privilege: America in the Age of Environmentalism** (Anchor/Doubleday, 1982), the shift represents the triumph of a "romantic" strain of conservationism.

Present-day environmentalists, he

says, are America's college-educated "nouveau aristocracy." Having gained upper-middle-class status during America's post–World War II prosperity, they became "far more concerned with preventing others from climbing the ladder behind them, than in making it up a few more rungs themselves." Support for environmental causes, he notes, is greatest among those earning between $30,000 and $70,000 a year.

Virtually every environmental measure, from local suburban zoning laws to costly federal pollution controls on factories or automobiles, hits the lower-middle class hardest.

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In **Beauty, Health, and Permanence: Environmental Politics in the United States 1955–1985** (Cambridge, 1987), Samuel Hays suggests that postwar affluence freed many Americans from the need to scramble for life's necessities, permitting them a certain level of self-indulgence; they could dwell on their "quality of life," their health, and their general sense of well-being. Also, the eradication of many viral diseases (e.g., polio, typhoid) by vaccines, antibiotics, and improved sanitation (all, ironically, the fruits of the modern technological society that some environmentalists deplore) shifted public attention to threats posed to the public health by industrial growth.

The first, and perhaps most significant, of the books sounding the alarm was Rachel Carson's **Silent Spring** (Houghton, 1962). Carson, a biologist, detailed the dangers of DDT and other pesticides to human beings and to the "biosphere." Noting that the U.S. production of synthetic pesticides soared from 124 million pounds to 638 million pounds between 1947 and 1960, she maintained that these "Elixirs of Death" were now stored "in the bodies of the vast majority of human beings, regardless of age. They occur in the mother's milk, and probably in the tissues of the unborn child."

During the mid-1970s, after Congress had targeted the more obvious forms of pollution, environmentalists again turned their attention to unseen threats, such as radioactivity and toxic chemicals, putative breeders of a new cancer epidemic. A new spate of disaster-on-the-horizon books followed: **The Politics of Cancer** (Sierra Club, 1978) by Samuel Epstein; **Who's Poisoning America?** (Sierra Club, 1981), edited by Ralph Nader, Ronald Brownstein, and John Richard; **America the Poisoned** (Acropolis, 1982) by Lewis Regenstein; and **The Poison Conspiracy** (Permanent, 1983) by Karl Grossman.

The Apocalyptics (Simon & Schuster, 1984), and their allies in the scientific community, argues Edith Effron, are guilty of "a complex corruption of science and a prolonged deception of the public." Many scientists and regulators have abandoned objectivity, she asserts, and are rigging their statistical data to suit their political agendas. One of her chief targets: scientists who assume that human exposure to even a single molecule of a carcinogen may trigger a malignancy.

A good case study of one regional struggle over federal resource regulation is William H. MacLeish's **Oil and Water** (Atlantic/Little, Brown, 1985). In 1979, Mobil Oil sought to obtain offshore drilling rights on New England's Georges Bank, a 20,000-square-mile stretch of sea off the coast of Cape Cod. There, in waters Macleish calls "a ship-killer, a man-killer, and one of the richest fisheries in the world," Massachusetts fishermen harvest haddock, flounder, scallops, and lobster. For four years, the Conservation Law Foundation fought Mobil in court—and eventually won.

Europeans are often baffled by Americans' pitched battles over environmental controls, observes David Vogel in **National Styles of Regulation: Envi-**

ronmental Policy in Great Britain and the United States (Cornell, 1986). Britain's environmental regulations, he writes, are much less draconian—yet ultimately no less effective—than those in the United States.

One reason, says Vogel, is that scientists from government and business formulate standards together. As a result, the British environmental effort is rarely marred by the drawn-out struggles that afflict the United States.

The British are also far more tolerant of risks. After laboratory tests of the organic pesticides aldrin and dieldrin showed evidence of carcinogenicity in mice, but not in rats, monkeys, or dogs, British authorities decided not to ban the chemicals. Looking at the same evidence, the U.S. Environmental Protection Agency did. The inflexible mandate of the 1972 Federal Environmental Pesticide Control Act says that "suspension is to be based upon potential or likely injury and need not be based upon demonstrable injury or certainty of future public harm."

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The Soviet Union has adopted ambitious pollution control laws. And, as Charles E. Ziegler concludes in **Environmental Policy in the USSR** (Univ. of Mass., 1987), the Kremlin has been no more successful than the United States in making them work.

Noncompliance in the USSR is widespread. Violators "frequently ignore environmental rules, confident that their case will probably not make it to the courts." Moreover, adds Ziegler, because it has ignored "the economics of environmental protection," the Soviet Union is saddled with many statutes that are "unrealistically strict" and "unenforceable."

The best overall assessment of the War Against Pollution in the United States is **State of the Environment** (Conservation Foundation, 1987), which provides an evenhanded summary and a wealth of data on everything from U.S. production of benzene to duck populations in North America. Walter A. Rosenbaum's **Environmental Policy and Politics** (Congressional Quarterly, 1985) analyzes the political battles over the environment during the early Reagan era.

What next? The inventory of hazards in **An Environmental Agenda for the Future** (Island/Agenda, 1985), a joint effort by the leaders of 10 major U.S. environmental and conservation organizations, suggests no end of environmental threats to human welfare.

Many of the hazards are familiar: the population "explosion," the dangers of genetic engineering, the depletion of the Earth's ozone layer, damage to the world's rain forests. The authors also spy fresh dangers. Even the average American home contains perils. Indoor air pollution, the authors warn, may be even more hazardous than smog, since most Americans spend more than 80 percent of their time indoors.

But, in the broadest sense, the authors argue, America's environmental ills are really world ills that require "global foresight" to overcome.

"As Americans become increasingly aware of the plight of those who live elsewhere . . . moral values will motivate citizens to seek solutions for the problems of others who share the planet."

EDITOR'S NOTE: *Readers may wish to consult titles from the* WQ*'s earlier Background Books essay on the Environment (Summer 1977), as well as its essays on such related subjects as Energy: 1945–1980 (Spring 1981), Agriculture in America (Summer 1981), and Nuclear Power in America (Winter 1985).*

WILLIAM JAMES

"The moral equivalent of war," "stream of thought," "varieties of religious experience"—these and other well-worn phrases come from the work of Harvard's great philosopher-psychologist William James (1842–1910). He is more often quoted than understood. He wrote complicated, trenchant prose not unlike that of his brother Henry, the novelist. His work has never been easy to grasp. Assessing the links between his (difficult) life and his ideas, historian Jackson Lears here traces the larger design behind James's influential, wide-ranging reflections on consciousness, religion, and American society.

by T. J. Jackson Lears

William James may be the only philosopher in any danger of becoming an American cultural icon. Since his death in 1910, praise has hardened like a shell around the man. His ability to puncture bloated abstractions, his pragmatic stress on the need to test the "cash value" of ideas in actual experience—these Jamesian qualities have been ritually lauded. He was, we have been repeatedly told, the quintessentially American philosopher: impatient with European pessimism, filled with faith in the mind's capacity to shape a better world. In such an atmosphere, criticism bounces off James like BBs off a bronze statue.

But fallible mortals are always more interesting—and often more inspiring—than monuments of unaging intellect. James's ideas, like those of even the most abstruse philosophers, were rooted in the details of his personal life. Yet even the best recent studies of James focus either on the life or on the work: Gerald Myers's grand analysis of James's mature thought provides only a perfunctory biography; Howard Feinstein's psychobiography, *Becoming William James*, offers a wealth of insights but leaves young William teetering on the threshold of adult achievement.

"The problem with man," said William James in 1890, is "less what act he shall now choose to do, than what being he shall now resolve to become." This pencil self-portrait was drawn in 1866.

There is an irony here. The father of pragmatism, who insisted that all ideas be grounded in the messy actualities of experience, has never received the treatment his philosophy demands. A closer look at the connections between James's life and his work helps us to understand the sources of his enduring appeal.

For all its idiosyncrasies, the James family saga epitomized a pattern typical of the early Republic. William's grandfather, William James of Albany, was a Scotch-Irish immigrant who arrived penniless in New York in 1789. A rigid Calvinist, he embodied the commitment to disciplined achievement that we have long associated with the Protestant Ethic. Through unceasing labor and shrewd investment, he had amassed a fortune of nearly $3 million by the time of his death in 1832. Next to the fabled John Jacob Astor, he was the richest man in New York State.

But as the Puritans well knew, there was a fatal dialectic in the Protestant Ethic: Hard work might yield wealth, but wealth could undermine any incentive to further work and self-discipline—particularly in the next generation.

Certainly this was true for Henry James, Sr., William James's father and the second of 10 surviving children born to William of

Albany. Henry James, Sr., was a reckless and dissolute lad committed to flouting his father's will at every turn; he made it clear that he had no more respect for Calvinist ethics than he did for Calvinist theology. Having secured his inheritance, he embarked on a life of cultivated leisure and philosophical speculation.

As he mellowed with age, the elder Henry James became something of a sage, at least within his own family circle. His intellectual preoccupations reflected the ferment of American middle-class culture during the 1830s and '40s—the years when the older religious orthodoxies were waning and myriad messiahs arose to proclaim a new spiritual dispensation. The idioms varied, and Henry James, Sr.'s was no more eccentric than many. Melding the utopian socialism of Charles Fourier and the mysticism of Emanuel Swedenborg, he dismissed his father's God as a nasty projection of Calvinist anxieties and preached an uncompromising spiritualism. Evil, he claimed, came only from the assertion of individual selfhood; the source of moral character was the submersion of our will to God's.

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No recluse, Henry James, Sr., was an effervescent and argumentative man, eager to thrust himself into the controversies of his times—eager to live well, too. In 1840 he married Mary Walsh, daughter of a substantial businessman, in her house on Washington Square. Their life was a succession of fashionable hotels and brownstones in lower Manhattan, rented apartments in Paris, and cottages in the English countryside.

William was their first child. He was born in 1842, in the midst of a prolonged economic depression, in the Astor House—the most expensive hotel in New York. William James later remembered his youthful education as a blur—a succession of tutors in New York, London, and Paris; a parade of notables passing through the house or hotel where the family happened to be residing. The guests tended to be philosophers and literati ranging from the hardheaded (William Makepeace Thackeray) to the woolly-minded (Bronson Alcott, Horace Greeley). The latter predominated, perhaps because their homegrown utopianism was more congenial to their host.

No doubt young William heard many mystical pronouncements over the dining room table, but the most by far must have come from his father. Determined to reject his own father's Calvinism, Henry

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James, Sr., maintained a faith in children's innate innocence and ostentatiously rejected discipline. His boys (though not his daughter, Alice) could go anywhere: Niblo's Garden, Barnum's museum, the Broadway theaters, even to church if they chose.

Yet this apparent liberality concealed some quirky and elusive paternal expectations, which first became apparent during the autumn of 1859. The family had moved to Newport, Rhode Island, and William was about to pursue his apparent aptitude for the visual arts by taking up the study of painting with the American portrait and landscape painter William Morris Hunt. At that point, Henry, Sr.'s spiritualism clicked into place: Art, he decided, was insignificant, earthbound, of the body rather than the mind, the heart rather than the head. The alternative to the "feminine" world of art was the "masculine" realm of science. William was whisked off to study science in Geneva. He returned briefly to Hunt's atelier in 1860–61, but abandoned art permanently when he entered the Lawrence Scientific School at Harvard in 1861.

The decision was a bow to the paternal will and also, perhaps, an effort to pursue a more "manly" vocation at a time when civil war was breaking out. Henry, Sr.'s two younger sons had enlisted in the Union Army; the older two—Henry, Jr., and William—were too frail for service. Or so their father believed. This selective protectiveness must have done little to relieve William's suspicion that he was a malingering layabout. Struggling with his own inability to live up to conventional American notions of manliness, William James became a nervous invalid. For twelve years, from 1861 to 1873, he was trundled from one spa to another, plagued by psychosomatic ailments and by the treatments devised by his doctors.

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This pattern of invalidism was hardly unique. During the second half of the 19th century, what many observers called an "epidemic of neurasthenia" swept through the upper classes in Western Europe and the United States. Neurasthenia was, literally, a lack of nerve force—an immobilizing depression, a loss of will. The most educated and self-conscious were among the most likely to succumb. Postponement of career choice became a common experience among these disabled sons of the bourgeoisie on both sides of the Atlantic.

To many young men of the mid-19th century, the issue of career choice carried all the emotional weight that earlier generations had attached to religious conversion. One's very identity seemed to depend on this single choice. In 1880, lecturing to Harvard undergraduates, James described the second thoughts a young man might feel after making his final decision: "At first, he may sometimes doubt whether the self he murdered in that decisive hour might not have

been the better of the two; but with the years such questions themselves expire, and the old alternative *ego*, once so vivid, fades into something less substantial than a dream."

For James, the problem of career choice was intensified by religious doubt. His father's precepts had left him filled with religious longings but distrustful of orthodox religion. Yet the spiritualism of the elder James was too vague to satisfy the critical intelligence of his son.

During the 1860s, the Cambridge intellectual milieu was undergoing profound transformation. Older religious ideas, even heterodox ones, were eroding. A skeptical, empirical outlook gained strength from the dissemination of Darwinian ideas. James's closest friends at Cambridge, men like Oliver Wendell Holmes, Jr., had developed their own stoic version of a materialistic world view.

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There was more than adolescent posturing in all this: Positivistic science seemed to be the cutting edge of intellectual progress. James was attracted by such iconoclastic views but frightened by their implications. Like others, he began to suspect that free will was merely an illusion. Moreover, if the universe was a meaningless assemblage of atoms whirling blindly through space, then how, James worried, could he preserve some sense of divine purpose?

Even as he questioned the intellectual basis of the dominant success ethic—free will—James used the language of Victorian moralism to describe his own inner struggle. The attainment of manhood, he believed, required a rejection of the sensuous, cultivated ease he associated with the art world—the sexually ambiguous realm over which his brother, the novelist Henry, later presided. Yet the lure of that world was strong.

One temptation occurred in 1865, when James went to Brazil on a specimen-collecting expedition headed by the naturalist Louis Agassiz. In the intellectual wars at Harvard, Agassiz had been routed by the Darwinians; nevertheless he impressed James as a man of great courage and determination. James was 23, had entered medical school the previous year, and had quickly become bored with it. Agassiz's old-fashioned version of natural history appealed to James (even if he could not accept its theological underpinnings) because it seemed to combine the sensibilities of artist and scientist: a knack for patient and careful observation linked with an ability to see the world afresh every day.

In his reactions to Brazil, James the artist at first dominated James the scientist. Soon after the expedition arrived in Rio de Janeiro, James was waxing ecstatic over the lush mountains and the picturesque "Africans" in the streets. In the back country, he wrote

in a letter home, only "savage inarticulate cries" could express the primordial incandescence of the landscape. "The brilliancy of the sky and the clouds, the effect of the atmosphere, which gives their proportionate distance to the diverse planes of the landscape, make you admire the old gal Nature. I almost thought my enjoyment of nature had entirely departed, but here she strikes such massive and stunning blows as to overwhelm the coarsest apprehension." James's aesthetic impulses, up to this point at least, had survived the "coarsening" effects of medical school. He headed the letter "Original Seat of the Garden of Eden."

But the lure of Eden soon faded. Before long, James was reflecting on the "sadness and solemnity produced by the flood of sun and the inextricable variety of vegetable forms." The very brilliancy of the landscape, which had earlier excited James's admiration, now served only to highlight the "inextricable" vegetation. And while he had been at first enchanted by the lolling sensuality of the "Africans," whom he sketched obsessively, within a few weeks he was complaining, like any European tourist, about the lethargy of the natives.

Agassiz warned him that if he was not up and doing, someday people would say of him: "that James—Oh yes, I know him; he used to be a very bright young man!" The warning intensified James's desire to get back to bustling Boston. But after his return, though he finished medical school, he remained paralyzed by depression. During the winter of 1869–70 he touched bottom.

According to most accounts of this crisis, James's recovery began in 1870, when he read the French philosopher Charles Renouvier on free will. Renouvier had argued that the existence of free will could be demonstrated by "the sustaining of a thought *because I choose to* when I might have other thoughts." James then decided that "my first act of free will shall be to believe in free will," and the clouds of depression lifted.

★

This explanation is appealing but not accurate. There is no question that Renouvier's ideas provided important philosophical support for James's desire to believe in his own free will. But the central event in James's recovery was external to his consciousness. In 1874, his mother managed to obtain for him a temporary appointment teaching physiology at Harvard. Until that time, despite Renouvier, James had remained immobile. Hesitantly entering professional life, he soon found that he liked the feeling of engagement with the world. His privileged social position and family connections, rather than any lonely act of intellectual heroism, proved decisive in pulling him out of his invalid's bed and into the wider world.

Work became James's salvation, and he knew it. Much of the

rest of his career involved a strenuous intellectual effort to vindicate a morality of disciplined achievement. He wanted a scientific foundation for attributing causality to conscious human decisions rather than to the press of heredity or environment, or the bestial automatism of biological drives.

Aiming to beat materialistic science at its own game, James searched for the physical origins of mental life. Even the sacrosanct sense of individual selfhood, he believed, could be traced to homely origins in the bodily sensations accompanying effort—the "contractions of the jaw-muscles . . . added to those of the brow and glottis." The individual created a social self on physiological foundations. To upper-class males, the list of possible selves was bewilderingly varied—at least in theory. James warned that "the seeker of his truest, strongest, deepest self must review the list carefully, and pick out the one on which to stake his salvation."

And the choosing was never complete. According to James's psychology, one chooses one's very being throughout conscious life, as the individual selects which sensations he will attend to and which he will ignore. "We may, if we like, by our reasonings unwind things back to that black and jointless continuity of space and moving clouds of swarming atoms which science calls the only real world," James wrote. "But all the while the world *we* feel and live in will be that which our ancestors and we, by slow, cumulative strokes of choice, have extricated out of this, like sculptors, by simply rejecting certain portions of the given stuff."

★

Against the traditional empirical notion of mind as passive receptor of data, James asserted that an individual consciousness selected its own reality even in the laboratory, where "we break the solid plenitude of fact into separate essences, conceive generally what only exists particularly, and by our classifications leave nothing in its natural neighborhood, but separate the contiguous, and join what the poles divorce." Anticipating 20th-century philosophers of science, James observed that scientific concepts originated as "'spontaneous variation' in someone's brain," akin to "flashes of poetry" except that scientists verified those flashes through experimentation. Despite his disdain for German academic idealism and his determination to ground knowledge in empirical evidence, James devalued the resistance posed by external reality to the sovereign powers of mind. This was the key to his "American" hope for an improvable world.

James's epistemology—his explanation of how we know what we know—shaped the therapeutic suggestions he scattered throughout his writings. Never particularly introspective with regard to the origins of his own psychic states, James recommended behavior modi-

fication rather than self-understanding as the best treatment for depression. As he told students in 1892, "to wrestle with a bad feeling only pins our attention on it, and keeps it still fastened in the mind; whereas if we act as if from some better feeling, the old bad feeling soon folds its tent like an Arab and silently steals away."

James was at his most "American" in his orientation toward the present and future; the pragmatic method offered no way to know the truth in the past. James's theory of memory was shallow by comparison to Sigmund Freud's. Anticipating the current fad for computer models of the mind, James tended to treat memory as a technique of information storage and retrieval. Though James admired Freud, the American considered the unconscious to be less a storehouse of repressed memories than a reservoir of vital energy that could be tapped in times of crisis—a source of "second wind."

★

If James insisted that consciousness was "a fighter for ends," he seemed reluctant to confront the ends themselves. In this respect, he resembled many intellectuals of his era and class, such as Oliver Wendell Holmes, Jr., and John Dewey. These men helped dismantle the older, static moral universe; they promoted instead a faith in process as an end in itself. Their work focused on means rather than goals, procedures rather than ultimate results, becoming rather than being. In philosophy it led to the pragmatism of John Dewey as well as the existentialism of Jean Paul Sartre. At a more mundane level, the fascination with process formed the essence of bureaucratic liberalism in the 20th century, even as it also provided intellectual justification for the vigorous style of life epitomized by the antics of Theodore Roosevelt.

Yet James can hardly be dismissed as a court philosopher for Teddy Roosevelt. James's investigation of the mind-body split led him to subversive discoveries. Rejecting the notion that emotions and ideas were unrelated to physical causes, he linked "lower" and "higher" functions at every turn. It was only a short step from psychological to anthropological insight: James gradually came to the recognition that "lower" and "higher" civilizations were brothers under the skin. In *The Principles of Psychology* (1890), for example, after a long quotation from anthropologist Lewis Taylor on fetishism among children and savages, James jumped to a discussion of the fetishlike photographs of "lost ones" to be found in Cambridge parlors. Harvard man and Hottentot had much more in common than they knew.

James's effort to reconceive conventional categories of thought led in profound philosophical directions. In his descriptions of mental life, the metaphors of strife and struggle were often submerged in

water imagery. His fluid language reflected a desire to dissolve the boundaries erected by traditional philosophy (whether empirical or idealistic): between one thought and the next, between percept and concept, between the knowing self and the known world. The brilliant "Stream of Thought" chapter in *The Principles of Psychology* challenged atomistic theories of consciousness by focusing on the relations or "fringes" between thoughts. Consciousness, "like a bird's life," was "an alternation of flights and perchings." James was more interested in the flights than the perchings. "We ought to say a feeling of *and*, a feeling of *if*, a feeling of *but*, and a feeling of *by*, quite as readily as we say a feeling of *blue* or a feeling of *cold*," he wrote. Consciousness was continuous: "In the feeling of each word there chimes an echo or foretaste of every other." All formed "an unbroken stream."

★

James's speculations on the stream of thought revealed his affinities with some of the boldest pioneers of literary modernism. James Joyce, like William James, wanted to retrieve the little words from obscurity, while he feared "those big words that make us so unhappy" with their sense of finality or closure.

Finnegans Wake concludes with what Joyce called "the most slippery, the least accented, the weakest word in English, a word which is not even a word, which is scarcely sounded between the teeth, a breath, a nothing, the article *the*." Joyce, like James, rejected any notion of human consciousness that failed to recognize its continuous flow.

The emphasis on the "fringe" also linked James and Freud. While James never accepted Freudian notions of the unconscious, he acknowledged the elusiveness of the forces shaping human motivation. "Individuality is founded in feeling," James wrote in 1902, "and the recesses of feeling, the darker, blinder strata of character, are the only places in the world in which we catch real fact in the making."

Despite his mistrust of the psychoanalytic emphasis on sexuality, James told Freud's disciple Ernest Jones in 1909 that "the future of psychology belongs to your work." The prediction was only partially accurate. As author and neurologist Oliver Sacks has recently suggested, the most promising path of development for the discipline of neuropsychiatry is a synthesis of neurological and psychoanalytic tradition—indeed, the melding of mind and body that James began promoting a century ago.

James's ultimate concerns, however, were less scientific than religious. The larger significance of the stream of thought was that it flowed toward a "mother-sea" of "cosmic consciousness." Even as he celebrated personal autonomy, James yearned to transcend it. The

desire for connectedness led James to hypothesize a realm of "pure experience." This hypothesis, in turn, formed the basis of his own "radical empiricism," which admitted even the "blooming, buzzing confusion" of the newborn babe into philosophical discourse.

"Pure experience" was James's term for the inchoate flux of images and sensations that formed the perceptual world of infants and adults on the boundaries of normal waking consciousness. As consciousness developed, pure experience was organized into categories and concepts. James assigned importance to states of mind that had been ignored or dismissed by traditional philosophy. He searched for pure experience in abnormal psychic states: dizzy spells, multiple personalities, hallucinations and revelations induced by drugs or religious ecstasy.

If the concept of pure experience satisfied James's cravings for connectedness, he neither formulated it carefully nor confronted all its epistemological difficulties. Rather than using scientific or philosophical formulations, James more commonly expressed his overarching vision in the language of mystical religion. "There is a continuum of cosmic consciousness, against which our individuality builds but accidental fences, and into which our several minds plunge as into a mother-sea or reservoir," he wrote in "Final Impressions of a Psychical Researcher" (1909). "Not only psychic research, but metaphysical philosophy and speculative biology are led in their own ways to look with favor on some such 'panpsychic' view of the universe as this." En route to panpsychism (the belief that the universe is psychic throughout) James explored the spiritualistic world of darkened parlors, table-rappings, and fainting matrons—a world that fascinated late 19th-century intellectuals even while it invited their scorn.

★

In *The Varieties of Religious Experience* (1902), James revealed his ability to appreciate an enormous range of faiths without allowing his passion for the spiritual life to fade into mere tolerance. But his preoccupation with mysticism was the most revealing part of the book. In contemporary mind-cure cults as well as in Catholicism, Hinduism, and "ordinary neurological hygiene," James found a common emphasis on regeneration through letting go of "your little private convulsive self . . . an immense elation and freedom, as the outlines of the confining selfhood melt down."

Despite his desire for connectedness, James was unwilling to lose his identity by allowing it to merge with a cosmic consciousness. Mystical passivity (like his father's) implied what James called "self-surrender" in the fight against sin. The problem of evil prevented James from accepting the notion of an infinite God suffusing harmony throughout the cosmos. The pragmatic religious response to "real

wrongness" in the world was to believe in a finite God who needs our help. The test of faith was its capacity to stir us to act against evil.

James concluded *Varieties* with the hopeful question: "Who knows whether the faithfulness of individuals here below to their own poor over-beliefs may not actually help God in turn to be more effectively faithful to his own greater tasks?" Religion was to be judged above all by its ethical seriousness.

The profoundest expression of James's ethical views was his continuing search for a moral equivalent of war. The effort was rooted in his own need to view the world as an arena for purposeful struggle. An eloquent pacifist and anti-imperialist, James realized that the "whole atmosphere of present-day utopian literature tastes mawkish and dishwatery to people who still keep a sense for life's more bitter flavors."

A world without war lacked hardness or valor or heroic self-sacrifice; it promised only the gradual rising of a dead-level ocean of mediocrity. "Fie upon such a cattle yard of a planet!" The opponents of war had forgotten the persistence of atavistic instincts in civilized man: the love of pomp and pageantry, the lure of bodily testing in battle, the camaraderie of collective life *in extremis*.

