WHAT IS THE HUMAN MIND?

ETHIOPIA

CREATING A 'BROKER STATE'

by Otis L. Graham, Jr.

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Periodicals / Books

THE WILSON QUARTERLY

WINTER 1984

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Lies they tell our children

"I don't have a future."

With tears streaming down her face, a 13-year-old girl made this bleak assessment to her father. To back up her pessimism, she had brought home from school a mimeographed sheet listing the horrors that awaited her generation in the next 25 years: Worldwide famine, overpopulation, air pollution so bad that everyone would wear a gas mask, befouled rivers and streams that would mandate cleansing tablets in drinking water... a greenhouse effect that would melt the polar ice caps and devastate U.S. coastal cities... a cancer epidemic brought on by damage to the ozone layer.

Moved by the girl's misery, her father, Herbert I. London of the Hudson Institute and New York University, wrote a book, *Why Are They Lying to Our Children?* The book documents how some of the myths of the 1960s and 1970s—and some much older than that—are being perpetuated and taught as gospel truth in some of our schools. And the book raises a question in our minds: Will the next generation have any better understanding of science and technology—both their merits and their