★

What was needed, James thought, was to harness those instincts to pacific purposes. James proposed forming boy-battalions that could be sent off "to coal and iron mines, to freight trains, to fishing fleets in December, . . . to get the childishness knocked out of them, and to come back into society with healthier sympathies and soberer ideas." The idea has survived to the present. It influenced the creation of the Civilian Conservation Corps during the New Deal; it hovers over current discussions of mandatory national service for our (allegedly) gilded youth. Contemporary debate draws on some of the same sources that shaped James's polemic: the republican fears of youth emasculated by a soft commercial civilization, the desire to revive ideals of public service in a society given over to moneymaking.

But contemporary advocates of national service lack James's urgent moral passion. He delivered the "moral equivalent" address in 1910, the year of his death. The European empires were about to sink under the weight of their own weaponry; the United States was already jostling for position in what Conrad called "the dark places of the earth." James sensed the threat posed by the rise of modern militarism, and the need for more forceful alternatives than conventional pacifism.

James's greatness derived from manner as well as matter. Characteristically, he developed his ideas in public lectures to a wide audience. Even in his abstract philosophical essays, one can hear an

actual human voice turning problems over, trying to explain. Without Emerson's provincialism or orphic vagueness, James took the Emersonian message to the people—the message of mind in its largest sense, before psychology and philosophy were sundered into "departments," divorced from each other as well as from common speech.

This was James's "Americanism" at its finest. In lieu of Prussian professionalism or class-bound British amateurism, James held a democratic, publicly engaged ideal of intellectual life. "The Social Value of the College-Bred," he believed, was to promote the capacity for critical discrimination in the larger society. Educated people would then truly merit the title of *les intellectuels*—the label used ironically by the anti-Semitic Right in France during the Dreyfus Affair "to satirize the men in France who still retained some critical sense and judgment!" If American intellectuals failed to meet their responsibility, James predicted, some future historian of the United States would observe that during the 20th century, universities had yielded their influence over public opinion to the "ten-cent magazines."

By now, historians should have begun to make that observation. Our universities have become, at best, vocational training centers; the language spoken there is a mix of pedantry, social science jargon, and bureaucratese. The people who work there are, by and large, not intellectuals but "professionals." James's ideal of *les intellectuels* seems a lost illusion. He had begun to suspect it even as he spoke. By the turn of the century, American scholarship already was conforming to the Prussian model at every major university. James noticed the trend and wittily satirized it in "The Ph.D. Octopus" (1903). Nowadays, graduate students read that essay with delight, and wonder what it would have been like to be taught by Professor James. At once Victorian and modernist, he was the truest embodiment of that much-abused ideal, the American Scholar. Perhaps he deserves a monument after all.

A Punch *drawing on the eve of Queen Victoria's Golden Jubilee in 1887. Notables, from Germany's Crown Prince to the King of the Cannibal Islands, came to London for the festivities—military parades, balls, a yacht race, a Buffalo Bill Wild West show, a Hyde Park party for 26,000 children. The grand procession of "Royalties," said* Vanity Fair, *"looked like a fine stream of gold."*

Britain

Nowadays, a minority of Americans trace their roots to Britain's shores. Yet the island nation still looms large in the United States—as the source of its early settlers, its national language, and its key institutions and traditions (the justice system, tolerance of dissent, respect for individual liberty), and as an old ally. On occasion, Americans have also looked at Britain with a certain anxiety, wondering what lessons its descent from world economic supremacy might hold for *them*. Britain's recurrent postwar woes (Harold Macmillan, 1961: "It's exciting living on the edge of bankruptcy") drew conflicting appraisals from U.S. scholars. So, for other reasons, did Margaret Thatcher's second re-election this past June. The "iron lady," age 61, seemed to be getting somewhere, and thus had a chance to exceed even William Ewart Gladstone in total service (12 and a half years) as Britain's prime minister. Here, Richard Rosecrance tracks Britain's economic ills, which actually began a century ago, during the imperial reign of Queen Victoria. Paul Johnson recalls the lost opportunities of the post–World War II era. Will Hutton analyzes the "Thatcher Revolution's" zigzag course.

WHY ENGLAND SLIPPED

by Richard Rosecrance

At the Great Exhibition in London in 1851, the first world trade fair, Britain played host to more than six million visitors. Architect Joseph Paxton's "blazing arch of lucid glass" in Hyde Park, the 1,850 foot Crystal Palace, sparkled with exhibits from 34 countries.

The entrants all had something to show; the United States' display included the McCormick reaper and a sewing machine. But more than half of the exhibits came from Britain's industrial cornucopia: a great steam hammer and hydraulic press, locomotives and machine tools, furniture, pottery, textiles, even a functional flush toilet. Britain was already experimenting with electric machines. As London editors did not fail to

note, mid–19th-century British science, and economic and political acumen, were the envy of the world. Wrote Queen Victoria in her diary that year: "We are capable of doing anything."

Indeed, the Royal Navy's defeat of the French and Spanish fleets at Trafalgar (1805), and Wellington's victory over Napoleon at Waterloo (1815), had inaugurated a "British century." During Victoria's 64-year reign (1837–1901), Britain's population would more than double (to 37 million). Its gross national product (GNP) would more than quadruple. As early as 1860, Britain produced 20 percent of the world's manufactured goods, more than three times as much as the United States, Germany, or France. By the late 1870s, one-fourth of all world trade passed through Liverpool, Cardiff, Glasgow, London, and other British ports. The mighty pound, tied to the gold standard in 1844, made London banker to the globe. At Victoria's Diamond Jubilee in 1897, Britain's flag waved over a quarter of the world's population and nearly as much of its lands. There were "settler dominions" (Canada, South Africa, New Zealand, and Australia), colonies in Africa, Southeast Asia, and Latin America, and of course India, the "jewel in the crown," a British possession for nearly 150 years.

'Weary Titan'

Mid-Victorian Britain exercised imperial sway at small cost.* Only 70,000 troops, who would be dwarfed by a Super Bowl crowd, garrisoned India. British warships did rule the waves, in the sense that no ship could cross an ocean without at least implicit British consent. In 1850, the foreign minister, Lord Palmerston, dispatched a squadron to Greece to assist one Briton—Don Pacifico, a Portuguese-born moneylender who had acquired British citizenship at Gibraltar—whose home had been burned by a mob. The *civis Romanus sum* principle was upheld; Greek officials provided restitution.

Britain also seemed, in other ways and to many people, "the mirror for our future," as the French novelist Stendahl had put it. The English instructed the world on political and social progress. The Continent was in upheaval: in 1848, there were antimonarchical revolts in France, Germany, and elsewhere. Yet 19th-century Britain was, most of the time, at peace abroad and at home. During what came to be called its Liberal Era, the nation whose mills and mines had launched the Industrial Revo-

*During the 1860s, Britain's military spending was under £30 million per year, a bit more than one percent of its GNP. Two researchers, Harold and Margaret Sprout, find this amount, adjusted for inflation, to be only "one to two percent of average U.S. military expenditures in the 1950s and early 1960s."

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Lord Northbrook (center), Viceroy of India, in Simla, a British-built mountain resort north of Delhi, in 1875. Once a summer capital, Simla remains, as V. S. Naipaul noted, "an English country town of fairyland."

lution during the 1760s became not only "the workshop of the world," but the first society to spawn a large urban middle class. It had an agenda of progress. Richard Cobden, a textile merchant and leader of the "Manchester Liberals," toured Continental cities preaching peace and prosperity through world trade. Other nations were starting to industrialize; Britons were prospering—real wages grew—and moving on to what reformers such as John Stuart Mill called "improvement." Laws such as the Factory Act of 1847, which limited the workday for women and for youths (aged 13 to 18) to 10 hours, were passed to help better "the condition of England."

With a few exceptions, mid-Victorian Britain did not have to fight to govern or extend her empire; once colonized, native peoples generally complied with British requests. In the settler dominions, the Colonial Office was mostly a servant to local sentiment. Since Britain did not obstruct political development, the settlers had no reason to oppose her. Until the end of the century, the British ruled their empire, and secured obedience around the world, on the cheap.

Yet by 1913, Britain's economic primacy was gone. The nation's share of world trade had fallen to 14 percent, and the leading industrial power was now the United States, followed by Germany. From three percent before 1850, Britain's industrial growth rate sank to 1.5 percent during the 1890s. In 1870, Britain produced twice as much steel as Germany; in 1913 Germany made twice as much as Britain. U.S. and

German firms won old British markets in machinery, chemicals, and textiles. Britain, lamented Colonial Secretary Joseph Chamberlain in 1901, had become a "weary titan."

What had happened? At the time, not many asked the question. The ambitions of Britain's rising men of commerce, Thomas Carlyle's "captains of industry," shaped the Liberal Era. The Anti-Corn Law League, which opposed the tariffs on imported food that protected the landed gentry, became a symbol of the dawning conviction that Britain's future required free trade abroad and minimal government at home. After the Corn Laws were repealed in 1846 by Robert Peel's Tories—stealing the Liberals' thunder—all British parties moved to support Free Trade.

Taking on Water

A boom began during the early 1850s and continued for 20 years, despite a "cotton famine" that struck the Lancashire textile mills during the 1860s, when the U.S. Civil War reduced supplies of cotton. Thousands of jobs were created by the railways—by 1855 Britain had seven times more track than France or Germany—which hauled coal and iron to the works that built British ships and steam engines (and to the vessels supplying the industrializing Continental nations).

The turn came during the 1870s. Britain's capital was growing, but Britons chose—without any real debate—*not* to use it to modernize their now-aging industrial base. The "Tory democracy" of Victoria's favorite prime minister, Benjamin Disraeli, had other priorities. During his 1874–80 regime, Disraeli sought lasting power for his long-sidelined Conservatives by winning the affection of the working classes via new government activity. Parliament passed a Public Health Act and Rivers Pollution Act, and legalized picketing by trade unions and collective bargaining with employers, with whom the unions won equal rights. Disraeli bought control of the French-built Suez Canal (1875), the route to India; and, in deference to rising imperial sentiments, he had Queen Victoria crowned Empress of India (1876).

The British imperialist movement did not really take hold, however, until new Continental tariffs proved that Europeans would surround their new colonies with high duties. Then Britain had to enter the lists to maintain her overseas trade. After Britain occupied Egypt in 1882, the imperial race for Africa was on in earnest.

The Empire was popular with Britons, and, for all its inequities, brilliantly managed. Of the 10 million who emigrated from the British Isles during 1870–1910, three-fourths went to the Empire. A thriving enterprise, employing, among others, 20,000 administrators and nearly 150,000 officers and men, it was governed by stalwarts from Eton, Harrow, and other public schools. As Bernard Porter observed in *The Lion's Share* (1975), "many were good at what they did, but good for little else, which made their dependence on the empire even greater."

At home, the Empire provided a "sense of pride and achievement."*

Great Britain's tangible gains were elusive. India was important; for a while, it accounted for 40 percent of Britain's cotton-cloth exports. But other lands—notably those in Africa—produced scant economic rewards. As the Empire grew, few noticed ominous trends close to home. Britons lived well—perhaps too well—during the late 19th century. They paid cash for their imports and sold their exports on credit supplied by the bankers in the City of London. As late as 1872, they still sent 42 percent of their exports to Europe. Then Continental tariffs rose, and Britain needed other markets, prompting a focus on the Empire and agricultural countries. Britain still had abundant capital, because Britons invested and saved when they were a rising power, aiming for long-term growth. As they reached preeminence, however, they were tempted to rest on their oars.

The boat seemed to be riding high; in reality, for many years it had been steadily taking on water.

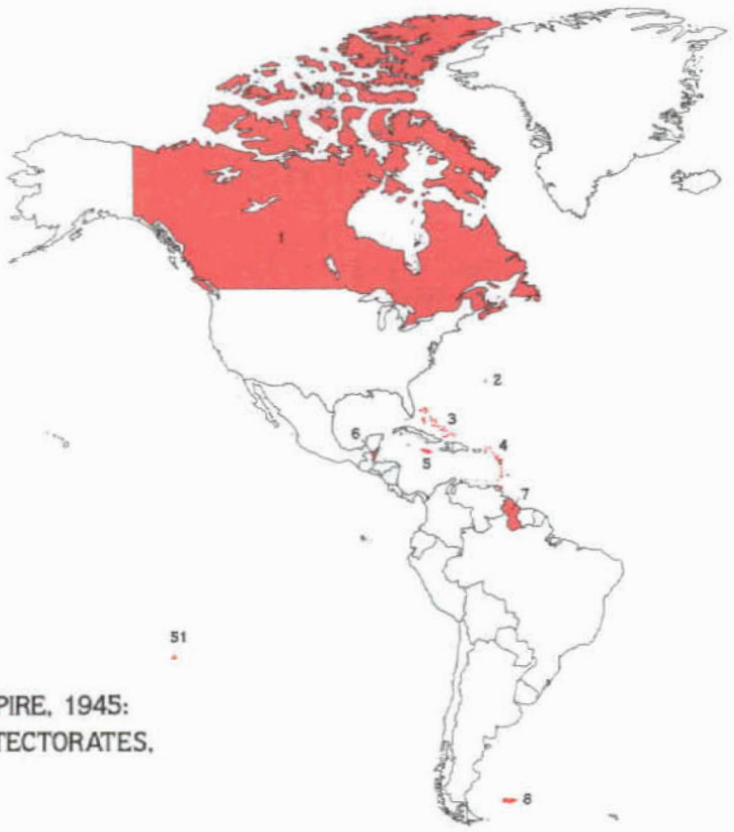
Advantages of Backwardness

Only later would economic historians note that, all through the 19th century, Britain's "visible" trade was in deficit. The British sold fewer goods abroad than they purchased. That their national balance of payments remained in surplus was due to "invisibles"—earnings from shipping, insurance, and financial services—and to income from foreign investment. Especially during the second half of the 19th century, when earnings on British securities dropped to 4.6 percent, savers sought higher returns abroad. London bankers and officers at the big investment houses obliged by scouting out foreign ventures.

During the 1820s, British capital flowed to Latin American countries newly independent from Spain. The focus shifted to the United States in the 1840s, then to Europe and back to Latin America. The investments—typically in securities of railways, gold mines, ports, canals, and gasworks—carried risks. Defaults were common, first in Latin America and then in the United States. Some Britons lost their fortunes in Peru or the American Midwest. During the 1880s, London's Baring Bank collapsed as a result of shaky ventures in the Argentine. Nonetheless the outflow of investment rose. By 1914 Britain had shipped £4 billion abroad—41 percent of all foreign investment around the world.

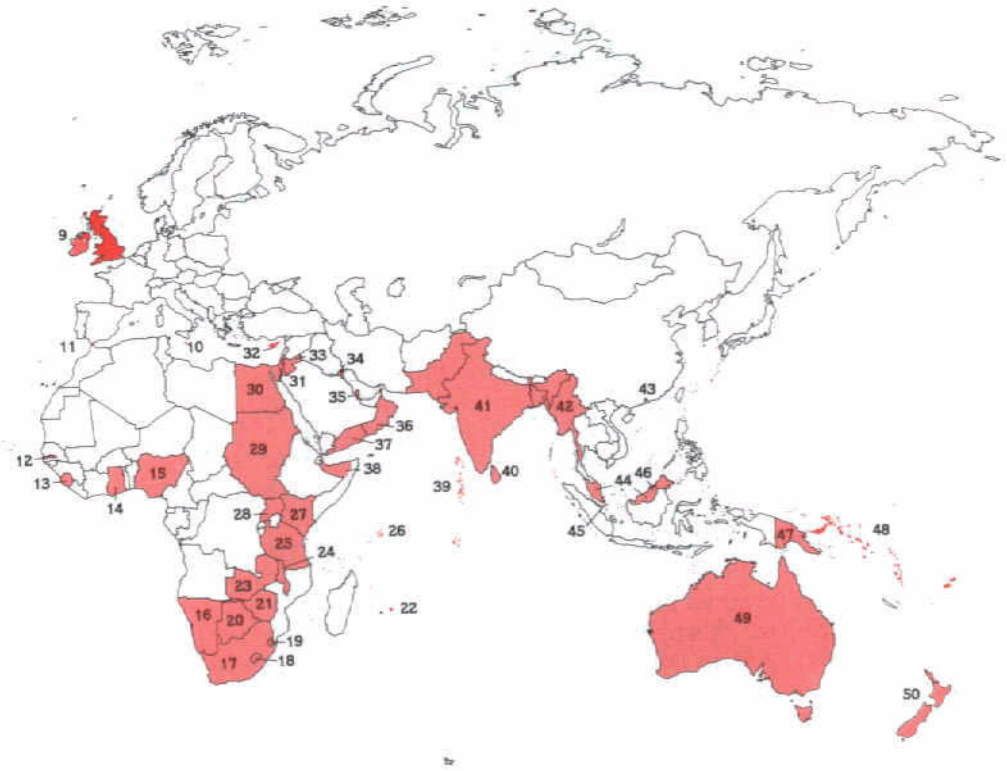
During 1860–80, Britain was investing in its own economy to the tune of 10 percent of its GNP, with only three percent going overseas. By the decade before World War I, however, domestic investment had

*For a while. The "new imperialism" that emerged during the 1880s was cheered on by a jingoist British press. But dark headlines soon recalled Rudyard Kipling's worry about Britain becoming "drunk with the sight of power." Massacres of British units occurred during fighting with the Zulus (1879) and in Khartoum (1883). The Boer War (1899–1902) in South Africa, which involved 100,000 British and colonial troops and cost more than all other late 19th-century British military ventures combined, ended in the Boers' defeat. But the war persuaded many that Britain's days of easy invincibility were over.



THE BRITISH EMPIRE, 1945:
DOMINIONS, PROTECTORATES,
& COLONIES

1 Canada
2 Bermuda *
3 The Bahamas
4 The Caribbean Islands:
Turks & Caicos
British Virgin Islands
Cayman Islands
Anguilla
St. Kitts-Nevis
Antigua & Barbuda
Montserrat
Dominica
St. Lucia
Barbados
St. Vincent & The Grenadines
Grenada
Trinidad & Tobago
5 Jamaica
6 Belize
7 Guyana
8 Falkland Islands
9 Republic of Ireland
10 Malta
11 Gibraltar
12 The Gambia
13 Sierra Leone
14 Ghana
15 Nigeria
16 Namibia
17 South Africa
18 Lesotho
19 Swaziland
20 Botswana
21 Zimbabwe
22 Mauritius
23 Zambia
24 Malawi
25 Tanzania
26 Seychelles
27 Kenya
28 Uganda
29 Sudan
30 Egypt
31 Israel
32 Cyprus
33 Jordan



34 Kuwait
35 Qatar & Bahrain
36 Oman
37 South Yemen
38 Somalia
39 Indian Ocean Territory:
Maldives
Chagos Archipelago
40 Sri Lanka
41 India
Pakistan
Bangladesh
42 Burma
43 Hong Kong
44 Malaysia
45 Singapore
46 Brunei
47 Papua New Guinea
48 South Pacific Islands:
Nauru
Kiribati
Solomon Islands
Tuvalu
Vanuatu
Western Samoa
Fiji
Tonga
49 Australia
50 New Zealand
51 Pitcairn Islands

(Not pictured: British Antarctic Territory and St. Helena)

*Places listed in red remain British-ruled. All names are current (e.g., Belize was British Honduras in 1945). The largely symbolic British Commonwealth has 49 members; Ireland withdrew in 1948, South Africa in 1961, Pakistan in 1972.

sunk to 8.7 percent of the GNP, with more than five percent being invested abroad. At this time domestic investment exceeded 20 percent of GNP in both the United States and Germany.

The results were dramatic. Between 1875 and 1900, Britain's productivity increased at a solid 1.2 percent per year. During the next 40 years, however, it fell to 0.4 percent—far below Germany's 0.9 and America's 1.2 percent. Economic historians excused this by citing the "advantages of backwardness" that accrue to latecomers, who can buy new technology off the shelf from industrial pioneers. But Britain's slowdown was not just relative; it was absolute.

28 Britons and 3,828 Germans

The country's failure to invest in plant and machinery was shaped by failures of labor and management. First, leaders of the stronger trade unions that supplanted the old craft unions pressed for higher wages and shorter hours, often with success. If these gains had been offset by higher productivity, the economic impact would have been slight; they were not. And unlike some of their overseas competitors, British managers did not try to reduce friction with labor through incentive payments, bonuses, and overtime. Already by the end of the century, any change in working practices led to strikes.

Second, when British managers were under pressure to reduce costs, they preferred lowering wages to economizing through labor-saving machinery, afraid that the latter might not yield quick returns. But wage cuts would only further reduce productivity, by alienating workers and further delaying mechanization. As late as 1913, when more than 25 percent of U.S. coal was being cut at the mineface by machine, only eight percent of British coal was hewn this way.

British management was weak. The early enterprises were family firms. They went through a cycle: from the grandfather whose drive and imagination had started the firm, to the solid entrepreneurial father who lent it new strengths, to the indolent third generation. "Tired of the tedium of trade and flushed with the bucolic aspirations of the country gentleman," economic historian David Landes notes, "the children of affluence . . . worked at play and played at work."

Training workers interested neither businessmen nor politicians in Britain. The Germans, who were spending a hefty 2.5 percent of their GNP on education by 1914, stressed technical training. The British, who did not even introduce compulsory primary education until 1880 (free schooling began only in 1891), tended to rely on the fortuitous emergence of talented tinkerers, especially in the metal trades and engineering. (Example: Isambard Kingdom Brunel, the idiosyncratic mid-century builder of the Great Western Railway and the 18,000-ton ship *Great Eastern.*) German managers took pains to develop new products in chemicals and other areas; British entrepreneurs focused research on

WAGES OF PROGRESS

In his novel *Sybil, or the Two Nations* (1845), Benjamin Disraeli described Britain as a land of "the rich and the poor." Prosperity slowly eased some of the inequities he saw, but Victorian Britain remained a lopsided society.

If the future belonged to commerce, landed nobles still had great wealth. At one time, there were 44 owners of more than 100,000 acres. The Duke of Sutherland's 1,358,000 acres were larger than Bedfordshire, Berkshire, and Buckinghamshire combined. The Duke of Bedford's annual income exceeded £300,000 (about £20 million today). To the Duchess of Marlborough, "trouble" was readying 30 rooms for guests at Blenheim Palace.

The other England had humbler concerns. An 1868 *Fortnightly Review* article told of flats for Lancashire factory hands which had a room dubbed "a parlour," often with a bookcase or a piano. But such amenities were rare.

For coal miners, who numbered 118,000 as the 1840s began, home life was tolerable only in comparison with the pits. "The men work in a state of perfect nakedness," noted an 1842 study, aided "by females of all ages . . . naked down to the waist." Dickens described brickmakers' homes as "hovels" with "pigsties close to the broken windows." Textile workers toiled *and* lived in "sweat-shops." In 1890, lawmakers heard testimony about a room of nine by 15 feet "in which a man, his wife, and six children slept and in which same room 10 men were usually employed, so that at night 18 persons would be in this one room [with] three or four gas jets flaring, a coke fire burning in the fireplace, sinks untrapped, closets without water . . . "

•

Ship owner Charles Booth, studying poverty in London during the 1870s and '80s, found thousands living hand-to-mouth. One example: "Michael H.," age 38, a docker "in poor health." His wife, Booth recorded, "is consumptive. A son of 18 who earns 8s regular wages as a car man's boy, and two girls of eight and six, complete the family. Their house has four rooms but they let two." Although clergymen "send soup two or three times a week," practically "no meat is bought,"and "the food consists principally of bread, margarine, tea, and sugar. No rice is used nor any oatmeal; there is no sign of any but the most primitive cookery . . . "

Such conditions reflected Britain's early reliance on a subsistence wage theory (if people earned more than they needed to live, they would simply work less). A result of dependence on this theory was pressure for reform, reflected in Chartism (a movement calling for, among other things, the enfranchisement of workingmen), trade unions, and a general politics of labor. It was soon accepted that even employers in trouble must not, as Tory Robert Peel said, take steps that "bear on the comforts of the labouring classes." What finally brought social peace during the mid-Victorian era was a shift to high-wage employment, spurred by railway construction and shipbuilding. Better pay brought worker contentment (as it conspicuously did not in the industrializing United States), even as it also opened the way for other countries' fateful advances in world trade, at Britain's expense.

ideas that would return quick profits. Even so, staff scientists and engineers were indifferently paid. As late as 1910 at the Woolwich Arsenal, a major munitions works, chemists earned only £100 a year, the same as ordinary workers.

While American firms had integrated production and marketing groups by the end of the 19th century, British managers kept separate organizations. The marketers frequently got and gave short shrift. In 1899, Britain sent 28 salesmen to hawk British wares in Switzerland; they had to compete with a horde of 3,828 German drummers. Elsewhere, British salesmen, as historian D. H. Aldcroft observed, often were "ignorant" of the countries to which they were sent.

Churchill's Mistake

Rising foreign competition presented British manufacturers with three choices: to make higher-quality products (enhancing profits); to reduce costs (through labor-saving devices); or to send traditional products to new markets. Mostly they took the third option. While sales to Europe declined (accounting for only 35 percent of Britain's exports in 1912), shipments to Africa, Asia, Australasia, and Latin America rose. But this would work only until Britain's competitors turned their sights on the developing world, including Britain's own free-trading empire.

Britain might also have tried to innovate. But here, too, the record is undistinguished. Take steel. Along with textiles (wool first, and then cotton), metalmaking had been at the core of the Industrial Revolution. But the conversion of pig iron into steel long remained difficult. Then, spurred by the need for arms occasioned by the Crimean War (Britain's blundering struggle with tsarist Russia during 1854–56), inventor Henry Bessemer devised a method of low-cost, quantity production. From the steelworks he set up in Sheffield in 1858 and from the sale of licenses, Bessemer made a fortune. But odd things happened. Threatened by steel, ironmakers invested heavily—not to make steel, but to increase the number of iron-puddling furnaces. And, when ways of making higher-quality steel in open-hearth furnaces were developed in England by Sir Charles William Siemens and others, most British steelmakers clung to the Bessemer process. On the eve of the First World War, 22 percent of British steel came from Bessemer converters, which the Germans had all but abandoned.

Similarly, Britain had early success in autos, chemicals, and electrical products. But here U.S. producers could offset high labor costs by investing large sums in machinery; the Germans benefited from both low wages and high investment. The story was repeated over and over. Britain built the first functional electric power station at Godalming in 1881, but the United States and Germany were quicker to use electric motors in manufacturing and to press urban electrification. Eventually the lead reversed. It was Chicagoan Charles Yerkes who built the first

London's financial district, circa 1909. The Bank of England (center) was founded in 1694 to finance parliamentary government. The monarchy lost the power of the purse in the Glorious Revolution (1688–89).

underground rail network in central London; by 1913, subsidiaries of the U.S. firms General Electric and Westinghouse were two of the four main producers of electrical equipment in England. Herbert Austin and then William Morris launched the small, cheap motor car in Britain before 1914, but by then others had shown the way; Henry Ford had begun mass production of the Model T in 1910.

Finally, two world wars wrote "finis" to British economic power. The British government could pay for only 36 percent of its World War I costs. John Maynard Keynes, managing Britain's wartime finances, borrowed abroad (e.g., from the Morgan Bank in New York), levied taxes, peddled bonds, and disposed of British foreign assets (half of which were eventually sold off). Losses of merchant shipping to German U-boats, and of overseas markets for textiles, added to the drain. One day in February 1917, Keynes calculated that Britain's gold supply would not last "more than four weeks." Only U.S. entry into the war averted financial ruin.

Post–World War I inflation priced British exports out of many markets. The high value set for the pound after 1925—when Winston Churchill, as chancellor of the Exchequer, proudly returned the pound sterling to its prewar value—helped to control inflation. But it ruined the British

export trade, worsening both unemployment and labor tensions, which culminated in the great General Strike of 1926. Then came the 1930s Depression; the remaining British exports fell by 50 percent. Domestic investment increased, but much of it was devoted to housing and to remedying past depreciation of plant and equipment. During the inter-war period, unemployment never fell below one million, or about 10 percent of the work force. The years after World War II saw a renewal of the old trends—inflation, low productivity, an aging manufacturing base. Decline became irrevocable.

Is It America's Turn?

Recently, many U.S. politicians, businessmen, and others have speculated that the United States is catching the "English disease." Japanese officials, Harvard's Ezra Vogel finds, believe that the United States is "going the way of England very fast." There are indeed a number of parallels between what Americans face today and what happened to the British economy during the 50 years prior to World War I:

1. During the reign of Victoria and her two successors, Britain's growth in worker productivity slipped well below one percent a year. In comparative terms, U.S. productivity growth has fallen from nearly three percent as recently as the early 1960s to one percent today.

2. Britain's domestic investment and savings rates fell below those of foreign competitors. The contemporary U.S. savings rate, three percent of its GNP, is at an all-time low. The 17 percent of America's GNP that is invested, much of it in office buildings, is largely provided by foreign loans. Concentrating on quarterly profits, U.S. corporate chiefs have invested abroad (e.g., Mexico, Taiwan, Singapore) rather than in new plant and technology at home.

3. Increasingly, British exporters turned away from the toughest export markets (especially Continental Europe) and toward less-developed agricultural countries. Facing difficulties selling much more than farm products in Japan and Western Europe, Americans are now trying to expand industrial markets in the Third World.

4. Although Britain was the largest market for imports, London failed to respond to Continental tariffs with retaliatory trade restraints of its own—which might have forced the tariff countries to reconsider their course. (Britain did not finally abandon Free Trade and adopt tariffs until the Depression year 1932.) Today, Washington has stewardship over the largest and freest market, but its leaders have not generally sought to bargain with U.S. trading partners to open their markets.

5. British innovation lagged in chemicals, the electric industry, and low-cost automobiles. U.S. firms have largely deserted consumer electronics, including video cassette recorders, compact discs, televisions, and stereo equipment. They are suffering in steel, autos, construction, machine tools, shipbuilding, and semiconductors.

6. British public education failed to meet the standards of Germany, the United States, and other countries. Today, U.S. high school and college education, expensive as it is, does not assure competence in mathematics and science equivalent to that provided to Japanese and West German youths. A U.S. business school graduate knows about the same amount of math as a Japanese eighth-grader.

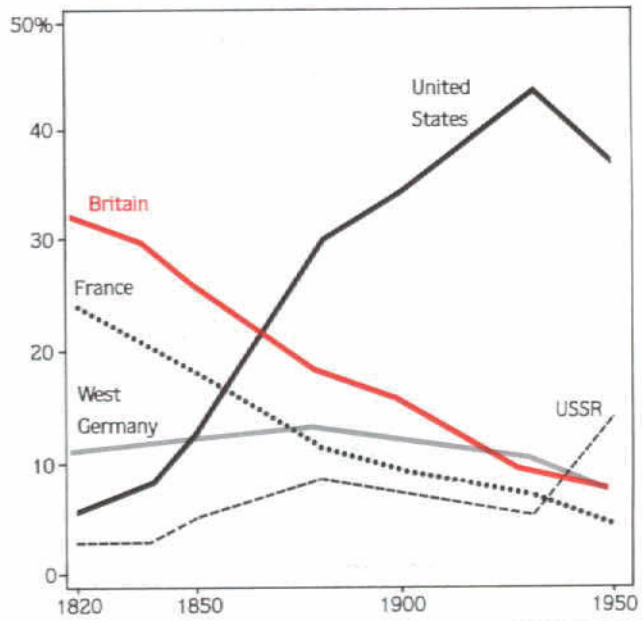
7. Finally, British military exertions in two world wars inexorably exhausted overseas assets and reduced earnings that might otherwise have been devoted to reinvestment at home. Today, U.S. peacetime military commitments and high defense spending have led to huge deficits, absorbed investment capital, and otherwise swallowed up resources. The U.S. government has had to borrow abroad. While present-day Britain is a creditor nation, the United States became in 1986 the largest debtor nation; today, according to congressional estimates, U.S. government and private borrowers owe $400 billion to foreign lenders, notably those in Japan which emerged in 1986 as the leading creditor nation.

One should not make too much of the similarities between Empire Britain and present-day America. The United States remains Number One in terms of its GNP (which is nearly double that of Japan and at least three times that of Germany) and total industrial output. Britain had few resources beyond coal. The United States still has large reserves of coal, natural gas, iron, and much else.

But, to repeat, U.S. investment in *domestic* plant and equipment in recent years has been low relative to that of other industrial countries (even Britain). And since 1950, the U.S. share of world GNP has been halved to about 20 percent. In key industries, the United States is losing ground.

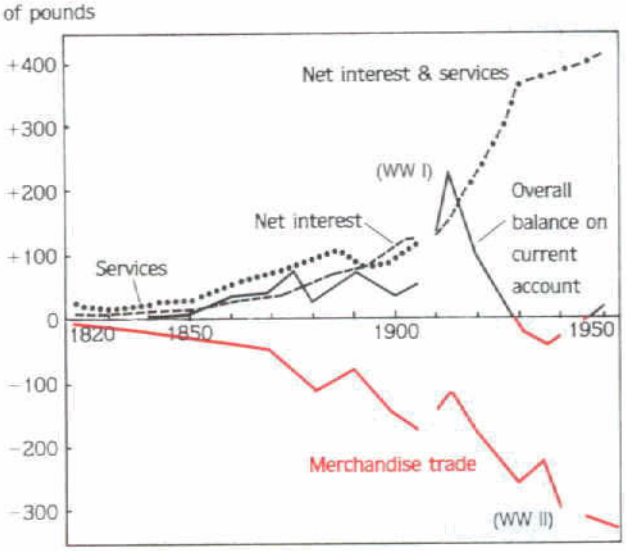
The 1986–87 decline in the value of the dollar and the rise of the yen have slowed this process but not reversed it.

Further detail could be added, but the net picture would not be affected. It seems fairly clear that America's recent behavior, at home and abroad, has already begun to have consequences in 1987 for economic growth not unlike those ignored by that onetime "mirror" for the future, 19th-century Britain.



PRODUCTION

Value of industrial output as a percentage of world total.



BALANCE OF PAYMENTS

For a time, Britain's income from interest and services—such as earnings on foreign investments and revenue from shipping—offset its deficit in merchandise trade.

THE ENGLISH DISEASE, 1945–79

by Paul Johnson

Speaking at Zurich University in 1946, Winston Churchill called for "something that will astonish you . . . a kind of United States of Europe" based on a French-German "partnership." They "must take the lead together." With Britain, "America, and I trust Soviet Russia . . . must be the friends and sponsors of the new Europe."

Churchill's condescension reflected an odd view: Britain could still be an independent power, retaining the role bestowed by an empire. He saw Britain as the intersection of three overlapping circles: the Anglo-American world, the Commonwealth, and Europe. That idea was barely plausible after World War II. It made no sense at all after the 1956 Suez Crisis, which showed that neither the Commonwealth nor the "special relationship" with Washington could help Britain protect what she saw as a vital interest.

To others, the reality was plain. "England," wrote West German chancellor Konrad Adenauer, "is like a rich man who has lost all his property but does not realize it."

Postwar delusions, however, would not shape Britain's foreign policy as much as its domestic affairs would. Prime Minister Clement Attlee, under whom the Labour Party won its first long lease on power (1945–51), faced up to Britain's inability to sustain the Empire. In 1947–48, independence was granted to India, Pakistan, Ceylon, and Burma. But grand schemes would continue—at home, and with unintended, indeed uncontemplated, consequences.

After World War II, Continental Europeans put the rebuilding of their battered economies ahead of social reform. The West Germans undertook the renovation of their manufacturing base and their unions, which would produce the *Wirtschaftswunder* ("economic miracle"). The core of French technocrats who devised the Monnet Plan modernized their shattered country's agriculture and rebuilt industries. Britain's priorities were different.

The island nation needed exports. Old sources of "invisible" trade income were gone; among the assets that Britain lost in the war was half of its merchant shipping, a key source of revenue. The country had a huge foreign debt (£23 billion) and, for the first time, almost no reserves of gold and dollars. Allied help (including more than $2 billion in U.S. Marshall Plan aid) was still required. So was wartime austerity; rationing of food, clothing, motor fuel, and other necessities continued until 1954.

But instead of a plan for Britain to begin earning its way in a competitive postwar world, what Attlee's ministers produced was a broad expansion of the role of government.

With scant debate—the sharpest exchanges in Parliament concerned the "un-English haste" of the legislation—the Attlee regime fulfilled a campaign promise by nationalizing major industries. Coal, power, gas, transport companies, and the Bank of England were bought out, at high cost, in 1946–47; iron and steel firms followed in 1949. Meanwhile, Labour inaugurated the Welfare State.

'White Heat'

The origins of the Welfare State lay in the 1930s, when British industry grew more efficient as Free Trade was abandoned, firms grew larger, and science and technology played a larger role in education, business, and government. Yet high unemployment and its associated miseries persisted. Slowly, a consensus—mainly middle-class, tied to no one party—formed around a policy of state action to promote social justice. In 1935, the blue-ribbon Liberty and Democratic Leadership Group issued a plan for broad public ownership of the economy. The old debate about the virtues of "a wholly . . . capitalist system and one of State ownership," said the group, was "wholly beside the mark." The economy would be "mixed" for "years to come."

Thus the unity that the English found during World War II inspired not merely resistance to Hitler but a yearning for social justice. Churchill's wartime coalition made a contract with ordinary Britons: Along with the quest for victory, the creation of an equitable society would proceed. The machinery required to win the war was equally the instrument of welfare economics.

The 1941 budget (whose philosophy was based on John Maynard Keynes's new pamphlet, *How to Pay for the War*) was the first to deal with the national income as a whole, marshaling all resources to meet goals fixed by political decisions. The postwar goal—in effect, the Welfare State—was outlined in a government study by the social reformer Sir William Beveridge in 1942. The Beveridge Report proposed a national insurance scheme, and called for reforms in health, education, and housing, and for the creation of jobs. The means to these ends were outlined by wartime measures. Rationing and war taxation ensured

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Labour Party leader Clement Attlee—age 62, an Oxford-educated socialist from a coal merchant family—after Labour's 1945 victory. "After the long storm of war," said one of his ministers, "we saw the sunrise."

equality of consumption; national service and allocation of manpower ensured equality of sacrifice. The Emergency Hospital Service foreshadowed public support of health care. A 1943–44 White Paper committed the government to the maintenance of "high and stable" employment.

Although the ideas behind the Welfare State were essentially the product of a consensus, its strong endorsement by Labour and the suspicion it aroused among many Conservatives pointed to Attlee's victory over Churchill in 1945. After power thus fell into Labour's lap, the legislation followed in a rush.* And for a while, the expense seemed bearable. Britain's economy had performed relatively well during and after the war. In 1950, Britain's gross national product (GNP) was $47 billion against only $90 billion for West Germany, France, Belgium, the Netherlands, Luxembourg, and Italy combined—the six countries who would, in 1957, form the European Economic Community (EEC).

There was, to reiterate, a problem, as in earlier decades: lack of export income. Churchill, regaining No. 10 Downing Street at age 77 in 1951, inherited what would be recurring troubles—red ink in the balance of payments, and depleted reserves of gold and currency. Even so,

*The National Health Service, National Insurance, and Industrial Injuries Insurance acts all passed in 1946. So did the National Assistance Act (1948), which replaced the old Poor Laws by having government assume care of the indigent. Housing acts (1946, 1949) spurred low-rent projects. A Town and Country Planning Act (1947) provided for the building of entire new towns.

the Tories embraced the Welfare State. They raised family allowances, unemployment benefits, and old age pensions, and plunged into housing, building 300,000-plus residences a year.

Thus arrived "Butskellism." The term, combining the names of Churchill's lieutenant, R. A. Butler, and the Labour Party leader Hugh Gaitskell, stood for the assumption that the two major parties shared common ground. The Conservatives, as Britain's quasi-governing party, had sometimes initiated reforms (e.g., repeal of the Corn Laws in 1846). But most often they merely civilized the radical changes introduced by others. And so the Tories co-opted and even extended the Welfare State. If the costs were high, they would not be borne by propertied Britons so much as by those who lived on highly taxed salaries and wages.

A consumer boom developed. Churchill's successor as Tory leader, Anthony Eden, won on a "peace and plenty" platform in 1955. Yet by 1959, when Conservative Harold Macmillan managed to persuade voters that they had "never had it so good," the boom was already fading, and in the arts Britain's "angry young men" were following the lead of playwright John Osborne, whose *Look Back in Anger* dealt with the career frustrations of even the educated working-class Britons. By the Swinging Sixties, Britain was struggling with "stop-go" inflation and recession—and with growing radicalism in its unions.

This radicalism had begun during the mid-1950s, when the largest union, the Transport and General Workers (1,434,000 members today), created by Ernest Bevin in 1922 as the sheet-anchor of a politically moderate labor movement, shifted to the Left. Wages climbed; indeed, during 1964–66, pay rose twice as fast as productivity. Partly as a result, by the mid-1960s British exports were being priced out of world markets. Harold Wilson, the pipe-smoking economist who in 1964 led Labour's return to power after 13 years of Tory rule, promised change—a new British competitiveness in trade forged in "the white heat of the technological revolution."

I'm All Right Jack

But Wilson was soon in combat with the unions, and forced to impose an economic austerity program that included a wage-price freeze. Recalled the secretary of the cabinet, Sir Burke Trend: "We were fixing things once again, horribly inefficiently, at the last moment."

By 1970, Britain was overtaken by the Six in GNP per capita and much else. And after Britain finally joined the Common Market in 1973, the gap continued to widen. Some industrial giants stumbled. Rolls Royce, the maker of aircraft engines and luxury cars, went bankrupt in 1971; British Leyland, maker of trucks and buses, collapsed in 1975. In 1976, with the treasury bare and inflation as high as 23 percent, Britain had to seek a $3.9 billion bailout from the International Monetary Fund (IMF), at that time the largest IMF loan ever approved for an industri-

alized country.

There was plenty of blame to spread. The wartime spirit of shoulder-to-shoulder sacrifice had been succeeded by a "get-mine" mentality that ran from boardrooms to the shop floor, brilliantly satirized by the 1959 Peter Sellers film *I'm All Right Jack*. Rather than sell abroad, British managers piled up perks and pressed a merger mania. Newly minted London millionaires built fortunes, as one of them remarked, by "making money, not things." So low was the entrepreneurial spirit that when oil was discovered in the North Sea (eventually making Britain an oil producer on the scale of Kuwait), British Petroleum and other drillers had to go to foreign suppliers for oil rigs, and other equipment and services. Not until the late 1970s, when the drilling had peaked, had British firms won even two-thirds of the North Sea equipment business.

Turning Yellow

Some of the roots of Britain's postwar economic woes ran deep into the country's unique history.

During the 200 years after Britain became the first nation to industrialize, it was the only major industrial power that had not suffered the convulsion of revolution, civil war, or foreign conquest. Oddly, this was no blessing. That is, Britain had not suffered those fundamental breaks with the national past that, in France and Germany, for instance, promoted social and economic dynamism. The nation had no bill of rights to protect the many assumptions of a liberal society. It had instead the Common Law tradition, arbitrated by judges, which upheld rights of liberty and property—the legal framework within which the first modern industrial society was created.

But in 1900, Britain's trade unions created the Labour Party, to promote "legislation in the direct interest of labour" and oppose "measures having an opposite tendency." Unlike other Western socialist movements, Labour was not primarily Marxist or even socialist, but a form of parliamentary syndicalism. The unions owned it. They sponsored Labour MPs, paid Labour's election costs, and, under the party's charter, dominated Labour policy. Thus Britain's unwritten constitution, revised and shaped by parliamentary acts, began to tilt toward the unions. The 1906 Trade Disputes Act, for example, granted unions immunity from civil actions for damages "alleged to have been committed by or on behalf" of them. This was unique in the West, a privilege that even the Fabian socialists Sidney and Beatrice Webb found "extraordinary."*

On this legal plinth rose a structure of union privilege—a counter to that of the upper classes. The Trade Union Act of 1913 legalized the spending of union funds on political objectives (e.g., the Labour Party); it

*The Webbs, playwright George Bernard Shaw, and others, founded the Fabian Society in 1884 to promote an evolutionary socialism that rejected Marxism and the need for class struggle. The Society helped to create the Labour Party, and is affiliated with it today as a research arm.

also required union members to "contract out" of their political dues if they did not want to contribute to Labour. The courts upheld Common Law protection for individuals against unions. But the unions could lean on Labour-dominated parliaments to plug holes in their umbrellas. Thus the House of Lords in *Rookes* versus *Barnard* (1964) held against unofficial strikes in breach of contract; the next year, Harold Wilson's government legalized such strikes.

The Easy Way

Growing union power was exerted in a variety of ways. In 1969, Wilson proposed "In Place of Strife" legislation designed to reduce the number of strikes. But when unions put pressure on Labour MPs, even Wilson's own cabinet, as he later explained, simply "turned yellow" on the issue. New forms of strike action appeared: "Mass picketing" tactics used at Saltley Coke Depot in 1972 overwhelmed police trying to keep the pits open. In a rash of 1973–74 strikes—led by coal miners seeking to use the OPEC oil price increase to win 40 percent pay raises—such techniques helped destroy Edward Heath's Conservative government.

Heath, who attempted to introduce a statutory code of union conduct, called an election on the issue of "Who Governs Britain?" Labour won, and soon not only repealed Heath's code but extended union privileges; in "closed shops," an employee could be dismissed for declining to join a union. As Lord Denning, supreme justice on the Court of Appeals, noted, the unions could now "do as they will." Unionization moved above 50 percent of the work force for the first time, compared with 25 percent or less in the United States, France, and West Germany.

Union power contributed to slow economic growth in three main ways. First, it curbed profits and productivity growth—hurting capital investment, which in 1950–75 was the lowest of any major industrial power. Second, it greatly increased the pressure of wage inflation, especially from the late 1960s on. Third, union demands on government tended to increase the size of the public sector. Between 1790 and 1910, the share of Britain's GNP accounted for by public spending averaged 13 percent; after 1946 it was never under 36 percent. It passed 59 percent under a Labour government in 1975.

But Labour was never an efficient instrument of reform. Labour governments, for example, took no steps to tax wealth, or even capital gains, until the boom of the 1950s and early 1960s was already over. What Britain's working classes won from the post–1945 expansion was the illusion of affluence, in the form of cars, televisions, and other "consumer durables." Real wealth remained in roughly the same hands.*

*Despite war and postwar taxation, the top five percent of the population owned 75 percent of the wealth in 1960, down only slightly from 79 percent in 1936–38. Just one percent received 58 percent of all investment income, and held 81 percent of stocks in companies. Estate duty, the one form of tax on wealth, did not effect a redistribution of property. During 1956–59, this levy yielded 3.5 percent of central government tax revenue. The figure today: .01 percent.

A British export: The Beatles—John Lennon, George Harrison, Paul McCartney, Ringo Starr—in New York, 1964. U.S. films (e.g., Rock Around the Clock*) and musicians had brought rock to Britain during the 1950s.*

One reason why Labour could not effect change in society's rewards was the low priority the party and its union backers accorded to educational progress—the great failure of both 19th- and 20th-century England. The Whig Henry Brougham had advocated a comprehensive state school system as long ago as 1810: The English have yet to establish such a system.

Primary education was available to all by 1900, but only a tiny proportion of the working class got the equivalent of a U.S. high school education, and virtually none went to universities. Secondary education for all was not made a reality until the late 1940s. The Newsom Report of 1963, *Half Our Future*, told a dismal tale of failure to cultivate the potential of children between 13 and 16 years with no more than average ability. As for higher education, between 1890 and 1910, six universities were created in England and Wales, none at all in the 1920s, and only three university colleges in the 1930s. In 1962, total student enrollment was not much over 200,000, and a huge spending program merely doubled this figure by the mid-1970s.*

Educational failures were at the heart of Britain's decline as a dy-

*While 50 percent of U.S. high school students, and 22 percent of those in West Germany, go to college, only 14 percent of young Britons do. More than half enroll in Britain's 42 universities; the rest enter other institutions, including the nation's 30 polytechnics, colleges of technology, commerce, and art. British students are beset not by a lack of ambition or money (in essence, all tuition is state-paid), but by a lack of facilities. Last year there were 7,200 applicants for 2,800 places at Oxford, and 1,400 for 95 places in the electronics department at Plymouth's polytechnic.

namic society. High economic growth cannot be sustained without high investment in education—in technical skills and in social responsibility via the liberal arts. The Establishment, including the Labour leadership, fobbed off the working class with a minimum education. The country has had minimal growth in consequence.

Education also provides a typical example of the English timescale of reform. The pioneers make a proposal; a quarter of a century later it is generally accepted by enlightened opinion; chance and accident, financial cuts and economic crises, the churches, the Lords, and other obstacles to progress delay it for another quarter century; implementation takes 10 years or so. By then the reform is universally accepted as obvious common sense, and pious regret is expressed that it was not accomplished sooner. Meanwhile, the rest of the world has moved on, usually faster.

In buying stability at the cost of change, the British risked being forced to take drastic steps. Education and labor are two examples. Britain's 1973 entry into the Common Market is another.

A century ago, by choosing empire-building as the easy alternative to industrial efficiency, Britain's leaders became the prisoners of hubris and, in leading a Europe-wide competition for colonies and resources, set themselves up for one world war followed by another. By the 1970s, having wasted a quarter century of peace and economic buoyancy, they found themselves pushed unwillingly into a Continental system of the sort their predecessors had always wished to avoid.

Leaving a Prison

It is not clear whether the English elite ever grasped the notion that if Common Market membership would stimulate Britain's rapid economic growth, the jealous French would not permit "les Anglo-Saxons" to join. But then the English enthusiasts were not noted for clarity of thought. Britain's aims were at times said to be economic, at times political. Neither could be quantified. But if Common Market membership would weaken Britain economically, how could it strengthen her politically? The enthusiasts had no answer. "The inescapable need," one of them wrote in the *Sunday Times* in 1971, "is for an act of faith."

Britain's net economic returns from Common Market membership since 1973 remain debatable. But it is hard to ascribe to that membership the fact that Britain's growth long lagged behind that of its Continental partners (and any calculations are clouded by the fact that Britain's growth rate is now higher than that of the Common Market). More clearly positive to Britain has been a stroke of fortune: North Sea oil, which gave her economy a lift, provided a (temporary) boost to export earnings, and put needed cash in the Treasury. The oil would come to seem an almost tangible reward for the privations that Britain had suffered in two world wars.

But the oil did not rekindle the old optimism. During the mid-19th century, educated and enlightened people, most notably in Britain, felt strongly that an age of reason was dawning. They believed that mankind would progress toward a style of life in which each individual would obtain, by inalienable right, not merely a rising standard of material comfort, but intellectual, cultural, and spiritual fulfillment. This was the liberal ideal. There was rising confidence that the ideal could be realized.

Such confidence did not imply hubris. John Stuart Mill, for instance, wrote modestly not of "progress," or even of "reform," but of "improvement." There would, in the decades and centuries to come, be countless marginal "improvements" in all aspects of life, which would bring about a true, but gradual and peaceful, revolution in the human condition.

This was an essentially English concept, reflecting the empirical optimism that the English experience seemed to justify.

But postwar events dimmed that optimism. The position in which the English found themselves as they approached the 1980s was a dangerous one. They felt they had lost their greatness, and feared they were losing their self-respect.

In fact, the English predicament was not as serious as many of them supposed—indeed, were taught to suppose by their harassed and nervous leaders. The "greatness" the English relinquished—their role as a world power—was more a source of weakness than of strength; it inhibited rather than liberated. The notion that the English, having given birth to the modern world, became in the true sense effete, is misconceived. The English did not step down from a throne: They left a prison. They became freer than at any time in the last hundred years, free to decide on the direction in which they wished to go, without regard to the wishes of imperial partners and subordinates. Their responsibilities to others were handed over gracefully, or snatched from them: they could now make their own choices, as a self-governing, independent island people. They eased off the burden of a bankrupt estate, and now had to make their own way in the world.

Milton's Message

The death of an empire should be the rebirth of a people. But this was not the way the postwar English saw it. And herein lay a danger. The English suffered bitterly. They felt they had forfeited caste and status. They resented a world in which their high, authoritative tones were no longer heeded, or even heard. They watched, in bewilderment and some anger, as humanity ordered its affairs without their supervision, often in the face of their advice. The loss was felt as keenly on the Left as on the Right. If the longing of the English to rule was frustrated, so was their equally eager desire to do good. There was still, among the English, a hunger to be significant. They wished to count as they once did; the knowledge that they did not bred a certain despair, which in turn

provoked a quest for remedies that may have proved to be desperate.

For a while, during the exhaustion of the 1970s, it seemed that the English ought to sit quiet for a time, to invoke a national mood not, indeed, of repose, but of concentration and introspection. But they are activists: They suspect the process of thought unrelated to practical decisions. They feel they must deploy their energy; the risk was that they would deploy it in the wrong direction, pursuing false solutions (e.g., Common Market membership) to nonproblems (e.g., concern for international "status"). In my view, for the English to lose an empire is no great matter: To lose their judgment is serious.

The English have worried themselves throughout history. Lamentation recurs in fact and myth. Arthur is a figure of tragedy, Alfred the Great an often bewildered statesman, nobly exhausted by what must have seemed insuperable difficulties. *The Anglo-Saxon Chronicle* (circa 890) is a narrative of distress: Wailings at the Danes, at the Normans, at the depredations under Stephen, sustain one theme—"God Almighty have mercy on that wretched place!"

The Magna Carta (1215) was drawn up by men who believed themselves not on, but over, the brink of catastrophe. A staunch reformer like Thomas Brecon might have rejoiced at the Reformation; but he reported, as Henry VIII neared his end, that "the state of England was never so miserable as it is at present." Worry, worry was the Elizabethan theme. "Never was there, my Lord," wrote Samuel Pepys in 1659, "so universal fear and despair as now."

What distinguished the modern chorus of self-doubt was a nagging anxiety about Britain's performance in the league-tables of material prosperity. The English, who invented modern competitive sport, have been obsessed by the statistical evidence of their decline in the world economic championship race. This has touched their pride, with reason.

Why Worry?

From the dawn of recorded history, their island provided a generally high standard of life for those fortunate enough to inhabit it. The English have been good providers for themselves, making industrious use of the modest resources nature placed at their disposal. But for more than a century, Britain was in relative (and, until recently, pronounced) decline by comparison even with audacious newcomers. That Britain should be overtaken by the United States was bearable, had indeed been predicted as long ago as the 1840s. More galling, in the 1960s and '70s, was the astonishing recovery of a truncated Germany from her terrible adversities. France, long the object of English hostility or condescension, enjoyed a higher standard of living; so did Switzerland (once the mere holiday home of the upper-middle class), Holland (a former economic satellite), and Belgium (a Foreign Office creation). Italy did just as well.

Only 123 years ago, Lord Palmerston, airily justifying the destruc-

tion by the Royal Navy of the Japanese port of Kagoshima, commented: "I am inclined to think that our Relations with Japan are going through the usual and unavoidable stages of the Intercourse of strong and Civilised nations with weaker and less civilised ones." As early as 1970, Japan was already the second largest industrial state in terms of real GNP, and was turning the British dominion of Australia into an appendage for her raw materials.

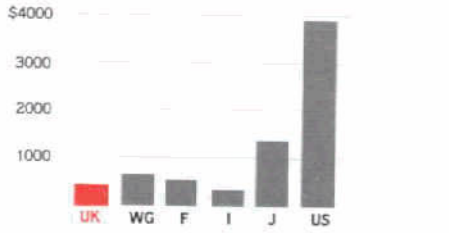
Why should the English have worried? Were they not, in the long view, better off than ever before in their history? The answer is irrelevant. To the highly competitive English, honestly acquired wealth is the reflection and reward of moral probity: "Virtue" said John Locke, is "much the best bargain." To admit failure in the race to affluence was to confess a collapse of national character.

The English have always strived for the paradox of motion within a framework of stability: The stability remains, the motion falters. Thomas Hobbes generalized from English attitudes to propound a Galilean theory of politics in *Leviathan* (1651): "I put for a generall inclination of all mankind, a perpetuall and restlesse desire of Power after power, that ceaseth onely in Death." Substitute "standard of living" for power, and we have an accurate observation both on the acquisitive world today and on the fear of the English for their place in it. Angry and bewildered, especially during the Sobering Seventies, the English suffered from an acute reinfection of the disease they had transmitted to the world.

The English have been—still are—one of the most active races in history, with an enormous capacity for good, and evil. On balance, they have performed useful services to humanity. As the 1970s ended, having lost their hubris and survived, they were poised for a fresh experience, "a nation not slow and dull, but of quick, ingenious and piercing spirit; acute to invent, subtile and sinewy to discourse, not beneath the reach of any point that human capacity can soar to."

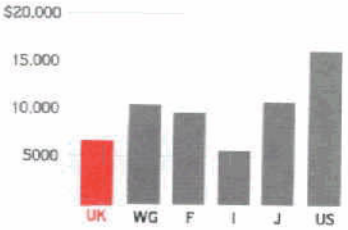
The words are those of John Milton, the great English poet of renewal and recovery.

HOW BRITAIN STACKS UP

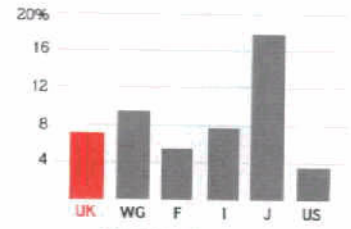


GDP (in billions of U.S. dollars)

US-United States, WG-West Germany, F-France, I-Italy, J-Japan, UK-Britain

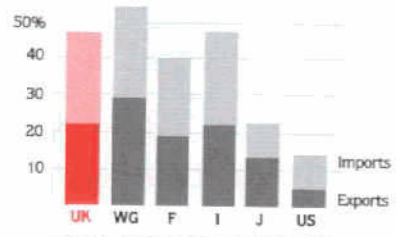


GDP PER CAPITA (in U.S. dollars)

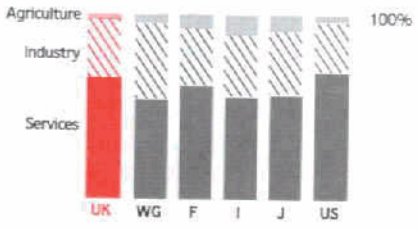


NET SAVINGS RATIO (as percent of GDP)

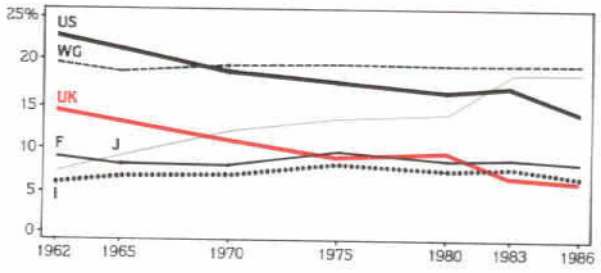
GOVERNMENT EXPENDITURE (as percent of GDP)



TOTAL IMPORTS & EXPORTS (as percent of GDP)



EMPLOYMENT OF CIVILIAN WORK FORCE



PERCENT SHARE OF WORLD* MANUFACTURED EXPORTS

*Represents 14 leading industrialized countries. Source: OECD, Department of Commerce—International Trade Administration. Statistics are for 1985.

THATCHER'S HALF-REVOLUTION

by Will Hutton

"What have you changed?" someone asked Margaret Thatcher upon her election as Britain's prime minister in 1979. Her reply: "Everything."

Eight years later, both before and after her re-election this past June, she outlined what she had accomplished, or hoped to, with a series of catch phrases. "People's capitalism." A "lame-duck economy... [turned]... bulldog economy." "Every earner an owner." "An England free of socialism."

Pundits lumped it all together: The "Thatcher Revolution."

Revolution is not a term to be used casually in Britain. An upheaval there, even a shakeup, is a monumental undertaking. After all, Britain is very old. No other country its size has more venerable institutions. National departments, like the Treasury and the Lord Chancellor's office, that would be familiar to British citizens of 500 years ago. A parliament that has met for 700 years. A monarchy whose antecedents go back more than 1,000 years.

Britons take comfort in the very lineage of their institutions, as witnessed by the Royal Wedding of 1981. On the air, a British TV broadcaster noted that foreign newsmen often asked him how the nuptials of Prince Charles and Lady Diana, "so soon after [race] riots in Brixton and Toxteth, could be such an occasion of national celebration." The answer, he said, voice quavering, was that the royal couple (shown waving from a Buckingham Palace balcony) "represent our future."

But Britain's future looked bleak in 1979 as Mrs. Thatcher took office. Despite the best efforts of James Callaghan's departing three-year-old Labour government, Britain still lagged behind its Common Market partners. Over 1,000,000 (5.2 percent of the work force) were unemployed, economic growth was low, and inflation (10 percent) was rising. A basic reason for these ills was the collapse of consensus government, as practiced by Labour cabinets (and followed by most Tory regimes) since World War II. Ignoring pay curbs set by the Callaghan government, unions had pressed high wage claims—and employers, ignoring threats of official sanctions, complied. Meanwhile, London bankers flouted government controls on currency exchange and on lending.

Anxiety that 30 years of relative economic decline could continue compelled British voters—including an estimated one-third of Britain's 13 million union members—to turn to fresh leadership. It came in the person of a once obscure Tory named Margaret Hilda Thatcher, a gro-

cer's daughter from the Lincolnshire town of Grantham. (It was less often recalled that she had attended Oxford, and was married to the wealthy heir to a paint-making firm.)

Why Mrs. Thatcher? She had vaulted herself from obscurity by leading a party putsch against Edward Heath, the last Tory prime minister (1970–74). What seemed obvious to Mrs. Thatcher when she became party leader in 1975, and to the voters in 1979, was that more of the same as an answer to Britain's difficulties was intolerable. Labour had been in power for 11 of the previous 15 years, and its economic tools—government intervention (e.g., wage and price controls) and Keynesian deficit spending—seemed less and less effective.

Like Hitler's Bombs

That failure was due partly to another old British tradition: institutional autonomy. At least since the Middle Ages, the basic building blocks of British organized society—guilds, banks, employers, universities—have cherished their independence. They do not easily concede the government's right to interfere in their affairs, be they unions whose wage demands are to be curbed, businessmen whose prices are to be fixed, or banks whose lending policies are to be controlled. The government-union-bank-industry consensus that operates to varying degrees in West Germany, Scandinavia, France, and Austria, although cited by Labour politicians as a model for successful intervention, did not seem applicable to Britain, where institutional autonomy is a principle that the state not only respects, but around which it is organized; departures from the principle are uneasy and discordant.

When Mrs. Thatcher moved into No. 10 Downing Street in May 1979, she signaled her understanding of the prevailing climate. "Where there is discord," she said, quoting St. Francis of Assisi, "may we bring harmony." But her aim was not to harmonize different interests; it was to make them harmonize with her own. Her plan was to force on the unions, the corporations, and the financial institutions the autonomy they claimed to cherish. Let them stand on their own feet, she said. No more subsidies and legal protection, in return for bargains that only government seemed to keep. Sound money, free markets, and a strong but aloof state—the old pillars of industry and empire—would prevail again.

The Thatcher plan was both radical and conservative. It aimed at preserving the satrapies of society—from the financial houses of London's City area, to the large multinational firms and the landed estates—

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The failure of a long strike called by miners' union boss Arthur Scargill, here at a 1985 London rally, showed labor's fading power. In 1979, roughly 30 percent of the electorate were union members; now only 22 percent are.

by forcing drastic changes on their proprietors. Henceforth, they would have to earn their keep. In doing so, they would restore themselves and the economy to health.

As a conservative, Mrs. Thatcher would direct her energies mainly toward the unions and their allies, including the Labour Party and its Fabians. The party's consensual, interventionist, and protective attitudes represented all that she deplored; the state as nanny. Even some Tories, dubbed "wets" by Thatcherites, were infected.

But in May 1979, all this was only dimly apparent. The "Iron Maiden," as the London *Daily Mirror* dubbed her, knew her mission, but the means for accomplishing it were hazy. At the time, the ascendant economic doctrine was "monetarism." It had been gaining in interest among specialists since its guru, Chicago economist Milton Friedman, published *Capitalism and Freedom* in 1962. Monetarism emphasized simple fiscal virtues: limited borrowing, self-discipline, and, in general, "good house-keeping." Though dismissed by postwar economists of the so-called Keynesian borrow-and-spend school, these virtues appealed to Mrs. Thatcher. The government could leave economic management to the markets, said the monetarists. To tame inflation, the state need only set targets for the growth of the money supply, and prices would fall in line. The less government intervened in the economy, the less it would

have to spend, and the less money it would have to print. The less money printed, the less the money supply would grow. This would roll back state outlays, make businesses stand on their own, and reduce inflation all at once.

With her first budget, the self-described "conviction politician" signaled a decisive break with the past. There would be reductions in taxes,* as well as in government borrowing and spending; interest rates would rise to levels necessary to bring down inflation. The results were disastrous. Over the next two and a half years, thousands of firms closed, industrial production fell by nine percent, and 1,500,000 *more* people were thrown out of work. Mrs. Thatcher, said Labour critics, had caused more economic damage than Hitler's bombs.

The prime minister had bad luck. Just when she determined to raise interest rates, Britain became a net exporter of North Sea oil—whose value, thanks to the OPEC producers' price increases of 1979, had suddenly doubled. Foreign investors rushed to buy the once-scorned British pound, now a petro-currency, quickly raising its value. Result: goods imported into Britain became cheaper and easier to buy, and British exports became harder to sell. British manufacturers were on the rack. If such troubles came with North Sea oil, said one industrialist, "why not leave the bloody stuff in the ground?" The head of the Confederation of British Industries promised a "bare-knuckle fight" over the government's laissez-faire policies.

Uncrowning Keynes

But the Iron Maiden held firm. Said she: This "lady is not for turning." Her ministers insisted that the markets must be free to act. No relief was coming in the form of further government spending or borrowing, or an engineered fall in exchange rates. Those were the remedies of yesteryear.

Not surprisingly, Mrs. Thatcher's ratings in the polls plunged.

But now came some good luck for Thatcher: a struggle within the Labour Party. Arguing that the party's consensus strategy had led only to a Conservative victory, Labour's radical wing demanded a commitment to fundamental leftward change—in defense policy, in the institutions of "capitalism," and much else. Other Labourites, wary of the electorate's fundamental conservatism, wanted the party to stay in the mainstream. Yet this required union cooperation that would not be forthcoming: In the past, wage curbs had not revived the economy, only eroded workers' pay. At a 1981 conference, Labour's constitution was amended to reflect the radicals' views. Soon after, moderates led by

*Thatcher's tax cuts lowered the top rate on personal income from 83 to 60 percent. Beginning during the 1960s, spurred by high tax rates and sporadic government controls on salaries, British employers had offered white-collar staffers myriad untaxed fringe benefits, such as low-cost mortgages, college scholarships for their children, and country house weekends. The most common perk: a car. Even in 1981, nearly two-thirds of the autos on British roads were company-owned.

former foreign secretary David Owen broke away to form the Social Democratic Party (SDP).

That year, 1981, was the nadir of Mrs. Thatcher's fortune. Before the Royal Wedding in July, tensions between white Britons and the Asians and West Indians (who now account for four percent of the population) erupted in Britain's first real urban race riots. The recession pushed unemployment close to 3,000,000, yet the inflation rate stayed in double figures. But the budget that year not only continued "good-housekeeping"; it reduced government borrowing and raised taxes, in flagrant disregard of Keynesian anti-recession doctrine. The Tories soon fell behind both Labour and the rising SDP in the polls. As Tory losses in by-elections mounted, the betting in Westminster and the media was that Mrs. Thatcher would not long survive as Prime Minister.

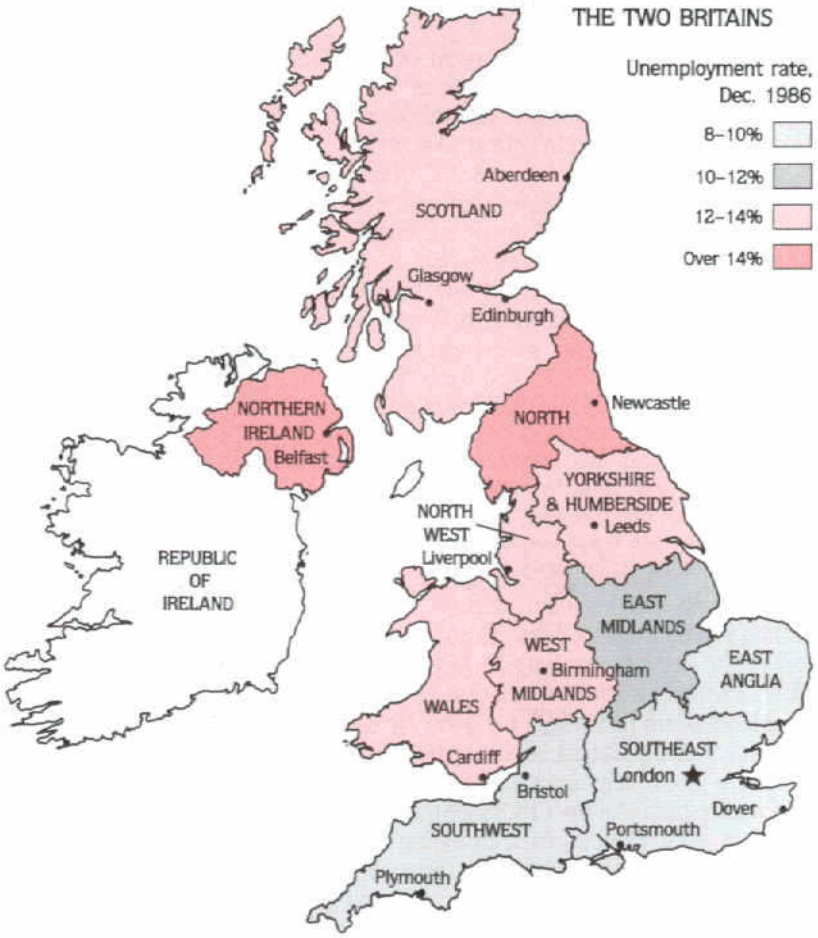
Galtieri's Gift

But again the lady stood strong. She slashed subsidies to industry and housing, and reduced spending on roads, hospitals, and schools, though less sharply. Yet while government borrowing declined as a share of national income, personal taxes rose as overall government spending continued to increase, due to welfare costs (swollen by unemployment) and a defense build-up. In contrast to Ronald Reagan, her ideological kinsman in Washington, Mrs. Thatcher bluntly told the voters that "taxation is the only moral way to pay for higher spending." The money supply, interest rates, and inflation all stayed high.

Monetarism had failed. Sir John Hoskyns, head of the prime minister's Policy Unit, has since conceded that both exchange and interest rates were grievously mismanaged. "The Government," he says, "didn't really understand the operations of monetary policy." Yet Mrs. Thatcher never lost sight of her goals, including the dismantling of "labourism." The unions' legal power had to be reduced, along with their base in large manufacturing firms, the public sector, local government, and their supporters in intellectual circles. Although monetarism had gone astray, Mrs. Thatcher judged correctly that the bankruptcy of the alternatives had given her wide latitude for error.

Union leaders thundered about "days of action," and called national one-day strikes. But they were poorly supported: The social security system proved an effective, if expensive, safety net for the unemployed, and (as during the 1930s) those who had jobs were too grateful to strike on behalf of others. Indeed, among lower-class youths a new culture grew up around welfare. Angry over their dim career prospects, and earning just enough on the dole* to exploit Britain's tolerance of eccen-

*A jobless 17-year-old living at home gets $26 a week, which continues after six months, unlike unemployment benefits in most U.S. states. For adults on the dole, payments start at $43 a week, plus another $26 if married, and a rent allowance of perhaps $21 to $28. After 12 months, a jobless couple receives $86 a week, or nearly $4,500 a year, in a nation where average household income is £10,263 ($16,596 today).



tricity, they adopted "Mohawk" haircuts and androgynous dress to express individuality, separateness, and indifference to politics—an apoliticism that helped Mrs. Thatcher by denying her opponents a potential wellspring of support. And while some intellectuals complained about Tory callousness, their concern was not echoed by many voters.

With the opposition divided, Mrs. Thatcher needed only a modest success in order to launch a comeback. Her chance came during the spring of 1982, when the Argentine junta's leader, General Leopoldo Galtieri, ordered the seizure of the Falkland Islands (which Argentina claims as the Malvinas Islands). Meeting on a Saturday, the House of Commons called for retribution. As *Hermes*, *Invincible*, *Fearless*, and other Royal Navy ships sailed south toward Argentina, the old Establish-

ment, from Foreign Office mandarins to Labour's Fabians, talked anxiously of a negotiated settlement. Thatcher, faithful to a more ancient English sentiment, vowed to save the 1,800 islanders from "the iron heel of the invader." She would consider no deal without the invaders' prior withdrawal, a demand to which Galtieri refused to accede.

Britain's shoestring victory in the 10-week war brought a sudden, lasting revival of Mrs. Thatcher's popular support; her conduct and her rhetoric revealed the genuineness of her ambition to restore British national pride. While the Fabians and "wets" puzzled over the reasons why poverty, unemployment, and industrial decay did not destroy her popularity, she went on to win a resounding 144-seat majority in the 1983 election. Not only was the opposition vote divided, but Labour, in calling for unilateral nuclear disarmament, badly misjudged the strength of Britain's much-publicized antinuclear movement. Britons may not like relying on nuclear weapons or the United States for defense, but a people bloodied by many wars does not lightly drop its guard.

Rolling Back

Mrs. Thatcher's second term found her in combat at home. Laws passed by the Tory majority in Parliament in 1980 and 1982 permitted strikers to picket only their own places of work, and made union funds liable to sequestration; a further act in the new Parliament required a secret ballot before strike action. An aggressive union leader's ability to force a strike and to close down a whole industry was thus weakened. The most aggressive leader was Arthur Scargill, Marxist president of the National Union of Mineworkers. That was the union that, in two decisive strikes during the early 1970s, had challenged the government pay policy, ultimately bringing down Edward Heath's Tory regime. Scargill aimed to do the same to Thatcher. His opportunity came with the government's policy of phasing out subsidies to the coal industry.

Scargill's plan had two fatal flaws. First, he began the strike during the spring of 1984, months before winter would draw down coal stocks. Second, he called the strike without a prior vote by the 180,000 miners, thus dividing his membership, whose total support he needed. The strike, Britain's longest and most bitter since the 1920s, collapsed after 12 months. At a stroke, Scargill's defeat ended a century of ever increasing union strength. Suddenly, union leaders became much more cautious about striking without a ballot, and managers became more confident that they could change wasteful work practices without union retaliation. An early beneficiary was Rupert Murdoch, the owner of Times Newspapers, who was able to break the hegemony of the Fleet Street printers and introduce new, cost-saving technology.

Now Mrs. Thatcher was getting lucky. While the money supply continued to rise, a decline in the world prices of oil and other commodities caused inflation to tumble. The pound, losing its costly petro-dollar

luster, became less overvalued. And although the government was borrowing less, a boom in credit allowed British consumers to spend more. The economy began to pick up steam.

Again Mrs. Thatcher received unexpected help. While she had long fumed at the bankers' zeal to supply credit to consumers, the deregulation of the financial markets in the United States had to be emulated in Britain if the City was to maintain its preeminence. Exchange controls, interest rate controls, and direction of lending were all scrapped, while banks were allowed to borrow abroad to keep the consumer spending spree going. In the troubled days of 1979–82, such borrowing would have seemed reckless; now it was tolerated as essential in the absence of *government* stimulus.

Mrs. Thatcher was now rolling back the state in earnest. British Telecom (1984), British Gas (1986), and British Airways (1987)—three huge nationalized industries—were all sold to private sector shareholders. By last June, "privatization" had come to 14 large corporations and many other companies. All told, these firms—about one-third of the nationalized business sector—employed 600,000 workers and accounted for about five percent of the national output. This jolt to old thinking spurred little effective opposition, even from Labour, which now sought only "social control" of two utilities, British Gas and British Telecom.

The $18 Billion Boon

Indeed, "privatization" accounted for much of the Tories' strength against Neil Kinnock's Labourites on June 11. Although 29 percent of Britain's housing remains government-owned, the sale during the Thatcher years of some 1,000,000 council (public) units to their occupants helped to make two-thirds of British householders owner-occupiers, with middle-class views. Meanwhile, industrial privatization tripled the breadth of stock ownership to nearly 20 percent of adult Britons.

After eight years, the Thatcher balance sheet shows clear pluses and minuses. While leaving alone the sacrosanct Welfare State (pensions, health benefits, unemployment compensation, etc.), she has managed to reduce Britain's annual budget deficit from a peak of six percent of gross domestic product (GDP) in 1981 to 2.5 percent today. That compares very favorably with the U.S. deficit, which, measured against gross national product (GNP), now stands at five percent. But here, too, Thatcher was lucky. What made her budget-paring possible was largely the Treasury receipts from the sale of state-owned companies (more than $20 billion so far), and revenues from North Sea oil; they grew from zero in 1979 to $18 billion in 1986, when they accounted for some 10 percent of all government revenue. Neither of those windfalls can continue forever. North Sea oil will flow for at least another 10 years, but production peaked in 1986, and with the fall in petroleum prices the government's oil income has already been halved.

BUSINESS AND 'THE BRIDESHEAD SYNDROME'

In 1974, when an economic slump sank many London speculators, Lord Poole, head of Lazard Brothers bank, was asked how he had avoided the fallen. "Quite simple," he said. "I only lent money to people who had been at Eton."

To a large degree, Britain's economic fortunes are guided by a caste of Old Boys from a few schools: Eton, Winchester, Harrow, and six other "public" boarding schools (all founded between 1382 and 1611), and/or Oxford (1249) and Cambridge (1284). In recent years, observes Anthony Sampson in *The Changing Anatomy of Britain* (1984), "Oxbridge" graduates held 16 of 18 Bank of England directorships and 14 of 18 senior civil service posts.

These schools' graduates, notes Sampson, tend to climb "existing trees rather than plant new ones." What Sampson calls "the Brideshead syndrome" is less visible among business movers and shakers. Many are outsiders. Italian-born Charles Forte created Trust House Forte hotels; *The Times* and the *Sunday Times* are owned by Australian Rupert Murdoch, now a U.S. citizen. Britain's takeover kings include Czech-born Robert Maxwell, Indian-born Roland "Tiny" Rowland, and Sir James Goldsmith, who is half French. Whitehall chose Michael Edwardes (raised in South Africa) to head British Leyland; Richard Giordano, an American son of Italian immigrants, to run British Oxygen; and Ian McGregor, a Scottish-born U.S. banker, to save British Steel.

Several British schools offer M.B.A. programs, but their graduates have not reached top management to the extent of American M.B.A. holders, who constitute 17 percent of the *Forbes* 800 heads of big public companies.

Many U.S. universities vie with the Ivy League for top students. If France's best and brightest come from a few *grandes écoles*, they get to them on academic merit. In contrast, admittance to Britain's educational fast track is limited *and* arbitrary. There is room for only six percent of young Britons at the old public schools. And despite expansion in higher education, the Oxbridge colleges (enrollment: 24,000) remain the prime paths to power.

•

In 1944, a study group urged that tuition-charging public schools allocate places for youths from state primary schools. Already in existence were "grammar schools," free state- or locally-financed high schools for smart students (among the graduates: Margaret Thatcher and Harold Wilson). But during the 1950s, egalitarian local authorities fostered free "comprehensives," schools combining academic *and* vocational training. Parents continued to favor grammar schools, so in 1976 the government forced these schools to become comprehensives *or* to charge fees.

The beneficiaries of this perverse policy were the once-strapped public schools. They gained applicants, and with them, the ability to admit only the best students. Thus the Old Boy ranks have opened a bit: Once, most public school students were children of graduates; now, most represent new blood. But the Brideshead syndrome is far from eradicated, and meanwhile, notes Sampson, "the ladders by which poorer children had climbed to success [the grammar schools] had been kicked away."

Yet by many measures, the economy has recovered smartly. Since early 1981, Britain's annual growth rate has been three percent, second among industrial nations only to Japan. Since 1979, output per worker has risen at an average yearly rate of 3.5 percent, far above the 1970s' miserable .75 percent. Industries that are mass employers—steel, autos, coal, printing—now boast productivity rates that are among the highest in Western Europe. Productivity growth has led to a rise in disposable income (for those with jobs) of 15 percent annually since 1979.*

'Gissus a Job'

The recovery has been patchy. Manufacturing production, for example, is only at its 1979 level, and manufacturing investment is still 20 percent below its peak rate. As monetarism withered as a sustainable doctrine, the government was left with not so much a policy, but a set of prejudices. Sometimes they work; sometimes they do not. Mrs. Thatcher scorns "industrial policy" as socialist. Her regime has reduced government support for research to the point where in Britain, alone among advanced industrialized countries, real spending on civilian research and development is falling. As the state has ceased to support various industries, private sources of financing have conspicuously failed to fill the gap. British financiers have remained, as always, preoccupied with short-term loans, "asset-backed" lending (e.g., mortgages), and the buying and selling of stocks. The lenders being asked to "stand on their own two feet" and respond to market forces have simply reinforced the old aversion of London investors to industrial risk.

Notwithstanding such showcases as Scotland's "Silicon Glen," where firms between Glasgow and Edinburgh employing some 40,000 workers have built Europe's largest microchip-making center, industries dependent on high technology have suffered from lack of capital and a surfeit of laissez-faire philosophy. In office equipment, computers, and consumer electronics, world market forces have forced a British surrender to U.S. and Japanese rivals (whose multinational firms own most of the Silicon Glen companies). More broadly, while many businesses have shrunken or disappeared, Britain cannot yet boast any firms that have developed into world beaters under Mrs. Thatcher's tutelage.

Indeed, much productivity growth has come by shrinking work forces around old products at old production levels, or from savings from cutbacks in new investment and research. The businesses that have grown are those that benefit from cheap labor and weak unions, and do not rely on product innovation (or can acquire it elsewhere): textile firms, fast-food chains, the local plants of foreign multinationals. Britain's

*Other indices of spreading affluence: In 10 years, one study shows, car ownership has expanded from 55 percent to 62 percent of all households (the U.S. figure: 86 percent), refrigerators from 81 percent to 95 percent, freezers from 13 percent to 35 percent. In 1986, 16 million Britons traveled abroad, compared to only six million a decade ago.

Iron Lady: Mrs. Thatcher at a Conservative Party conference at Brighton in October 1984, hours after she narrowly escaped injury from the blast of a bomb planted in her hotel by Irish Republican Army terrorists.

1986 manufacturing trade deficit was $18.2 billion, as bad relatively, as the U.S. deficit—not a signal of greatly increased competitiveness.

And as companies have laid off workers, the number of unemployed has grown. And grown. Britain's unemployment rate, although falling, is high—10.7 percent during 1987's first quarter—and the jobless are concentrated in the old manufacturing areas—Scotland, Wales, the North of England, and the Midlands.* (Perhaps the best recent series on British TV has been *The Boys from the Black Stuff*, which dealt with the angst and antics of unemployed youths in Liverpool; the "Gissus a job" plea of one character, "Yosser" Hughes, has entered the vernacular of Britain.) Poverty is widespread. Of Britain's 55 million people, 12 million have living standards below the Council of Europe's minimum. One in six children is not properly fed or clothed. Seven of the 12 poorest regions in the 12-nation Common Market are in Britain; of the Common Market's poorest 15 cities, 10 are British.

But after the minuses, another plus. The woolly Fabianism of the 1960s and 1970s is in total disarray. Behind the old talk of consensus and gradualism lay the politicians' tendency to romanticize the working classes (e.g., the ritual exaltation of "the labour movement" by Labour

*Other countries' unemployment rates for the first quarter: France, 11.2 percent; West Germany, 7.4; United States, 6.7; Italy, 6.7; Japan, 2.9.

leaders) and their institutions—a tendency that the workers knew as cant, but that union chiefs exploited in their strikes and opposition to change. In its place, judging by opinion polls, is a widespread mood among blue- and white-collar Britons of "realism;" a hard-headed appreciation that nobody owes anybody a living. Indeed, after Mrs. Thatcher's third election victory, Labour politicians conceded that, as their campaign coordinator Bryan Gould said, Labour was trapped "in a very conservative or reactionary position."

Yet with the long-overdue elevation of private initiative has come a debasing of the old notion of the "commonweal," the broad public interest that should be declared and served. Discontent that had been simmering for years was poured into the "Westland crisis," which broke early in 1986. At issue was the future of Westland, Britain's only helicopter manufacturer, which was failing. The solution of Mrs. Thatcher's privatizers was to sell the firm to United Technologies, the U.S. conglomerate; the public solution was to fold the firm into a European consortium. Tory supporters of the U.S. option were the advocates of free markets, shareholders' rights, and the minimal state; supporters of the European option tended to be, among other things, proponents of the interventionist state. It was a battle Mrs. Thatcher could not afford to lose, as London and Whitehall understood, and anonymous buyers of Westland stock ensured that the shareholders' vote favored the sale to United Technologies. And they won. But the matter was not resolved until a major uproar produced two ministerial resignations and a charge of Thatcher's involvement in official duplicity.

Westland illustrated the passions arousable in present-day Britain. Mrs. Thatcher found Britain's glass half empty; she has emptied it, and it is now half-full. That her economic shake-up should touch so many and yet, to date, leave so much to be accomplished suggests that actually filling the glass will require more than calls to Britons to stand on their feet and balance the books. It may require a new ideology, a better sense of public purpose, and institutions that embody both.

But if the weaknesses besetting Britain—industrial, educational, social—have not disappeared with Mrs. Thatcher, they did not begin with her. Indeed, they go back to the Golden Age, the mid-19th century, when Britons began to believe that, as Queen Victoria said, they could do "anything," a belief that permitted institutions to ossify. Mrs. Thatcher has laid the groundwork for change in key respects. If she is reaching the limits of self-renewal through market forces, that strategy has yielded considerable and irreversible advances. Despite grave and lingering difficulties, Britain is stronger than it was in 1979. Mrs. Thatcher took the first painful, necessary steps in the British renaissance.

BRITAIN

"Few ideas are correct ones, and what are correct no one can ascertain; but with words we govern men."

So said Benjamin Disraeli, as Gertrude Himmelfarb notes in **Victorian Minds** (Knopf, 1968), a collection of her essays on British men of ideas. British historians also valued word power. Their island nation had seen much change under many leaders, now including 75 monarchs, beginning with Ethelbert of Kent (560–616), and 72 prime ministers, starting with Robert Walpole (1721–42). Perhaps that is why the country's classic historians sought not so much to chronicle events as to influence them.

In dedicating his *Ecclesiastical History of the English People* (731–32), the "Venerable Bede," Anglo-Saxon England's great eighth-century scholar-monk, pointedly praised the King of Northumbria's "great regard" for his subjects' "general welfare." Sir Walter Raleigh's **The History of the World** (1614; Folcroft, 1978) was an admonition to the fractious Britons of James I's day. Both Thomas Babington Macaulay, in his **History of England**, 5 vols. (1849–61; AMS Press, 1975), and his grand-nephew George M. Trevelyan, in his **History of England** (Longman, 1926; Doubleday, 1974) exalted Victorian ideas of British primacy.

To Trevelyan, Britain's tale was simple. "In early times, the relation of Britain to the sea was passive and receptive; in modern times, active and acquisitive. In both [Britain's island status] is the key to her story."

The modern bibliography is lengthy. **The Oxford History of England** runs to 15 volumes, ending with A. J. P. Taylor's **English History, 1914–1945** (Oxford, 1985). Surveys include Harold J. Schultz's primer **History of England** (Harper, 1980), John Burke's **An Illustrated History of England** (Salem, 1986), and **The Oxford Illustrated History of Britain** (Oxford, 1986), edited by Kenneth O. Morgan.

Like other scholars, Morgan argues with the "seamless, peaceful continuity" that Trevelyan saw. In fact, he notes, Britain's story is "complex, sometimes violent or revolutionary."

In **The History of England** (Routledge & Kegan Paul, 1985), Jasper Ridley observes that while Britain's hilly, cool northwest (including Scotland and Wales) was long "virtually isolated from all of Europe except Scandinavia," the flat, warm—and more prosperous—south was always "politically and culturally a part of Europe."

Some early immigrants arrived from Iberia to farm in what is now Cornwall and Devon (many of whose inhabitants are small and dark-haired). The sun-worshipping European warriors who built Stonehenge brought the Bronze Age to the island. With the Celtic speaking tribesmen from western Germany and France came the Iron Age. Settling in the southeast, the Gallic Celts forced native kinsmen to the Welsh mountains and northern moors, "Celtic fringe" lands that would traditionally resist intrusion.

Foreign traders, notes Ridley, called the islanders "Pretani." The Romans, landing in 55 B.C. under Julius Caesar, "miswrote the name as 'Britanni' and called the country 'Britannia.'" They conquered only the southern part of the island, introducing urban life (London had some 15,000 residents) and, eventually, Christianity.

England got its name—and its largest ethnic group, as well as its language, shires, and political unity—from the Angles, Saxons, and Jutes, tribes of strong-willed farmers and seamen from Jutland and northern Germany. The warrior-scholar king, Alfred the Great, contained a ninth-century Danish invasion and built

England's first navy.

The last successful invaders were the Normans, whose victory at the Battle of Hastings (1066) brought William the Conqueror to the throne. During the reign of the Tudor Queen Elizabeth I (1558–1603), British mariners began the outward push that finally humbled the Dutch maritime empire, and opened markets for the products of Britain's pioneering Industrial Revolution.

Portrayals of that great surge, and its aftermath, include Eric J. Hobsbawm's **Industry and Empire: An Economic History of Britain Since 1750** (Penguin, 1970), David S. Landes's **The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to the Present** (Cambridge, 1969), and François Crouzet's **The Victorian Economy** (Columbia, 1982). Peter Mathias's **The First Industrial Nation: An Economic History of Britain, 1700–1914** (Methuen, 1986), is good on anecdotal detail (e.g., the term "Industrial Revolution" was coined in France), and on such matters as the debate over establishing colonies (opposed by Richard Cobden on free-trade grounds, and by Tom Paine, John Bright, and others for moral reasons).

Britain's economic frailty became undeniable after World War II. It led to much "Whither England" publishing. In **Suicide of a Nation?** (Macmillan, 1964), Arthur Koestler opined that the Briton was a lion-and-ostrich hybrid. "In times of emergency he rises magnificently to the occasion." Otherwise, "he buries his head in the sand," reckoning "that Reality is a nasty word invented by foreigners."

In **The Future That Doesn't Work: Social Democracy's Failures in Britain** (Univ. Press of America, 1983), the American editor, R. Emmett Tyrrell, Jr., traced the difficulties in part to the fact that the British government "devours some 60 percent of the nation's Gross National Product."

In **Is Britain Dying?** (Cornell, 1979), editor Isaac Kramnick noted that the "sense that something is wrong" with Britain reflected not only economic ills, but other weaknesses as well: British troubles in resolving disputes between whites and blacks in Rhodesia (now Zimbabwe), between Greeks and Turks in Cyprus, and between Catholics and Protestants in Northern Ireland, where British troops were sent in 1972.

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Britain: A Future that Works (Houghton, 1978) argued that the nation was no "sick man." It was a "post-industrial" state, said author Bernard D. Nossiter, a U.S. journalist.

Nossiter argued that Britain's poor productivity—e.g., its auto plants built five cars per worker per year, versus seven in West Germany and France, 12 in Japan, and 15 in the United States—mirrored a growing national "preference for leisure over goods."

Further evidence: When industry was put on a three-day week for three months in 1974, because of a coal strike, factory output fell not by the expected 40 percent, but by only six percent. In this "remarkable demonstration that Britain's plants normally do three days work in five," Nossiter saw no support for the many hypotheses for low British productivity, such as memories of the 1930s Depression, class hostility, or high taxes. Britons have simply come to value an "easy work style" over "a more painful expenditure of energy that yields some extra income."

The debate continues. In **The Pride and the Fall: The Dream and Illusion of Britain as a Great Nation** (Free Press, 1987), Cambridge historian Correlli Barnett finds the nation not post-industrial but an "obsolete industrial society." The blame begins, he says, with "men of letters" (e.g., Prime Minister Clement Attlee) who ignored

Britain's economic weakness when they created the Welfare State.

Yale's Paul M. Kennedy, author of **The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000** (Random, forthcoming), reckons that some decline was inevitable. Nations have a "natural" size, he says. Britain, which once held "say, 25 percent of the world's wealth and power," really should have, by virtue of its population and other resources, three or four percent. The United States commanded some 40 percent of the world's wealth by 1945; Kennedy believes that "16 or 18 percent" would be about right.

Other perspectives on Britain include Christopher Hibbert's **The English: A Social History, 1066–1945** (Norton, 1987), which deals with manners and mores. Example: Swimming *au naturel*, once common, ended during the 1870s; Victorian women bathed in serge "with elbow-length sleeves and baggy bloomers concealed by thick, full skirts."

Arthur Marwick's **British Society Since 1945** (Penguin, 1983) examines such matters as reduced church-going, leisure activities (led by TV, of which the average Briton watches 20 hours a week in winter), and crime (rising, but still low: Britain had 653 killings and 2,090 reported rapes in 1985; the U.S. figures were roughly 19,000 and 87,000).

Also rewarding are biographies, notably Randolph S. Churchill and Martin Gilbert's three-volume **Life of Winston S. Churchill** (Houghton, 1966, 1967, 1971). Anthony Sampson's **The Changing Anatomy of Britain** (Vintage, 1984) remains a lucid portrait of who runs Britain and its institutions today.

Many writers deal with British nostalgia for lost grandeur. George Dangerfield's classic about pre–World War I clamor at home (suffragettes, labor unrest, etc.) and decay in the Empire, **The Strange Death of Liberal England** (Granada, 1984), evokes the persistent popular vision in which "glow, year into backward year, the diminishing vistas of that other England, the England where the Grantchester church clock stood at ten to three, where there was Beauty and Certainty and Quiet, and where nothing was real."

In **Tinker, Tailor, Soldier, Spy** (Bantam, 1980), novelist John le Carré writes of George Smiley, the care-worn British intelligence agent: "Connie's lament rang in his ears. 'Poor loves. Trained to Empire, trained to rule the waves... You're the last, George...' He saw with painful clarity an ambitious man born to the big canvas, brought up to rule, divide and conquer, whose visions and vanities all were fixed... upon the world's game; for whom the reality was a poor island with scarcely a voice that would carry across the water."

To others, what is gone is less important than what endures. The 19th century, writes Paul Johnson in **A History of the English People** (Harper, 1985), was, for the English, "the high water mark of their fortunes....

"English ideas, institutions, attitudes, tastes, pastimes, morals, clothes, laws, customs, their language and literature, units of measurement, systems of accountancy, company law, banking, insurance, credit and exchange, even—God help us!—their patterns of education and religion became identified with progress across the planet....

"For the first time, the infinite diversities of a hundred different races, of tens of thousands of regional societies, began to merge into standard forms: and the matrix was English." To a surprising degree, it still is.

CURRENT BOOKS

SCHOLARS' CHOICE

Recent titles selected and reviewed by Fellows and staff of the Wilson Center

SECRECY AND POWER: The Life of J. Edgar Hoover
by Richard Gid Powers
Free Press, 1987
624 pp. $27.95

It is hard to believe that there may now be millions of younger Americans for whom the name J. Edgar Hoover conjures up nothing at all. He died in Washington, D.C., at the age of 77, on May 2, 1972—still firmly in charge of the Federal Bureau of Investigation (FBI), which he had led for nearly five decades and built up from a puny, scandal-ridden unit into one of the most formidable agencies in the history of American government. His death provoked rejoicing on the Left, mourning on the Right, and, for reasons made clear by Richard Gid Powers, a historian at the City University of New York's College of Staten Island, a long sigh of relief from the vast majority in the center.

With his varied reputation for good and evil, long colored by the passions of U.S. political life, it has taken time to get a cool fix on the man and his legacy. Powers's book signals the emergence of a critical but dispassionate perspective. Balanced and carefully researched, *Secrecy and Power* is both illuminating political biography and very good reading.

The heart of the book is Powers's account of the relations between Hoover's FBI and a series of administrations, beginning with Calvin Coolidge's and lasting through Richard Nixon's. It was Franklin Delano Roosevelt, Powers notes, who turned the FBI into a powerful—if potentially troublesome—force of political police; during the mid-1930s, worried about Nazi infiltration, FDR secretly removed "all effective restraints from Hoover's surveillance of the American political scene." Relations were not always smooth. President Nixon's subordinates tried—unsuccessfully—to take over the FBI's coordination of intelligence on domestic protest groups during the Vietnam War.

Powers retells familiar tales, such as the Bureau's colorful, carefully staged shootouts with John Dillinger and other infamous gangsters of the 1930s. Less praiseworthy was the Bureau's management of the now-notorious U.S. counterintelligence program, COINTELPRO (1956–71), which aimed to destroy through "dirty tricks" what little was left of the Communist Party after the McCarthy era. Unfortunately, thanks to ineptitude on the part of the Bureau, some of its agents ended up engaging in illegal actions (such as wiretapping and infiltration) against civil rights activists and other political dissenters (among others, the Black Panthers, Students for a Democratic Society, and New Left groups) during the stormy late 1960s, thereby damaging the public's confidence in the FBI's good sense and trustworthiness.

Perhaps the most interesting parts of Powers's book, however, are those dealing with the unfamiliar—with Hoover's early life and with the

launching of his career. Hoover was born (on January 1, 1895) into bureaucracy. He lived his entire life at its epicenter: Washington, D.C. Both his father and grandfather had jobs in lower echelons of the civil service. The institutions that counted in his education were the pillars of old-stock Protestant America: the church, the Sunday school (which he later described as a "crime prevention laboratory"), and the public schools. Class valedictorian at Washington's Central High School and a member of its champion debating team, he also captained the school's marching cadets at Woodrow Wilson's inaugural parade in 1913. Hoover put himself through night courses at George Washington University Law School by toiling at a tedious clerical job at the Library of Congress.

By the spring of 1919, at the age of 24, armed with a law degree, he was employed as an attorney at the Justice Department. Man, moment, and milieu then propitiously merged. The Russian Revolution, and the promises of worldwide upheaval emanating from Moscow, made 1919 the year of America's first great "red scare." A general strike in Seattle, an unprecedented rash of attempted terrorist bombings, and anti-Bolshevik hearings in Washington brought the menace home. On June 2, 1919, a bomb destroyed the front of Attorney General A. Mitchell Palmer's house. Enraged, Palmer turned to young Hoover to head up a new, concerted antiradical campaign.

Hoover immediately threw himself into researching three important legal briefs intended to destroy communist activity in the United States. He argued successfully that, among other things, every member of the Communist Party should be held responsible for the group's doctrines, namely its commitment to overthrowing the government by nonparliamentary means. He also organized research facilities for the Justice Department's newly formed Radical Division, hired its staff, and began "collecting information on radical publications, organizations, and individuals." In the course of his work, he gave shape to the antipathy toward communism that strongly flavored mid-20th-century American politics. As Powers shows, 50 years after filing his influential briefs, Hoover still cited them as "the essential blueprints" for the nation's fight against communism.

In 1924, Hoover took over the FBI, a small agency then tarnished by its involvement in the Teapot Dome scandals, which had rocked Warren G. Harding's administration. Modeling himself on Herbert Hoover (no relation), J. Edgar "identified himself as one of the new breed of progressive

managers who were applying the methods of science to the old problems of government." He quickly turned the FBI into one of the most respected agencies of government: effective, independent, and free of corruption.

Yet Powers judges Hoover's historical legacy as "profoundly ambiguous." His successes were impressive. He achieved his life's goal of destroying American communism (although, it could be argued, it was doomed to failure anyway). He pioneered new techniques of criminal investigation, and in cooperation with state and local authorities, brought into being the modern American system of law enforcement. He devoted enormous energy to upholding traditional values as he understood them. Unfortunately, his attachment to these values sometimes led him to support racial and other injustices. The qualities of leadership that had stood him in good stead for most of his life were strangely at odds with the cultural changes of the post-World War II era. In the end, says Powers, J. Edgar Hoover "endured too long."

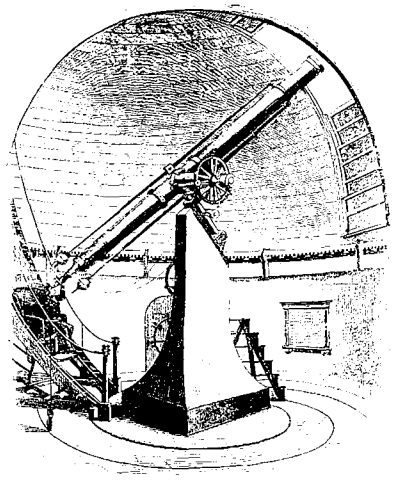
—Michael J. Lacey
Secretary, American Society and Politics Program

THE LAUNCHING OF MODERN AMERICAN SCIENCE, 1846–1876
by Robert V. Bruce
Knopf, 1987
434 pp. $30

Early practitioners of science in America were, in the best sense of the word, amateurs—often notable statesmen as well as gifted *savants*. American products of the 18th-century Enlightenment probed the natural world confident that informal research would uncover its underlying laws. Thus Benjamin Franklin experimented with his kite during lightning storms to demonstrate the fluidity of electricity, while Thomas Jefferson studied and catalogued American plants and animals, refuting the theory that they were inferior to European species.

Such early endeavors—isolated, sporadic, eclectic—had little organized support in the country as a whole. Indeed, few colleges in the United States offered regular courses devoted to scientific training until Yale founded the Sheffield Scientific School in 1846.

Only by mid-century did American science begin acquiring an institutional base. National pride and enthusiasm for collaboration combined—in three short decades—to create museums, colleges, and government agencies necessary for a solid scientific establishment. Bruce, historian emeritus at Boston University, frames his account of this rapid evolution with the 1846 founding of the Smithsonian Institution on the one side and the Centennial Exhibition of 1876 in Philadelphia—which displayed crude telephones and electric lights to a curious public—on the other.



Nineteenth-century Americans distrusted their century's penchant for easy generalizations, seeking rather to collect all possible data before forming conclusions. They launched far-flung investigations: American astronomers observed the stars from locations at home and in Latin America; meteorologists used local observers to produce nationwide weather surveys; the United States Coast Survey gathered data on sea currents and depth sounding; and Congress sponsored major expeditions to map the Earth's topography and document the world's flora and fauna.

As Bruce points out, science—a risky career choice in the America of the 1840s—gained remarkably in status and visibility thereafter. Along with a growing number of teaching and government jobs, new free-lance opportunities emerged. A geologist could earn excellent pay for his advice on a (successful) mining venture, for example, and so could a chemist analyzing soil for farmers. Yale's chemist and mineralogist Benjamin Silliman, Jr., occasionally supplemented his teaching salary by working for the business community. He received $526.08 for discovering how to "crack" petroleum, spanking that infant industry, as Bruce reports it, into "lusty, squalling life."

The acknowledged chief of this growing scientific community was Alexander Dallas Bache, the genial, shrewd great-grandson of Benjamin Franklin. As superintendent of the Coast Survey—a position of great practical importance to a seafaring nation—Bache organized a small, private society of scientists, who named themselves the Lazzaroni: scientific "vagabonds." The group included Joseph Henry, the Smithsonian Institution's dignified and politically astute secretary from 1846 to 1878; Swiss-born Harvard naturalist Louis Agassiz, whose 1846 zoology and geology lectures before the Lowell Institute in Boston gained national attention; Harvard mathematician and astronomer Benjamin Peirce; and Harvard chemist Oliver Wolcott Gibbs.

In lively—often sarcastic—correspondence, at private gatherings, and through the American Association for the Advancement of Science (founded in 1848), the Lazzaroni argued for more government-sponsored research and support for higher education, museums, research centers, and national associations. Most scientists outside this self-styled "fellowship" shared these goals. But who was most deserving? What were the national priorities? How should science best promote its cause?

Such questions often stirred up bitter personal rivalries, leaving the squeamish in the dust. Joseph Leidy (1823–91), who proved that a species

of horse had evolved and then disappeared in North America, quit the field of vertebrate paleontology when he saw how, in Bruce's words, his "better-heeled and smaller-souled rivals," Othniel C. Marsh and Edward D. Cope, wrangled shamelessly over new dinosaur finds in the West.

"American science," asked the *New York Times* in 1860, "is there such a thing?" The answer, clearly, was yes—but U.S. scholarly journals were generally ignored in European scientific circles, and Americans got little recognition for their successes.

In 1861, the outbreak of the Civil War slowed the remarkable progress of the two preceding decades. Despite ready access to federal subsidies for research related to weaponry and transportation, "wherever the war touched individual scientists," Bruce observes, "it hurt them." University staffs were thinned by the call to arms. In the South, scientific study would not regain its former prominence for many years to come.

In the North, too, as Harvard's Agassiz complained, promising young scientists went off to war, preventing him from maintaining his zoology museum's "proper activity." In 1863, Bache and several of his colleagues did manage to create the National Academy of Sciences, formally mandated by Congress to advise the government on military and political matters. But the government never consulted the Academy on anything of consequence thereafter.

After the Civil War, notes Bruce, American science faced new kinds of opposition. Religious hostility to Darwinism flared up, and the public's identification of science with technology presumably repelled "those of a more romantically vague temperament." Writing in 1866, novelist William Dean Howells called science "the coldest element in our civilization."

Of the original Lazzaroni, only Oliver Wolcott Gibbs was still alive to see the first American (physicist Albert Michelson) win a Nobel Prize in 1907. Although the inspiration for U.S. advanced study and research laboratories came from Europe, concludes Bruce, it was this small but imaginative crew at the helm of American science from 1846 to 1876 who developed organizations that could survive the erratic crosswinds of public opinion in a democratic society, and set the course that led to American supremacy in nearly all the practical and theoretical sciences.

—Sally Gregory Kohlstedt '86

NEW TITLES

History

A HISTORY OF THE JEWS
by Paul Johnson
Harper, 1987
644 pp. $25

How have Jews—few in number, deliberately separatist, often endangered—survived as a group, and with what effect on the world? Using biographies of outstanding Jews, British journalist Johnson, himself a Christian, traces 4,000 years of Jewish history from Abraham to Shimon Peres.

In A.D. 135, Hadrian's troops dismantled the Jewish state and dispersed its citizens across the Roman Empire. Spanish, or Sephardic, Jews learned Ladino (a mixture of Hebrew and Spanish), and flourished. Throughout the early Middle Ages, Jews brought Hebrew, Latin, and Arab culture to the backwaters of Europe. Maimonides, a 12th-century religious thinker and physician, wrote in Arabic and moved freely between Egypt and Morocco. But if "treatment of the Jews under Islam varied" says Johnson, "it was always bad under Byzantine rule."

Under European Christians, Jews were expelled from Spain in 1492, blamed for the Black Death throughout Europe, and barred from business in Italy, Provence, and Germany. Many Rhineland Jews, or Ashkenazim, fled to Eastern Europe, for "by the year 1500, Poland was . . . the safest country in Europe for Jews."

In 1516, Venice levied a special tax on its Jews and confined them to the site of an old foundry, or "ghetto," where rents were one-third higher than the going rate. "Jewish communities accepted oppression," says Johnson, " . . . provided it had definite rules . . . . The ghetto offered security and . . . made the observance of the law easier . . . by concentrating and isolating Jews."

Jews continued to face twin evils wherever they succeeded: anti-Semitism on the one hand; loss of identity through assimilation on the other. Hayyim (better known as Heinrich) Heine (1797–1856) was the archetypical emancipated Jew. Heine went to a Catholic school, lived in France, and wrote in German. He rejected Talmudic Judaism, disliked Reform Jews, and despised converts—calling his own baptism "the entrance ticket to European culture."

Jews endure, suggests Johnson, because they have "believed they were a special people with such unanimity and passion, and over so long a span, that they became one."

UNFREE LABOR: American Slavery and Russian Serfdom
by Peter Kolchin
Harvard, 1987
517 pp. $25

Russian serfdom and North American slavery—roughly similar systems of enforced labor—flourished at the same time in radically different societies. Both developed gradually over the 16th and 17th centuries, to be abolished abruptly in the 1860s. Like American slaves, Russian serfs had no legal right to own property and could be sold.

But the two systems differed significantly, as Kolchin, professor of history at the University of Delaware, shows in an illuminating comparative study. First and foremost, Russian serfs—unlike Afro-American slaves—worked their native soil under masters of the same culture and race. Thus Kolchin was able to divide questions of race from questions of class—impossibly intertwined in American slavery—and to pinpoint how cultural discontinuity affected slaves transplanted from Africa. Unlike historian Eugene Genovese, Kolchin sees communal values among North American slaves as weak, and the culture they recreated in the New World as derived, in the main, from that of their white masters.

American slaves, living on small plantations in a predominantly white world, were in daily contact with their owners. Serfs, the majority of Russia's population, lived on large estates whose absentee owners left them often to their own devices. Closeness between master and bondsman in America made slaveholders paternalistic and emotionally committed to the "peculiar institution." In the United States, the master class resisted the demise of slavery. Russian owners, however, "offered little resistance" to the abolition of serfdom, secure in the knowledge that "peasants were still peasants, and noblemen still noblemen"—a condition not much changed by Tsar Alexander II's emancipation decree.

In the eyes of society in both America and Russia, the unfree laborers were lazy, stupid, and immoral. Like free laborers on small farms and in factories, they were more often than not exploited and overworked. Slaves suffered more punishment, sexual abuse, and family separation than did serfs, but, by contemporary standards, were well fed and healthy.

It was the Russian *mir*, or peasant commune, that gave Russian serfs a degree of autonomy unheard of among slaves. Isolated and without communal institutions, American slaves were rarely able to join together and to resist.

Contemporary Affairs

TRANQUILLITAS ORDINIS: The Present Failure and Future Promise Of American Catholic Thought on War and Peace
by George Weigel
Oxford, 1987
489 pp. $27.50

How does today's Catholic Church deal with vital issues of war and peace? Not very well, says Catholic theologian Weigel.

Augustine, who saw the fall of Rome in A.D. 410, abandoned the pacifism of earlier Church fathers to lay out those conditions under which war was morally defensible and even desirable. His concept of the "just war" underlies all traditional Catholic theories of war and peace.

Today's Church, argues Weigel, when it abandoned Augustine's essential doctrine of *tranquillitas ordinis*, "the peace of public order in [a] dynamic political community," lost the concept essential to any discussion of the morality of war. Spurred by Vatican II to modernize its teachings, and seared by the Vietnam War, the American Church adopted ideas that owed more to Dorothy Day's Catholic Worker movement, Gordon Zahn's pacificism, and Daniel and Philip Berrigan's radical activism than to Augustine or Catholic "moderate realism." Against the radical pacifists, Weigel puts forward the Augustinian-inspired work of American Jesuit John Courtney Murray (1904–67), "the preeminent American Catholic theologian on peace and freedom." It is "freedom," in particular, that Weigel misses in recent Catholic pronouncements on U.S. involvement in Central America and in the American Bishops' 1983 peace pastoral. The American Church, abhorring war, fails to address the equally ugly threat of totalitarianism.

WASHINGTON
by James Reston
Macmillan, 1987
272 pp. $17.95

"It will not be wise to underestimate America's current resistance to exhortations from the preachers, professors, columnists, and editorial writers.... For, unless I miss my guess, the Americano, *circa* 1960, is in no mood to rush off on his own initiative to 'emancipate the human race'.... or engage in any of the other crusades mapped out for him in Cambridge, Mass."

So wrote James ("Scotty") Reston, the *New York Times*'s prize-winning Washington columnist, during a now-forgotten debate among intellectuals over America's "national purpose" during the Eisenhower era. A Scottish-born Calvinist, Reston has seldom indulged in crusades—or ideological handwringing. Read today, his columns

supply an evocative set of snapshots of the past 25 years. Of Lyndon Johnson and Vietnam in 1967: "He is dealing not with the problem but with the politics of the problem." Of Ronald Reagan's popularity in 1984: "I don't understand it. Every time they fumble, they pick up ten yards."

LEADERSHIP AT THE FED
by Donald F. Kettl
Yale, 1986
218 pp. $22.50

President Woodrow Wilson, hoping to free farmers and small businessmen from their dependence on Eastern bankers, first proposed the idea. Then, in 1913, Congress created the Federal Reserve as a loose system of 12 regional banks and a central board empowered to control credit by setting reserve requirements and the discount rate. What began as a fairly weak institution has since become a body with "unquestionable leverage on the nation's—indeed, the world's—economy." The reason, argues Kettl, a political scientist at the University of Virginia: the astute leadership of several Fed chairmen.

Chronicling the Fed's early efforts to gain independence from the Treasury Department, Kettl shows how a weak central board struggled vainly to control the broader system. It failed first to tighten money during the post-World War I boom, then took too long to lower interest rates when the economy began to slump. After the Great Depression began in 1929, the Fed declined into leaderless disarray.

Marriner S. Eccles, a Utah banker, "a Keynesian who had never heard of Keynes," was tapped by FDR for the Fed chairmanship in 1934. Eccles accepted on the condition that the board be given full control over the timing and volume of open-market operations. Roosevelt agreed—and the Fed was transformed.

Kettl praises other chairmen who took the Fed through tricky political waters. William McChesney Martin, appointed by President Truman in 1951, tactfully labored under two Democratic presidents to counter the inflationary consequences of the Vietnam War build-up and Great Society projects. Arthur Burns, coming to power in 1970, loosened the money supply to combat stagflation, but never let President Nixon force him to turn monetary policy into "a tool of electoral politics." Paul Volker has been perhaps the most forceful chairman of the Fed since World

War II. He began in 1979 to implement his theory of "practical monetarism," announcing monetary targets and carefully controlling the money supply. Volker, like Eccles, acted vigorously to make the Fed a force "framing monetary policy to counteract economic cycles."

Arts & Letters

VEILED SENTIMENTS: Honor and Poetry in a Bedouin Society
by Lila Abu-Lughod
Univ. of Calif., 1986
317 pp. $35

"I suspect that few, if any, fathers of anthropologists," Abu-Lughod observes, "accompany them to the field to make their initial contacts." Yet it was her introduction by her Palestinian-American father to the Awlad 'Ali that legitimized her in that Bedouin tribe's eyes. If this American man (whose beautiful Arabic showed him to be of good family) wished his unmarried daughter to live far from her kin, then, the Awlad 'Ali concluded, it must be all right, and they welcomed her into their midst.

For two years, Abu-Lughod was accepted as guest, daughter, and fellow Muslim in the household of a wealthy Bedouin landowner west of Alexandria, Egypt. There, in the short poems that punctuated her hosts' speech, she discovered an undercurrent of desolation and despair only half-acknowledged beneath the busy, prosaic surface of daily life. Admissions of weakness—much disdained in ordinary speech—brought sympathy and respect when expressed in poems.

The fierce Arab code of honor has inspired writers from Charles Doughty to T. E. Lawrence. As they saw them, Arabs were independent, brave in battle, and self-reliant. Where Abu-Lughod saw Arabs—at home—the same code required men to protect the weak and obey parents, older male kin, and tribal leaders.

For the Bedouin woman, honor is modesty. Throughout her childbearing years, she wears a veil before all men outside her family, and within it, before those she must respect. When she marries, she leaves her own family to join her husband's camp. Only if she marries a paternal cousin—the ideal match—can she stay with those who raised her.

Abu-Lughod argues that Bedouins see sex and marriage as dangerous rivals to tribal authority and therefore to society. Wedding poems warn the

groom of this danger: *He reached your arms stretched on the pillow/forgot his father, and then his grandfather....*

The Bedouin woman, considered weak herself, yet dangerous to men, lives her life subject to father, uncle, brother, and son. Resolute in adversity, only her poems speak of the hidden cost: *On my breast I placed/a tombstone, though I was not dead, oh loved one....*

IDOLS OF PERVERSITY: Fantasies of Feminine Evil In Fin-de-Siècle Culture
by Bram Dijkstra
Oxford, 1986
453 pp. $37.95

To many in the 19th century, Darwin's theory of evolution brought with it a new divide. The soul—gift of God and special preserve of the north European male—was manifestly superior to that base throwback from the animal kingdom, the body. Evolution gave men "scientific proof" of their superiority to women (fleshbound "breeding machines" graced only with the brains of a child) and to the "lower" races: Jews, Orientals, and, at the bottom, "simious" Negroes.

With this realization, says Dijkstra, a University of California, San Diego, comparative literature professor, came two opposing ideas of the feminine ideal: the pure woman who had escaped her base nature, and the temptress who reveled in it.

Simultaneously virgin, wife, and mother, Good Women—portrayed as untouchable nuns, mothers surrounded by children, or beauties "up to [their] neck[s] in flowers"—peer demurely out of 19th-century canvasses painted by such artists as Charles Alston Collins (1828–1873), Robert Reid (1862–1929), and Abbott Handerson Thayer (1849–1921).

Disdaining coarse flesh, *fin-de-siècle* artists exalted the purifying effects of pain. Consumptives languish palely, their illness paradoxically implying both virtue and hidden vice. Stylish boredom, mysterious vacuity—even madness or the "iconographic representation of a beautiful woman safely dead" proved (in the "sadistic ambiguity" of the age) titillating. Artists such as Otto Friedrich (1862–1937) and Lotte Pritzel (1887–1952), avoiding any hint of sexual threat, denatured their women and gave rise to the modern cult of emaciation. As one critic stated it, "there is nothing so handsome as a skeleton."

Woman as Temptress found her definitive symbol in Oscar Wilde's play, *Salome*. *Fin-de-siècle*

Salomes included anorexics, voluptuaries, and vampires—all fatal to men.

Why, asks Dijkstra, did the 1890 Paris Salon ignore Ella Ferris Pell's magnificent Salome, painted in the best academic style? Apparently, he concludes, male judges could not tolerate the self-possession of the half-clad, healthy young woman, so obviously inferior to none.

LOOK HOMEWARD: A Life of Thomas Wolfe
by David Herbert Donald
Little, Brown, 1987
579 pp. $24.95

In 1938, author Thomas Wolfe died at the age of 38, having published two long novels—*Look Homeward, Angel* (1929), *Of Time and the River* (1935)—and written memoirs, a number of plays, and several hundred thousand pages in manuscript. Wolfe was a man who possessed almost inhuman energy.

Donald, a Harvard historian, describes him as an exhausting character. The unwelcome eighth child of mismatched parents, Wolfe was steadied by college years at the University of North Carolina, Chapel Hill. In 1920, the ambitious young "genius" set off for graduate study at Harvard.

In Cambridge and during his years as a college instructor in New York, Wolfe stubbornly failed as a playwright. Failure pained him but he made use of it, cultivating the wild, lyrical misery that became both his trademark and his vice. That he retained an insatiable appetite for life surprised everyone—not the least Wolfe himself. (Invited to witness a birth, Wolfe amused the doctor by shouting excitedly, "Come on, Baby! Come on!" He spoke of nothing else for weeks.)

Yet even as Scribner's editor Maxwell Perkins brought out Wolfe's first novel to critical acclaim, Wolfe tore back and forth from Europe to America—ranting, drinking, and bedding any female who would have him. In the destructive round that was his adult life, he alternated between orgies and a monklike isolation, during which he worked furiously, standing at a high table (chairs never suited his heavy, 6′5″ frame) from dusk to dawn.

Marriage never entered his mind, but love came once—in the person of Aline Bernstein, married and 18 years his senior. "My Jew," he ambivalently called her during their years of passion, jealousy, fights, and separation, which ended only when Wolfe turned (significantly) to his mother for help.

Donald's is a remarkably full-blooded portrait, but to find out how Wolfe's prose transcends the frenzy of his chaotic life, the reader will have to go to the novels themselves.

Science & Technology

TIME'S ARROW, TIME'S CYCLE: Myth and Metaphor in the Discovery of Geological Time
by Stephen Jay Gould
Harvard, 1987
222 pp. $17.50

Geology's contribution to the sum of human knowledge goes well beyond a taxonomy of rocks or an understanding of the processes that formed them. In studying how the Earth was made, geologists also discovered "Deep Time."

Harvard paleontologist Gould credits Thomas Burnet, whose *Sacred Theory of the Earth* (1680–89) has been dismissed as "biblical idolatry" that hindered scientific advance, as the first to explain both cyclical and historical natural phenomena. Burnett observed both "scripture and nature" and found "that all things were covered by water." This was part of the Earth's sacred cycle from chaos to Christ's "bright star," but "how and when this aspect began and how long it lasted, nature says not."

Deep Time was discovered in 1795 by James Hutton, who noticed that "unconformities"—gaps between alternating vertical and horizontal rock strata—reflected cycles of deposition and uplift. Of great antiquity, Hutton's natural forces, with "no vestige of a beginning, no prospect of an end," were yet ageless.

Charles Lyell put numbers to Deep Time and solved the problem of the Earth's age. In the 1830s he wrote that stone was deposited and decayed at a uniform rate—a rate constant in both space (despite local catastrophes) and time. Strata anywhere in the world were datable and of equal age. Applying the same principles to biological change—which he saw as random rather than progressive—Lyell analyzed the fossil remains of the Tertiary era (geology's most recent) statistically, ranging epochs in time by how much or how little their life forms resemble our own.

PAPERBOUNDS

THE CHINESE EXPERIENCE IN AMERICA. By Shih-Shan Henry Tsai. Univ. of Ind., 1986. 223 pp. $9.95

According to the 1980 census, says Tsai, a University of Arkansas professor, America's Chinese are her best-educated ethnic group; one of three has a college degree. Yet America's Chinese have not always been successful. Flocking to the United States at the beginning of the last century, Chinese laborers were given the brutal task of building America's railroads. Employers coveted their diligence but despised these aliens who spoke no English and longed for home. By the end of the century, prejudice won out over economics. Congress halted Chinese immigration in 1882 and did not allow it again until World War II, when China became a U.S. ally. After Mao's revolution in 1949, American-Chinese endured a new wave of suspicion. Tsai details the political and cultural status of today's American-Chinese in a country that has often wronged them, and where—though they prosper—many still feel estranged.

U.S. INTELLIGENCE AND THE SOVIET STRATEGIC THREAT. By Lawrence Freedman. Princeton, 1986. 235 pp. $9.95

How do U.S. strategists respond to the Soviet military threat? The naive view is that various intelligence agencies (the Central Intelligence Agency, the Defense Intelligence Agency) present facts and estimates to policymakers who then try to fashion an appropriate strategic response. As cynics see it, competing government branches select estimates that best serve particular agendas, while intelligence agents, seeking to retain their own influence, tailor the information to satisfy the client. Freedman, a professor of war studies at London's King's College, disagrees. He shows that debates over such issues as the vulnerability of U.S. silo-based ICBMs never hinged exclusively on estimates of what the Soviet Union was attempting to do. Rather, they reflected policymakers' assessment of U.S. military might in the light of larger geopolitical designs, "understood by reference to broader perspectives on the character and sources of strategic strength in the modern world." When opinion regarding American strength in the world splits—as under Gerald Ford (1974–77)—policymakers' views of the Soviet threat vary and American military strategy falters.

PSYCHO/HISTORY: Readings in the Method of Psychology, Psychoanalysis, and History. Edited by Geoffrey Cocks and Travis L. Crosby. Yale, 1987. 318 pp. $35

In 1910, Sigmund Freud unwittingly launched the field of "psychohistory" with a small study of Leonardo da Vinci's sexuality (or lack thereof), a mystery Freud endeavored to understand. Today, "psychohistorians" routinely operate on the personalities of public figures (e.g., *The Kennedy Neurosis*, by Nancy Clinch, 1973), while "emotionologists" such as Christopher Lasch (*The Culture of Narcissism*, 1979) peer into societies' collective feelings. Can psychoanalytic methods add to our understanding of history? These 18 essays—by both practitioners and critics—continue the debate. Lloyd deMause tells how he came to see warfare as a "bizarre group fantasy" of birth, after noting rhetoric (being "strangled," or "choked," "descending into the abyss" with "naked force") common to both war speeches and birth dreams. Harvard psychiatrist Robert Coles—while conceding the "need [for] more psychologically sophisticated historians"—warns against creating "yet another 'field'," especially one that is comfortable reducing Nixon, Lenin, Trotsky, and Gandhi to 'oral' or 'anal' personalities.

The Old House

The blooming of Latin American literature during the past 15 years (four Nobel Prizes) has introduced readers around the world to "magical realism," a literary blending of commonplace events with strong elements of fantasy. One of the genre's founding fathers is Chile's distinguished novelist José Donoso. In this memoir of Santiago during the 1930s, Donoso shows that "magical realism" may in fact more truly reflect Latin perceptions of reality than most Northerners imagine.

by José Donoso

A sad little tourist industry briefly flourished in one of the most unlikely quarters of old Santiago shortly after the earthquake of 1985. Neither historic nor monumental, this seedy old district to the west of the city boasted an assortment of turn-of-the-century palaces in the French or Italian manner, gimcracks cheaply built of mud and tarted up with rococo plaster of Paris or *finto marmo.*

The rich had once lived here, but they had moved away many decades ago, leaving behind them only these husks of their gentility, now mostly tenements or grim "houses of correction" run by the Secret Police.

After the earthquake, however, sleek cars cruised slowly down the rubble-filled streets, their drivers staring up at the fragments of the façades, unhinged shutters half-open on eviscerated interiors and slivers of sky. Sitting on the curb, children ate pastries bought with the coins they earned by guiding visitors through the spectacularly gutted blocks, often to their former family mansions on forgotten streets, or to a once-hallowed place of worship, its smashed tower, now prone on the pavement, turned into a barricade where the young profiteers furthered the ancient game of destruction by selling choice bits of consecrated debris. A slow café did slightly brisker trade now, because its shattered window commanded a view over the wooden structures that had upheld the adobe of the recently crumbled "palaces," a wall with a trace of gilt suggesting a salon and polite conversation, now little more than remnants of stage-wings against the twilight of the Magritte evenings.

But most of the homes in the neighborhood were older and plainer than these "palaces." Low, safe constructions of adobe with tiled roofs, they followed the classic Spanish colonial prototype, a few windows opening on the one floor built directly on the sidewalk. Arranged along a series of patios, these narrow old houses were huge and deep, and as secretive as convents.

A few days after the earthquake, I wandered back to that old neighborhood that I hadn't visited for so long, to the first house of my memory. There the stout old thing stood, apparently unper-

José Donoso, on swing, with (l. to r.) his cousin Gloria Echeverria, his younger brother Gonzalo, an older brother, and their pets, in 1937.

turbed by the earthquake, on the familiar street lined with a few smothered linden trees. Just then, as if to disabuse me of my reassurance, someone opened the front door, and I caught a glimpse of crumbled walls blocking up corridors, smashed furniture, and a gaping skylight. I walked quickly past the house, hounded by the resonance of half-forgotten names, by the sway of a curtain in a sickroom half a century ago.

This deep, dark, overpopulated house did not belong to my father, but to three ancient, rich, bedridden great-aunts of his, who had arranged with God to die late and without pain. Each lived in her own quarters off the first patio with its potted palms and its camelia bush. They were fawned over by their own private courts of nurses, nuns, solicitors, servants, and poor relatives who came to visit on the chance of a handout. We went to live with them when economic disaster struck my father, then a very young, easygoing doctor who preferred playing cards and reading all the new books to seeing patients. He had been the company physician at a newspaper owned by my mother's uncle, but a family scandal had prompted the grand old ruthless man to fire all his relatives.

My father's great-aunts, infuriated by this, begged him to make his home with them; there was plenty of space to house us all in comfort, he would be their doctor-in-residence while he searched for something more profitable, my mother would be a sort of glorified housekeeper, and my small brother and I would bring charm to their lonely, barren lives.

We left another house that I don't remember at all, and settled in on the other side of the first patio, with its plants, its caged canaries, and beribboned cats. The farther one penetrated the house, the less genteel became the surroundings, until finally one reached the innermost patio: the magic core and melting pot of the house, where the hive of servants convened in the evening under the grape arbor next to the smelly chicken coop. Aged and wheezing, these

crones resembled ragged cabbages, dressed in layer after layer of family cast-off clothing.

I once asked why none of them had blue eyes like my aunts. They replied that only the ladies could afford to buy the blue glass cups in which they kept their eyes at night to make them more blue and beautiful, and furthermore, if we went on asking silly questions, the rats that steal the faces of inquisitive children in order to wear them as masks would come to take us to live in the twilit world between the ceiling and the roof where no one ever dared to go.

Their minds half gone, sedentary and fat, they were good for very little except making rose-petal jam (one of them possessed the envied secret) or preparing the fowl traditionally served at the family gatherings. I have the feeling, though, that these were only their apparent occupations. I'm sure they held more mysterious offices, having to do with medicine, perhaps, or with the more frightening realms of religion, better left unexplored by the lay, or, most important, with the maintenance of the collective family memory.

Their imagination, idle for decades, fed on festering remnants, mainly on the repetition of the *petite histoire* of our family. Not of their own families. They belonged to a class bereft of any but the history that attached them to the family of their *señores*, who, centuries ago, had taken their land, ravished their daughters, and established this mongrel, dependent breed. In most cases these women had forgotten their mothers, their brothers, their place of birth, their age. It was a grand occasion when one of them sallied forth to do an errand in the world, since they never went farther than the nearby church, or to visit other servants very much like themselves a house or two away from ours.

My family, out of frivolity or carelessness or simple convenience, had chosen to forget most of its own history. But these inexorable crones remembered every pain, every humiliation, every illness, every loss we had suffered, which their memories hoarded, embellishing the tales as they retold them again and again until they achieved the proportion of disquieting domestic epics.

□

I'm talking of the Santiago of 1930, but dates were irrelevant to these women. They did not record time by calendar, or seasonally, but by deaths and births, the year Carmen was born, the year don Fermín got sick (as he was such an important gentleman, the president had the cobblestones of the block where he lived covered with sand so the passing carriages would not disturb his slumber with their rattle), or the year of a certain wedding or a certain stroke, or someone's trip to Europe, or when someone in the family went bankrupt or ran away with "another woman," or was elected senator or named minister, ignorant of the power and obligations these offices entailed but fully aware of the honor. Words now out of use, names of plants with magical powers, deities unmentionable because the Virgin Mary might become jealous, these were the ashes left by their meager hopes: All of this I loved to listen to.

José Donoso, 63, a former Wilson Center Fellow, is one of Latin America's leading novelists. Born in Santiago, Chile, he studied at the University of Chile and received a B.A. (1951) in literature from Princeton University. He is the author of The Obscene Bird of Night *(1979),* A House in the Country *(1984), and several other novels. His most recent novel,* La Desesperanza, *is scheduled for publication in English in the spring of 1988. This memoir, drawn from a longer essay, is the first piece Mr. Donoso has written in English for an English-language magazine.*

The house was cold, a cold that I have experienced nowhere else. "Comme il fait froid dans les pays chauds!" a French friend used to exclaim, and in the old houses of Chile, the cold of winter in those days had a special edge to it—surely because spring and summer were so glorious—a bite causing chilblains that swelled our hands like magnificent little pink cauliflowers.

As the long dusk of winter set in, the servants under the grape arbor busied themselves piling charcoal on the braziers, lit them, and soon a little blue flame hovered over them like a halo. As it grew darker and the hens went to roost in the chicken coop, the witches fanned the charcoals ferociously with pieces of cardboard. Then the whole patio would light up, alive and crackling with the mad sparks that flew and burst and circled like eccentric constellations around the crones, theatrically illuminating their deeply dented masks of satisfaction, smiling because they had achieved white, odorless coals that would burn slowly into the night. The braziers were then carried triumphantly to the center of our vast rooms where they barely warmed us.

Occasionally, as we were about to drift off to sleep, a servant would steal into our bedroom to drop a snippet of lemon peel, or a piece of sugar, or a verbena leaf into the smoldering charcoal to make the air sweeter for our dreams.

□

My father, who later became a doctor of moderate distinction, really hated medicine. He made it clear that he disliked the narcissism of the sick and their obsessive self-pity as much as he hated the reality of their pain. So finally he took to teaching in order not to have to deal directly with people who had harrowing health problems.

He used to warn me against all forms of ambition, whether it be hunger for power, or for money, or for eminence. Ambition was a quality, or defect, that he despised, and of which he himself was entirely free. He was a passive, well-tempered man, lacking all drive, even the will to choose or decide. What he really enjoyed was playing bridge with his friends, while with his father he played games now defunct: *mus, julepe, rocambor*—the archaic names sound mysterious today, as mysterious as the Spanish deck with which they were played, reminiscent of tarot cards.

Most of all he enjoyed music, especially Wagner. He used to sit me on his knee to tell me the stories of Lohengrin and Siegfried and of his beloved Parsifal, while we listened to the records on his gothic-style gramophone, with Kundry, his bitch, at our feet. He lent me vast numbers of books, always saying, in his usual indolent, inconsistent fashion: "Beware of literature. If you get too involved in it, like myself, you'll lose your will power and your desire to get on in the world, as I have lost mine." Then he went on to lend me the plays of Victor Hugo, *Hernani* and *Le Roi S'Amuse*, and continued his conversation with his beautiful sister Bertha, who played *Kreisleriana* on the piano, her black braid heavy down her back. My mother was jealous of her sister-in-law because she talked of books, Mother not being much of a reader or a musician, though she richly tended to our imagination in other ways.

No matter how much my father disliked the sick, the three bedridden aunts had to be coped with. His perfunctory attention did not satisfy them. My mother, on the other hand, knew how to keep what was left of their imagination busy, and how to pander to their whims and pettiness. When we arrived at the big old house, the first thing she decided was that one of the larger front rooms should be turned into an oratorio, where a priest would come every Sunday to say mass for the three ailing old ladies and

their various relatives and friends.

The poor sisters, after all, had little with which to amuse themselves apart from their novenas and rosaries, and, of course, their illnesses. As it was, they took Holy Communion only once a year for the feast of Quasimodo, when the priest of San Lázaro, in a gilt and plush sedan chair escorted by choir boys in scarlet bearing crosses and torches, took the Host to the bedridden of the parish. It would be much more amusing for the three old ladies to have Communion every week surrounded by their relatives in their home.

□

My parents consulted with the obese Felicinda Bravo, who nursed Aunt Rosa and was the premier servant of the household since she had been longest with the family. She thought it was a great idea, though in her way, she added with modesty, she had already done something towards it.

In a tiny nook adjacent to Aunt Rosa's bedroom she had organized a private shrine that her mistress could see from her bed when the door was open. She herself, every evening, when the other servants were not around to spy, opened it up and knelt at the altar of their own private Christ. When old Felicinda opened the door to her shrine to let my parents in on her little secret, and lit the candles around the lounging, laughing figure enveloped in classical robes, Father was unable to suppress a cry of horror at first, and then a peal of laughter, ordering the uncomprehending Felicinda to blow out the candles, lock up, and hand him the keys. For Father had at once recognized the object of so much devotion: a reduced plaster cast of Voltaire by the sculptor Jean Antoine Houdon. To this sardonic, smiling heretic, the innocent Felicinda had offered years of faithful prayer. Aunt Rosa, mute with arteriosclerosis, had been able to say nothing about it.

Felicinda explained that she had found the saintly-looking cast ages ago in one of the house's storerooms. It seemed so safe to think it was Christ that she had him brought here to her shrine and . . . and . . . she broke into tears begging not to be dismissed from the family since by now she had nowhere else to go. Father tried to console her. But to the very last years of his life he used to rack his brain wondering how on earth a plaster cast of Houdon's Voltaire got into the storeroom of his aunts' house.

This led my parents to realize that an oratorio was indeed necessary to keep everyone out of mischief. My mother, no believer but a lover of ceremony and costume, ransacked the antique dealers and went to the auctions in order to buy gilded goblets, censers, and candlesticks. She set nuns embroidering and filled trunks with surplices and cassocks. The servants were kept busy starching and ironing. She bought the most fragrant wax candles, the sweetest wine, the purest incense: She was having the time of her life. Father, meanwhile, who, like most lazy people, enjoyed being an agnostic, watched the proceedings with amusement and said nothing when we were called to mass.

What was most spectacular on these Sunday mornings of piety was the arrival of the three old aunts. As they were unable to get up from their beds, the huge, carved mahogany affairs that they inhabited were actually wheeled into the oratorio by the younger members of each of their courts. Propped up on their lace and beribboned pillows, the ladies came in surrounded by their pills, mentholatum, fans, aspirin, thermometers, inhalation kits, and shawls, while a cat slept on the coverlet of each bed.

Aunt Rosa, the oldest, was pretty far gone by now. Her head slumped on her breast laden with medals, crucifixes, and scapulars. It was years since she had been aware of what went on around her.

My father assured us she did not suffer: She had no trace of conscience left. But her old servant, the incomparable Felicinda, clad in white and stiff and starched as a queen on a playing card, stood by Aunt Rosa's pillow, saying her beads for her, holding her hand to help her cross herself, and even opening her mistress's toothless mouth for her to receive and mechanically swallow the Host. On her behalf Felicinda answered the Latin of the mass in her own macaronic Latin, beating her well-padded bosom for sins that she surely never committed but which Aunt Rosa, years ago, very well may have.

Though incapable of reply, Aunt Rosa was greeted by her two sisters, who, by marked contrast, never deigned to acknowledge each other. Aunt Tránsito and Aunt Clarissa had had a falling out years ago, and, though they chose to live together, were not on speaking terms. Their problem had arisen a decade before, when, though already old, they were still up and about, and still traveled, especially to the religious meccas of Europe: Loreto, Lourdes, Fatima, or to the canonization of Saint Teresa of Lisieux, where their trouble started.

Both sisters had, on that occasion, vied for one of the two seats made available to the Chilean envoy in the diplomatic section for the ceremony that was to take place in Saint Peter's in Rome. Aunt Clarissa, who was still beautiful and elegant, was chosen as the minister's companion, over her younger sister, Tránsito, who was loud and pushy and used far too much rouge.

When the ceremony began in the glorious basilica, while waiting for the Pope to appear under the *baldachino*, the envoy discreetly nudged Aunt Clarissa, signaling with his stare towards the front row of gold and scarlet chairs reserved for Saint Teresa's family. There, very much at home, sat Aunt Tránsito engaged in gracious conversation with the saint's cousins, who seemed to have no problem at all in accepting in their midst this lady from a far-off land, because, of course, anything was preferable to a scandal when the eyes of all Christendom were on them.

José Donoso in 1932 at age eight.

Aunt Clarissa blanched with shame. She left Rome immediately after the ceremony, hoping to beat the echoes of her sister's behavior to Paris. She didn't beat them, though. And she left for Chile on the first liner. But the story preceded her even there. The newspapers wanted to know what heretofore unrevealed ties bound her family to Saint Teresa. Aunt Tránsito returned to Chile six months later. Aunt Clarissa refused to see her and never spoke to her again. Both kept to their own beds and to their own quarters in the house that they nevertheless continued to share.

Aunt Clarissa was a bit silly, it is true, but she had beauty and charm, and her laughter rang clear and gentle, always a bit teasing. Everything in her room, even her white Angora kittens with blue

neckbands, was white and light blue, the colors of the Virgin of Lourdes, at whose shrine she had made a vow, pleading to have the use of her legs restored. Since then, she would wear no other color. Her hair, which had been dark, was now snow-white, and those still startlingly beautiful young eyes that she kept at night in little blue cups were large, deep-set, and sapphire-blue.

Vanity, said my unbelieving father, not faith, was why she surrounded herself with these colors: They were becoming to her, and if she remained anything to the end of her life, she remained a coquette. She could have got up and walked, said Father—he was then reading Freud—since there was nothing physically wrong with her legs, but some obscure trauma kept her from using them. I hated him for saying this since I loved to believe every scrap of her sad story of sickness and frustrated miracles.

Though it did not show, for she smiled easily, laughed quickly, and talked of the opera and of Paris—the Paris of Offenbach and Zola, of Auber and Bourget—Aunt Clarissa's life had been far from a happy one. Married the first time to the handsomest and richest man in Chile, discoverer of mines, builder of the first railways, and a daring politician, she lived with him on his estate, Limarí, in the barren north. When he could not come down to Santiago with her for the opera season, she received a case of jewels as a present, and was sent to the capital to occupy a box where she sat alone and bejeweled in order to remind the people of Santiago that in the north great fortunes were being made, and that a new social and political attitude was being formed, and that this gorgeous woman of good family belonged to one of those brave men who were transforming the country from a backwater one to a modern democracy.

Aunt Clarissa bore one child, who died of diphtheria when he was four years old and still dressed in a little velvet gown, as was the fashion then for little boys. A couple of years later her husband died before having the chance to fulfill his promise of greatness. Besides his fortune, he left only a beautiful young widow who cried her eyes out before finally leaving for Paris, where two of her uncles, "Tío Blanco," and "Tío Blest," had been diplomats, and where she could count on having a discreetly good time in order to forget.

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I have heard it said that however much women love their dead husbands, they tend to bloom when they become widows. "The widow who remarries doesn't deserve the privilege of being a widow," I once heard a lady whisper. Aunt Clarissa, even in black and without décolletage or jewels, blossomed in Paris, more beautiful than ever, with her husband's gold tinkling in her purse.

She went to Vichy where she took an impressive villa, read Onhet, Feuillet, and Bourget, saw friends, and after several years of decent widowhood and a number of trips back to Chile to let herself be admired, she remarried in France, this time to the most unlikely personage in the world: a relative and doctor named Augustin Concha, who was working brilliantly with eminent specialists in Paris, and was one of the first urologists in Latin America.

An intellectual to the bone, a connoisseur of art, literature, and especially music, he loved Europe where he had studied and worked for 10 years, but knew he had to return to his country and do something for it. Still, he couldn't tear himself away from the brilliant circle of scientific friends who worked at La Salpetrière, a circle that included the great neurologist Jean Martin Charcot.

Aunt Clarissa was very tall indeed, stately, gorgeous, not well-rounded and full-blown as the fashion of the day prescribed, but willowy. Her face, designed

by delicate, well-defined bones, had character besides loveliness. Her new husband, Doctor Concha, on the other hand, was small, quite dark, and a sloppy dresser, who read—and had even met—Zola, and was an admirer of Wagner.

They had been married several years when she gave birth to a child, a boy, Cucho Concha, who was later to become the terror of my own and my brother's childhood. Three, four, six years went by, but Cucho alarmingly could not learn to talk, except to mutter in French, sometimes trembling, sometimes shouting, "La locomotive . . . la locomotive . . . ," which was practically the only word he knew how to say. Charcot could do nothing with him. I wonder if the young Freud ever saw him. It is the correct time and the correct place and the correct professor, but the old witches of the last patio were, of course, incapable of confirming this possibility.

Cucho was growing. Growing too much and too fast and getting difficult to control, so he had to be taken care of by male nurses who were like strong men from the circus. "La locomotive . . . la locomotive . . . ," I can still hear that terrible, meaningless word bellowed in the corridors of the old house. While he screamed, Cucho's mother lay weeping in a froth of lace, unable to understand, to relate, to forgive herself and others, to rest, to move her poor legs.

Doctor Concha had died when Cucho was eight, a broken man who slowly went to pieces at the sight of the raving madman he had sired. A widow again, Aunt Clarissa refused to return to Chile. Her home was France. There they knew how to control her child. Besides, how was she expected to return to display this monster? She lived out the First World War in Vichy, I presume, and returned to Chile in the early '20s, put her son in whatever institution could be found, and went to bed, to live with her sisters. About 10 years later, when Cucho Concha was a giant in his forties, we went to live with them.

Aunt Clarissa never got up again. It caused her too much pain to hear the insane babble of her giant, who held the household in terror by breaking things and twisting the kittens' necks and kicking the canary cage when he was in a temper, the advent of which nobody could foresee. He was brought to visit his mother only once a week, from three in the afternoon to half past five. My brother and myself were terrified of Cucho, who tried to embrace us in order to kill us—or to caress us, who could know? The two possibilities were equally terrifying.

What we most feared, however, were those occasions when he broke into our bedroom to tear up our books, babbling and laughing while he did it. With the torn-out pages he made tiny, maniacal little books that became tinier and tinier as he folded and folded them over and over themselves with his huge, blunt, yet dexterous fingers. What did this mania mean? He ran around the house kicking the cats, and if he was able to catch one, he broke into his mother's room—she usually locked herself in when he was in a rage—opened a tiny drawer of her secretary and brutally stuffed the squealing, scratching animal into it. He kept the drawer shut by pressing it with his huge palms, laughing all the time, and screaming, "la locomotive . . . la locomotive . . . la locomotive . . . ," until the male nurses, who had been sporting with the younger servants in the last patio, came to the rescue.

It was my mother, however, not the male nurses, who could calm him down. Sometimes Cucho repeated obsessively "a las cinco y media . . . a las cinco y media . . . "—"at half past five" in Spanish—just sounds, words of no language to him. Or did they mean something? A desire to go back? A terror of being taken away? Did he hate the place where he was shut up and was he frightened when he felt that the hour of his return

Clarissa Gana de Ossa, José Donoso's aunt, when she was married to a wealthy mine-owner, José Ramón Ossa.

was near? Mother soothed him. When he was very nervous, she went back to the institution in the car with him and his nurses and held his hand while he softly muttered "la locomotive . . . ," plaintive, beseeching, but he had no instrument besides those solitary syllables with which to reach out to the many people he could have loved.

Aunt Clarissa died at 85, to the end a beauty, expert in the art of amusing her friends, mad son or no mad son. She faded away slowly, almost without anyone noticing it, one son in an institution, another in his grave, two husbands in theirs. She was not afraid of death, she used to tell everyone. Nevertheless, Aunt Clarissa died without making a will because the crones from the last patio warned her that it would only bring death and unhappiness. It was best just to pray, they said.

Thus, according to Chilean law, her mad son inherited everything. He was taken to see his mother in her bier. He made no sign of recognition, only turned away, his attention engaged by a bee buzzing, a cat purring, and then went over to my mother, who was at that time young and lovely, and very gently, for he was fond of her, stroked her cheek and said in French a word no one had ever heard him say before: "Maman . . . maman . . . "

Cucho died a couple of months after his mother, naturally without making a will.

In accordance with the laws of Chile, his property then went to the nation because he had no legal heirs—our own relation to him, after all, was tenuous—and Father was left with nothing but his profession.

I've heard it whispered among some people in the family, or it may have been among the older servants, that Cucho did not die a natural death, that he may have been murdered by his two male nurses in a drunken brawl, because they hated him. More likely, however, Cucho just died of indigestion, resulting from a particularly rotten morsel of madhouse cuisine. Who knows? Who cares, at this point? Who remembers Cucho Concha, anyway, except my brother, sometimes, or me as I strolled down the old street among the piles of debris from the earthquake that had not been able to destroy the façade of our old house?

The day of Cucho's death my brother and I were at the English school we attended. Mr. Jackson, the headmaster, called us in, shook our hands very seriously, warning us that we should be very manly about our kinsman's demise: Death, after all, was a natural thing. He himself had been in the War (World War I) and knew what it was all about. I must confess, though, that I found the things he was saying rather silly, for who could be sorry for the death of old Cucho? Wasn't it, at least for us, a sort of deliverance? Our books and animals would be safe. We would never again be crushed in his arms when he caught us.

Of course it was terrible to be glad

that a relative—or anyone for that matter—died. But there it was: One was not perfect and one needn't tell anyone what one felt. It was just a question of going through all the paces, the mass, the funeral, the black band sewn to the arm of our school uniform in sign of mourning, a few days of hushed voices, of conjecture, of visitors, never disclosing one's true feelings because they were sure to change for the better quite soon, and oblivion would then settle everything.

Mr. Jackson's straightforward handshake belonged to a world where there was no hint of murky feelings. That handshake was, in fact, a symbol of the Empire, to which I and my family and the patios where I had until then lived did not belong. I used to shake his hand and say "Thank you, Sir" after he gave me a caning for misbehavior. This compulsory "Thank you" was supposed to signal that I had "no hard feelings." But, in fact, I loathed Mr. Jackson at those moments, and could not for the life of me understand his ethics of fair play, a stiff upper lip, Rudyard Kipling, all monstrously alien and unreasonable to my sense of the world, developed in the dusky rooms of an old house and fostered by protective tale-spinning females who only knew how to play with identity, memory, and time.

□

Those rooms, that army of servants and those patios, came to an end soon after Cucho's death, since he was the last of an isolated line. We had to move out, taking with us only memories.

Just as the ancient house was the past, Mr. Jackson's school was the present and the future, at odds with this past. The school was meant, above all, to be "modern," and being "modern," in those far-off days, meant being English, playing sports, and taking a shower every day. This was why Father sent my younger brother Gonzalo and me to this school rather than to the obvious priests' schools where our relatives went. A secular curriculum was paramount in his conception of modernity.

When we first came to Mr. Jackson's school in 1933, it was attended mostly by English boys, semi-colonials as I remember, mostly sons of transient commercial people, or of engineers sent out to the mines in the north or to the sheep farms in Patagonia. But soon Chilean families began to send their boys there in the hope that they, too, would become modern through contact with English boys with questionable accents. Our masters showed us the map where the small, rabbit-shaped island, red in color, was said to own all those other enormous areas, also red: Canada, Australia, India, Africa.

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Little did we then suspect that in the space of a decade all of that future would be pure past, and it would not be modern anymore to be English, but to be American. The glossy new issues of *Life* and *Time* were instrumental in bringing that truth home to the middle classes of Latin Americans who subscribed to them, and began aping all they saw in those pages.

Mr. Jackson's school turned out not to be as secular as Father had hoped. A Protestant minister came every Saturday to furnish religious instruction. We, and the small group of Catholic boys, stayed out in the garden and played marbles, or tops, or yo-yo, or whatever it was boys played in those days. But as more Chilean boys joined the school, their parents asked Mr. Jackson to organize a parallel class of Catholic religious instruction during the same hour that the Protestants were listening to their minister. And on Saturdays, both the minister with his white collar turned the wrong way around and an honest-to-goodness priest trailing his soutane boomed their different convictions in dif-

ferent halls.

Father, far too lazy to go beyond his characteristic "laissez faire, laissez passer" manner, did not react by taking us out of Mr. Jackson's school when it became religious. Instead, he only requested Mr. Jackson's permission for us not to attend either class, and we remained in the garden playing marbles or practicing cricket.

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We were, of course, looked upon as strange birds by the rest of the school population, just the two of us who could never explain why we did not go to religious instruction, since Father had not bothered to explain it to us. One other boy, Claudio Spies, who claimed to be a Jew, was with us in the garden. This was the time when the hatred for Jews was sweeping the world. We used to ask Claudio what being a Jew meant. I don't remember his answer.

On Saturdays, at school, we were pariahs together. As the wave of anti-Semitism spread over the world, the children who came from their Protestant or Catholic instruction classes chased us around the school garden calling us dirty Jews and throwing stones at us. My brother and I knew that we were anything but Jews, belonging to a long-established Catholic family, something that could be proved not only by the mass and the novenas said in our oratorio, but by the priests and nuns who bore our name. The other boys insulted us because we were different, thus a threat, and in those mad, terrible days Jews were the symbol of all danger.

I must confess that my heart pounded with fear as I awaited the school bell, when the boys from the envied religious instruction classes ran out into the garden. I tried to conceal that fear, even from myself, by playing a violent game of cricket with my brother and Claudio, shouting and quarreling about the score.

One Saturday, when I had been particularly ridiculed as a "dirty Jew," I finally got up the courage to face my father when I came home, and asked him to explain why we had to go through all this. Why couldn't we go to Catholic instruction class since he did not object to our saying rosaries and novenas at home or our going to mass on Sundays? Why was I forced to be different without a reasonable explanation? My father, I fancy, must have thought the required explanation was too long or too complex for my age, or he was not in the mood for it at that moment, when he may have been reading a French novel. So he said, very well, he would phone Mr. Jackson and starting from the following Saturday we could go to Catholic instruction classes if we chose.

I did not pay attention to what the priest said on that first Saturday. I was too happy just being where I was. I can still remember looking out of the window at the young green of spring in the garden, to see Claudio Spies alone, reading a book under a pear tree.

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The rubble from the earthquake has not been completely removed, even now, two years after the catastrophe. There is a presidential decree ordering the denizens of the old houses to clean the rubble away from the streets and the sidewalks, otherwise they have to pay a fine. Chile wants a clean capital no matter what the cost. But people are too poor, especially those living in the shells of the bogus palaces, to repair the façades, much less to cart the dirt away, which is a costly undertaking. Instead, to avoid the fines, which would only go towards enriching the police, most of the people with sizable sections of their façades still standing take the rubbish into the houses, gorging them with debris, leaving only a small section inside to live in. So the dust of destruction has not yet settled on the

graying streets.

Most of the houses on the street where I used to live as a child—called, by the way, and much to the point, calle del Ejercito, or Street of the Army—had elegant balconies of wood, or cast iron, or even wrought iron in the older buildings. The low houses, like ours, had balconies directly on the street, in our case four shallow balconies of cast iron and capacious window-seats.

These balconies were mostly used for the purpose of displaying the female beauties of the family during the processions that took place on certain saints' days, and to shout "Bravo" and "Viva" from, and throw flower petals on the cavalcade of the President of the Republic followed by the equestrian lancers on their way to and from the park a couple of blocks away, on Independence Day. The ladies of the family wove tapestries of flowers for the balconies, and the national flag was flown on the rooftops of every house.

The President of the Republic and his cabinet paraded by in the elegant open "landaus á la Dumont," a gift of Napoleon III to his friend "Tío Blanco," as my great aunts called him, when he was minister of Chile in France.

Rather odd, this formality of attire displayed only on this day, since Chile has always been a country governed "trés en famille." The president, followed by his Great Dane and one bodyguard several paces behind, used to stroll through the downtown area of Santiago to work every day, stopping here and there to talk to a niece on her way to college, or to remonstrate a businessman with whom he was at odds.

Everyone, in fact, in those days, was at odds with everyone else. But in those days there existed that legal space to disagree in: the parliament, of which we have been dispossessed, with the resulting riots and the debilitating mockery of an agreement when in fact there is none. Years ago, nobody was afraid. Nobody wanted revenge. There may have been unfairness, but the radical sat next to the conservative and next to the communist, all of them in tails and top hats.

Then, when the crowds thickened in the street and the air became tense with the expectation of the presidential parade, with the far-off music of the band, the pounding of the hooves, of soldiers marching and the scent of horses, the three old aunts, made up, primped, happy, showing off their best ribbons and batiste, were wheeled each to a different balcony. When the parade finally passed under their windows, the three old ladies waved hankerchiefs from the depths of their beds, at the powerful whom now they did not personally know, but who showed themselves with such traditional insouciance in the open carriages.

Who would have guessed that an earthquake would tear these houses down in a few decades, and that no president or cabinet member would dare show himself openly in the traditional manner, but instead would speed through the streets in a darkened, bullet-proof Mercedes-Benz?

Getting Into Trouble

"Picture a Soviet émigré who has never believed a word of [official] propaganda set down in the middle of the South Bronx and told, 'Welcome to America!' The first thing he would do is cover his eyes and moan, 'So they weren't lying. It really is the way they say it is.'" So observes Vassily Aksyonov, one of Russia's best-known literary émigrés, after a visit to New York, in his new book, *In Search of Melancholy Baby.* Now a resident of Washington, D.C., he compares the oddities of American life to those of his native land. In this excerpt, Aksyonov confronts the mysteries of sexual politics.

by Vassily Aksyonov

One gray muggy morning—the worst Washington has to offer—I was wending my way to Kalorama Triangle, my goal some soda pop and a pack of cigarettes, when suddenly, at the end of Columbia Road, I spied a parade. What was the occasion? Where were the laboring masses headed? The closer they came, the less they looked like the May Day variety. No, they were a motley bunch complete with floats, festoons, and balloons. In fact, they put me in mind of one of Fellini's marvelous processions. And then I realized what it was: Washington's gay community on the march!

Nothing out of the ordinary, of course: beefy men in pink ruffled dresses and pasty makeup; closely cropped women in jackets and ties. Curiously, in the midst of all the bacchanalia it was not the raging queens or the cowboy stuffed into black leather seatless chaps who looked strange; it was the grim ranks of the "ideologicals," gays who do not stand out in a crowd of straights, who have ordinary male and female faces except that they are overlaid with a "message." A movement that began as a struggle against social hypocrisy has taken on the traits of a mighty ideology and has thereby acquired its own brand of hypocrisy.

Once I appeared on a network television talk show that went on the air with the roosters. "Who's going to watch at this hour?" I asked my host. "Seven million people whose sleeping pills didn't work," he replied cheerfully. (Several people with an unhealthy pallor waved to me in the street that morning.)

Vassily Aksyonov in a 1985 photograph. He and other samizdat *writers were attacked by Nikita Khrushchev as early as 1963. Speaking at the Kremlin, the Communist Party chief promised, "We will wipe you out!" In 1980, Aksyonov was forced into exile in America.*

My job was to answer the insomniacs' queries, most of which accurately reflected the low level of the Western giant's understanding of the Eastern giant. From San Francisco, for example, came the following question: "To what degree does the Soviet gay community express its rights in politics and public life in general?"

"Alas," I had to reply, "not at all. Male homosexuality is considered a criminal offense and is punishable by a prison term of three years."

I had the distinct impression that my West Coast questioner did not believe me.

Imagine what a recent Soviet émigré thinks when he first comes across gay pride parades and the gay press. Of course, America has come a long way from its original level of sexual hypocrisy, and hypocrisy here must have been worse than in Russia if even today certain states maintain laws against oral sex. Like other forms of liberalization in America, however, sexual liberalization has gone a bit too far. It has ballooned into an obsession, a craze, a mass orgy; it has bad taste written all over it.

During my first trip to the States I heard a TV preacher berating his fellow citizens for indulging in mass sodomy. "There are 20 million homosexuals in this country," he thundered. "Where are we going?"

"Twenty million?" I remember thinking then. "Impossible." Now I realize it was just another American obsession. The statistics obsession or,

rather, the obsession with *terrifying* statistics.

Americans feel that numbers should stun. Where do the mind-boggling figures in Soviet anti-American propaganda come from? In his novel about America, subtly titled *The Face of Hatred*, the Soviet writer Vitaly Karotich cites an American source for the assertion that there are 30 million starving people living in the United States. Wait a second, I say (to myself, not to Karotich). Every seventh person? You mean every seventh person in the country lacks the wherewithal to fill his stomach? With so many people on diets, is anyone eating?

The 'Light Blue Division'

Every morning the newscasters astound us with figures. Eight hundred thousand Americans had partial hearing loss in the left ear last year; six million saw doctors for flat feet. One day I heard that there were two million kidnapped children in America. How many children are there altogether? Fifty, 60 million? If one in every 30 children is gone, disappeared, then why are we sitting at home watching television? Why aren't we out there looking for them? When I looked into it, I found a lengthy FBI report admitting that the number is actually . . . well, rather exaggerated. It's not two million; it's 30,000. And half of them are runaways. And two-thirds of the rest were taken by a divorced parent. A zero here, a zero there . . . . Somebody seems to have been trying too hard.

Now what about the 20 million homosexuals? Taking the figure of 20 million as a base, we can extrapolate 27 million homosexuals in the Soviet Union and close to 100 million in China. I don't know about China, but in the Soviet Union the "light blue division" (as homosexuals are called there) is far from numerous. If our figure was anywhere near accurate, there would be a gay Gulag the likes of which no one can imagine.

I may be wrong, but it is my impression that a large number of America's recent homosexuals are merely part of America's latest obsession. I put it down partly to the innocence of American youth and partly to an aesthetic crisis, the loss of a sense of moderation and taste.

I have nothing against homosexuality. On the contrary, I have always felt sympathetic to the *true* light blue division because of what its members have suffered as victims of sanctimony. We have a married gay couple living on the floor above us—two musicians, one black, one white; they are

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a part of our Adams Morgan melting pot, and things would be drearier without them. But I draw the line when it comes to forcing a homosexual lifestyle on others; I am against forcing *any* lifestyle on others.

America's obsession with obsessions is often connected with the nether regions of the body or, in a word, with sex. American sex life knows no peace, only eternal flailing. Take the feminist movement or, rather, its anti-male fringe group. Let me tell you about a curious confrontation I had with them before I learned to recognize the Amazon look.

I was attending a university-sponsored conference on "The Writer and Human Rights," where I was scheduled to participate in a panel on censorship. The word "censorship" in Russian is feminine. As funny as that fact sounds to speakers of English, it remains a fact. In Russian, as in most European languages, people, things, and concepts are divided by gender. "Joy" (*radost*) is female, "ecstasy" (*vostorg*) male. There are also words that float in an amorphous neuter gender, words like "state" (*gosudarstvo*). What fun for Freudian (feminist, homosexual, structural, deconstructionist) interpretation!

Madame Sovcens

The Czech speaker who preceded me concluded with words to the effect that "she would never succeed in her attempt to suppress the creative spirit of Central Europe." The "she" here referred to censorship: in Czech, as in Russian, the word is feminine. Our hosts, the American writers, may have shuddered slightly at the solecistic "she," but they put up with it. They show great tact in dealing with our attempts to turn our thoughts into the language of Shakespeare.

Now it was my turn to show off an English that one journalist has characterized as "more epigrammatical than grammatical": "If censorship in our Slavic world was a 'she,'" I began, "she was a rather hysterical old hag. Once upon a time she had been young; some had even found her attractive. She had ruined things for herself, however, by demanding an all-consuming, unequivocal love. Poor Madame Sovcens! With age she has grown more and more frustrated: writers keep defaulting in their amorous duties. True, she still rushes about, powdering herself desperately with socialist realism, but in vain. No one loves her anymore."

As I delved deeper into my dubious metaphor, I noticed an occasional hiss, but by the time I came to a stopping point the hissing had turned to loud boos. A pink-cheeked creature with short bangs jumped up and shouted, "How dare you compare Soviet censorship to a woman!"

"Perhaps I haven't made myself clear," I stuttered. "I only . . . "

"Stop, stop, stop," she cried, very much the commissar. "You've made yourself all too clear. You've insulted all people of the female sex present here today."

A very nonacademic hubbub arose. "But ladies and gentlemen!" I cried amid shouts of "Disgraceful" and "Male chauvinist pig." "I mean,

women and men! I mean, comrades! It was all a joke! A metaphor! Nothing else!" An analagous scene from *The World According to Garp* had suddenly come to mind, and my flesh was crawling.

Luckily, a sympathetic feminist (of the male variety) came to the rescue. "Can't you see?" he shouted over the din. "It's the centuries of Russian slavery that does it to him!"

"Yes, yes!" I cried. "That must be why we metaphorically refer to the Soviet power structure by a woman's name, Stepanida Vlasyevna, and . . ."

"Then do you apologize?" the pink activist interrupted, suddenly conciliatory.

"Oh, yes! With all my heart. And from this moment on, the metaphor—all metaphors—will cease to exist."

Which is how I got off easily on the censorship panel at the conference on "The Writer and Human Rights."

After the Revolution

Looking back at the episode, I am forced to admit to a rather negative attitude to a certain *Soviet* brand of feminism. It dates from the 1930s and is symbolized for me by the distinctly masculine features of the famous pilot Marina Grizodubova. Women became superstars of labor, heroines of socialist competition, and "servants of the people," that is, deputies of the Supreme Soviet. What they never became were *masters* of the people. The only woman to crack the Politburo has been Yekaterina Furtseva, and then only for a short term. (She was soon kicked out and sent over to run culture, apparently because the men considered culture woman's work.)

Nowadays virtually nothing remains of the principles set down by the famous feminist radicals of the 1920s like Larisa Reisner and Alexandra Kollontai. There are almost no women in the armed forces, diplomatic corps, or government. There are, however, plenty of women in construction, women who wield picks and shovels while a man so drunk he can barely hold his pencil straight supervises them. By the age of 30, the average woman laborer or peasant has forgotten the art of love; she lacks the time and energy for sex, to say nothing of Amazon tactics.

Women with white-collar jobs, especially women in the major cities, knock themselves out trying to keep up with Western styles. One of the great Moscow mysteries is how secretaries making 120 rubles a month manage to parade around in Italian boots which, if you're lucky, you can find on the black market for 200 rubles. Suddenly lipstick vanishes; suddenly some wild economic hurricane sweeps away all panty hose, bras, perfume, bikinis, nail polish, mascara, face powder—hundreds of women's accessories are in a constant state of flux. The Soviet woman is so involved in making herself attractive she has no thoughts of dominating men. Add the search for decent food, which is in that same mysterious state of flux as well, and you get a truly terrifying piece of statistics: Soviet urban woman spends about 20 hours a week in lines.

Russia is a country long rife with frustrated women ("How about dropping by this evening, Ivan—I'll have a bottle of vodka ready"), and although the bundle of American obsessions known as the sexual revolution might have brought them a bit more pleasure, it has not increased their freedom by one iota. The female half of the erotic act has always been demeaned in Russia.... So there was in fact something to the "years of slavery" claim made by my savior at the conference.

How do "years of freedom" influence American sexual values, post-revolution style? Once I was invited to speak to a creative writing class at a women's college. When the instructor asked me to assign a story of mine, I suggested "The Destruction of Pompeii," which had recently been published in the *Partisan Review* and which depicts the decadent Roman resort in terms strikingly reminiscent of the Soviet resort town of Yalta.

During the class we discussed everything but the story. Clearly none of the students had read it. Afterward I asked the instructor—the picture of a progressive woman—why she had decided not to pass it out.

"Oh, I couldn't give our girls a story with all that sex." She blushed.

We parted with shrugs and vague glances, whereupon she went off to the faculty club to watch a public television round-table discussion on multiple orgasm while her poor innocent students went off to the student union to munch hamburgers under a poster announcing an open-to-the-public round-table discussion on surgical sex changes. That's the trendy American way of sex—all science and liberation. Yet by and large I live amid chaste Americans, and I believe they are in the majority.

First of two parts.

COMMENTARY

We welcome timely letters from readers, especially those who wish to amplify or correct information published in the Quarterly *and/or react to the views expressed in our essays. The writer's telephone number and address should be included. For reasons of space, letters are usually edited for publication. Some of those printed below were received in response to the editors' requests for comment.*

y the Asians Were First

As a long-time *WQ* subscriber, I was astonished by the item "Why The Europeans Were First," on p. 100 of your Summer '87 issue ["The Maritime World"]. The question is asked: Why did the Europeans alone seek mastery of the seas?

The answer is that they were not alone. Every bit of the Asiatic waters had been explored and much of it settled before any European ship entered those waters.

One thing overlooked: Europe had nothing Asia wanted. The so-called Dark Ages were just ending there, and whatever Europe had, Asia had also. In fact, Asia had the silks and spices Europe wanted—which led to European voyages of discovery.

Ships from South India had sailed to Madagascar, every bit as long and dangerous a voyage as that of Columbus. As early as A.D. 400, there were Hindu settlements in East Borneo; many ships from India and China came to the Persian Gulf in the time of Nabonidas; Nearchus, the admiral of Alexander, had no trouble finding a pilot for the coast of India and the route to Babylon. When Vasco Da Gama reached India [in 1498] he found the port crowded with ships.

The simple fact is that the Indian Ocean, the Red Sea, the Persian Gulf, all of Indonesia, and the coasts of China were known to Asiatic merchants and seamen.

The *Chau Ju-Kua*, published in the 12th and 13th centuries, gives information on trade in all the islands and along the coasts of Asia—what products were available, etc.

The stories of Sinbad tell of such voyages; the Jatakas of the time of Buddha also relate many such accounts. The people of Oman occupied much of the east coast of Africa around Zanzibar at an early period.

I have been known primarily for my writing of the American West, but I have traveled much in Asia. My novel *The Walking Drum* deals with Arabic civilization in Moorish Spain and elsewhere. The sequel, which I am now writing, deals with central Asia and India, also 12th-century.

My studies in Asiatic navigation began when I hired an Arab boy to sail me to a small island off the coast of Celebes (Sulawesi) where there was a ruin I'd glimpsed. When he said he was Arab I asked how long he had been there. He looked at me like I was a fool (he was not far wrong), and said his people had been there for 400 years.

Asiatics had sailed all their seas before no more than a few Irish and Viking vessels had ventured into the Atlantic.

Louis L'Amour
Author
Los Angeles, Calif.

Sea Power

In his superb essay, "Traders," [*WQ*, Summer '87] Clark Reynolds unintentionally may have added new fuel of an unhelpful kind to the current debate over the strategic value of the U.S. Navy.

Mr. Reynolds writes that "[a]s an island nation, Britain had only to maintain her fleet to insure survival...." He knows full well, though many of his readers may not, that Britain's preferred first line of defense was never the Royal Navy.

That first line of defense was the Continental allies whose strategic function for Britain was to distract the energy and attention of the aspiring land-power hegemony of the day [e.g., Germany].

Strictly interpreted, the proposition that "Britain had only to maintain her fleet..." would mean that Britain could afford to be indifferent to Continental squabbles. It is a matter of historical record that, with only occasional lapses, from the 1580s to the present day, the British way in statecraft always has been to encourage, organize, subsidize, and contribute manpower on the ground to antihegemonic coalitions which wedded allied land power to her own sea power.

The Royal Navy's control of the Channel was the *sine qua non* for Britain's coalition statecraft, but it could not by itself provide the security *vis-à-vis* the naval strength that

a Continental coalition undistracted on land might be able to assemble.

As in the British case, it is very much in the U.S. interest today that the great landpower rival be contained and distracted in, rather than confined to, continental Eurasia.

Indeed, in the absence of U.S. allies in Europe and Asia, Soviet military power could not be continentally confined. The territory of those allies provides the choke points through which Soviet maritime power must seek egress, if it is to reach the open ocean.

The U.S. Navy is assisted strategically to a massive degree by the fact that the USSR is obliged to give first priority to its landward security problems. Were the United States to remove itself as an active player in the balance-of-power politics of Eurasia, the Soviet Union—sooner or later—would have a great deal of energy to spare for the design and execution of a truly global (i.e. maritime-dependent) strategy.

Colin S. Gray, President
National Institute For Public Policy
Fairfax, Va.

Milestones in Shipping

The articles on shipping by Clark G. Reynolds and James M. Morris evoke a host of thoughts....The table is heaped so high with a feast of fact and idea, that it is ungrateful to be hungry for more. I try:

Innovations—One might ask for more on the introduction of the rudder that allowed ships to grow in size and led to the Age of Discovery, and on the fore-and-aft rig for sails that permitted tacking higher into the wind and reduced dependence on seasonal winds. Other innovations were iron-clad hulls, steam, the compound engine, and refrigeration. An important novelty in organization was the [scheduled] liner, which began with the Black Ball line in 1819, leaving for Europe from New York every Saturday whether with a full cargo or not.

Assembly line shipbuilding [was an early innovation]. In the Arsenale, Venice assembled a fully-equipped galley before the eyes of Henry of Navarre in 1574 in one hour. Saandam in Holland used to maintain large inventories of wood for three or four thousand

ships of the efficient flyboat variety, and during the second Anglo-Dutch War (1665–67), built a ship a day.

Policy—The British Navigation Laws, enacted in 1651 and 1660, required imports into the U.K. to be carried in ships that were British-built, British-owned, and three-quarters British-manned. Adam Smith opposed other restrictions on trade but approved the Navigation Laws for their contribution to the training of seamen and to naval strength. "Defence," Smith wrote "is of much more importance than opulence."

By the middle of the 19th century... the Navigation Laws... became so complex in consequence that they were understood "only by a few official persons and a few inquirers into political economy."

The tangle of laws was swept away in 1849, along with the repeal of the Corn Laws and the removal of the timber duties. The effect of all three on Scandinavia was electric. Norwegian ships carried Swedish oats and timber to Britain, and later, Denmark joined in exporting meat and dairy products.

Charles P. Kindleberger
Professor Emeritus of Economics
Massachusetts Institute of Technology

Correction

On page 129 of the Summer '87 *WQ* the name of a Soviet ship was incorrectly anglicized as Zakarpat. The correct anglicization is either Zakarpatie or Zakarpat'ye.

The Amateur in Astronomy

Although the word "astronomy" conjures up images of scientists manipulating complicated instruments attached to large satellite dishes and giant telescopes, the amateur astronomer is the unsung hero of modern astronomy.

Amateur astronomers [of whom there are at least 25,000 in the United States] do most of the routine observational work, and [their] important data is forwarded to organizations which sort and process information to be sent to professionals.

The Association of Lunar and Planetary Observers, the International Occultation Timing Association, and the American Association of Variable Star Observers all regularly solicit worldwide amateur participation.

NASA is granting observing time on the Hubble Space Telescope to select groups from these organizations and others, including the Astronomical League.

The Astronomical League is one of the largest amateur organizations, representing over 170 clubs in the United States and over 13,000 members around the world. Persons interested in contacting amateur or professional astronomical organizations or clubs, or who are interested in forming a new astronomical society, may write to the Astronomical League, c/o Mrs. Merry Wooten, Executive Secretary, 6235 Omie Circle, Pensacola, Fla. 32504-7625.

Merry Edenton Wooten
Executive Secretary
Astronomical League

Down-to-Earth Astronomers

Reading "Astronomy," [*WQ*, Summer '87] one might say that even in this day and age, astronomers have not lost their idealistic vision. [However,] just as the astronomer's tools have changed, so has his life changed.

Some astronomers have become vocal spokesmen, expressing their concerns on Capitol Hill as well as in public essays and

commentary. Their rhetoric about funding constraints and inadequate or misdirected science policy makes one wonder how separate from the daily realities of life are the choices made by astronomers.

Fortunately, commentary . . . on issues ranging from astronomical perspectives on nuclear winter to the impact of SDI on basic research to night sky light and air pollution to how our space program has altered the course of astronomy appears frequently.

James Van Allen has eloquently voiced his worries about space science as it is affected by NASA's planned Space Station. Space Station continues to concern many scientists, who argue that as it is presently designed, it will not meet the needs of science. Some, including George Field, have called for a full reappraisal of this project.

Pioneer x-ray astronomer Herbert Friedman has reviewed problems posed by the Challenger disaster and what options space scientists have at present.

Sky & Telescope has recently inaugurated "Focal Point," where astronomers express their views about contemporary issues. An early contribution by the Executive Officer of the American Astronomical Society provides an overview of the effects of Challenger and budget cuts on the near future of astronomy.

David H. DeVorkin
Curator
National Air and Space Museum

New Planets?

The breakneck pace of new astronomical discoveries has already left one *WQ* article slightly out of date.

Eric Chaisson was correct, at the time, when he wrote "... ours is the only planetary system we know for sure...." However, it was announced in June that there is convincing evidence that two nearby stars have planets around them.

The methods of astronomy are, necessarily, indirect. We cannot stick a thermometer into a star like our sun to measure its temperature, nor have we yet directly seen these new planets. But over a span of seven years, a team of Canadian astronomers observed a very slight, regular oscillation in the speed of two stars, from which they infer the presence of orbiting planets.

Now comes the important phase: confirmation by different astronomers using other instruments, without which, the scientific community will not accept the reality of these new planets. As always in the scientific endeavor, the truth is defined by the behavior of the universe itself, not by one or another team of scientists.

Peter B. Boyce
Executive Officer
American Astronomical Society

The Wilson Quarterly *expresses its appreciation to the United States Steel Foundation for helping to support the* WQ*'s special section on the U.S. Constitution (Spring '87).*

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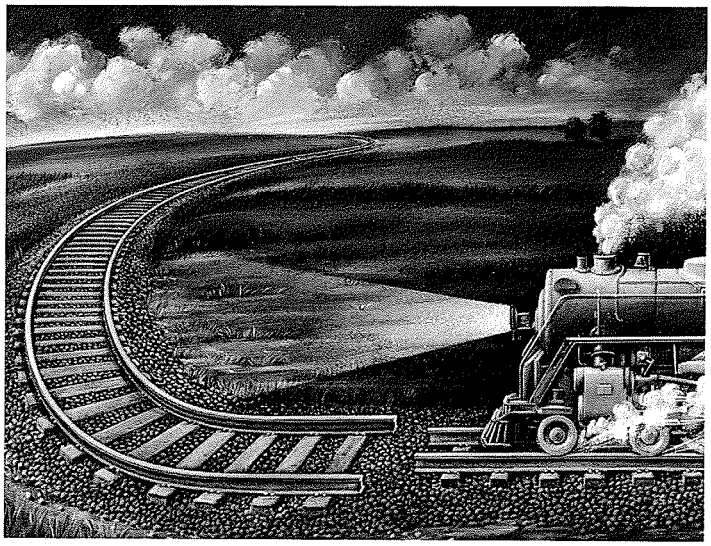
Issues of the Information Age:

The way beyond Babel.



Imagine trying to build a railroad system if every locomotive manufacturer used a different track gauge. Every local stretch of railroad had its own code of signals. And in order to ride a train, you needed to know the gauges and the signals and the switching procedures and the route and the conductor's odd pronunciation of the station names.

The business of moving and managing information is in a similar state today. Machines can't always talk to each other. Proprietary systems and networks abound, with suppliers often jockeying to make theirs the de facto standard. The enormous potential of the Information Age is being dissipated by incompatibility.

The solution, as we see it, is common standards, which would allow electronic systems in one or many locations to work together. People will be informed and in control, while the systems exchange, process, and act on information automatically.

AT&T is working with national, international, and industry-wide organizations to set up comprehensive, international standards, to be shared by everyone who uses and provides information technology. We think it's time for everyone in our industry to commit to developing firm, far-reaching standards. The goal: to provide our customers with maximum flexibility and utility. Then, they can decide how and with whom to work.

We foresee a time when the promise of the Information Age will be realized. People will participate in a worldwide Telecommunity through a vast, global network of networks, the merging of communications and computers. They'll be able to handle information in any form—conversation, data, images, text—as easily as they make a phone call today.

The science is here now. The technology is coming along rapidly. But only with compatibility will the barriers to Telecommunity recede.

Telecommunity is our goal. Technology is our means.℠

We're committed to leading the way.

AT&T

Nuclear energy helped America achieve its energy balance. Is it a balance we can keep?

The 1973 Arab oil embargo forced America to turn to alternatives to foreign oil. Reliable alternatives. America increased its use of electricity from nuclear energy and coal and began to make important strides toward energy independence.

We have since let our guard down. Oil imports are rising steadily and now rival 1973's. The implications of this foreign dependence are clear. So are the solutions.

A dangerous rise in oil imports

America imported four million barrels of oil a day in 1985. In 1986, that figure jumped to over five million barrels a day. By 1990, we will most likely rely on imports for nearly half our needs. Some say as much as 75%. Compare that to 35% in 1973.

What happens when we become too dependent on foreign sources? We lose our balance. It's the first misstep toward losing our energy security. In 1973, that meant short supplies, long gas lines, expensive fuels and critical damage to our economy.

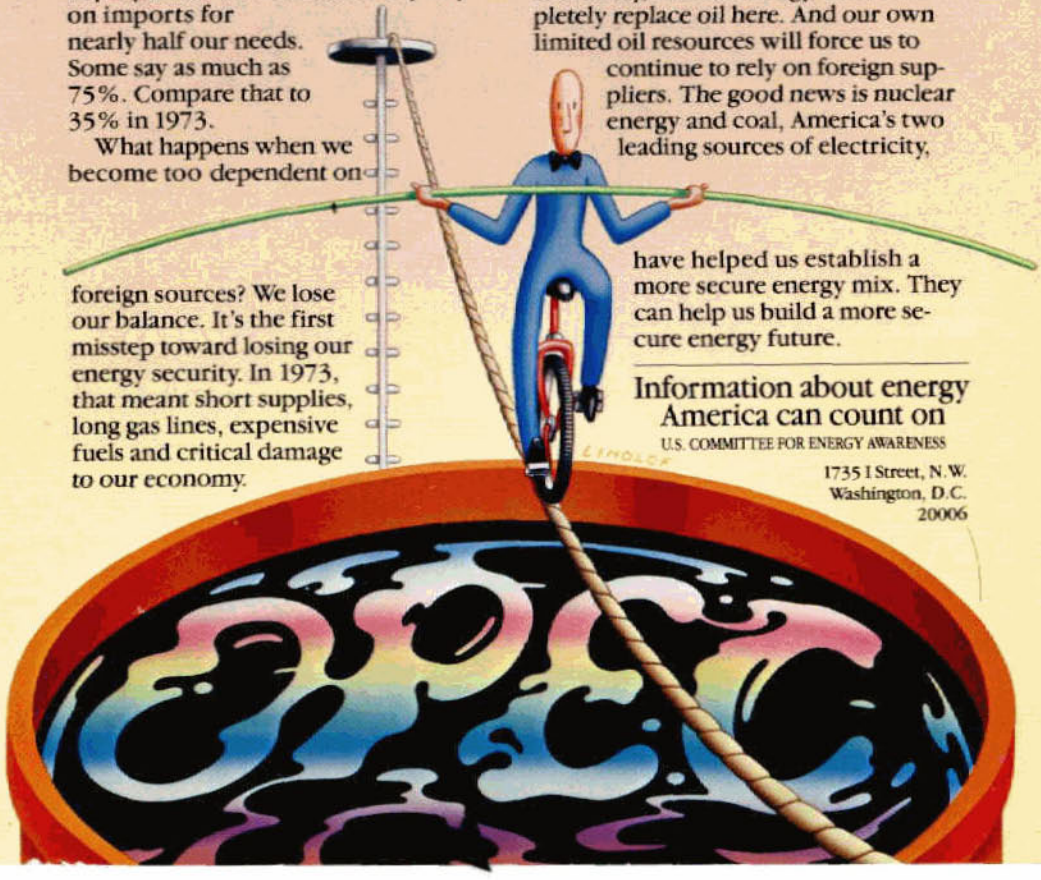
A reliable supply of nuclear electricity

America has over one-fourth of the world's uranium. We have over 100 plants to convert it to electricity. According to energy analysts at Science Concepts, Inc., U.S. nuclear plants saved over two billion barrels of oil between 1973 and 1986. That's roughly one-fourth of the total amount of oil imported from Arab OPEC countries during the same period.

And, while our use of oil and natural gas is down from 1973 levels, we now use about 45% more coal and almost 400% more nuclear energy than we did then.

Nuclear energy for a secure future

Obviously, nuclear energy can't completely replace oil here. And our own limited oil resources will force us to continue to rely on foreign suppliers. The good news is nuclear energy and coal, America's two leading sources of electricity, have helped us establish a more secure energy mix. They can help us build a more secure energy future.



Information about energy America can count on

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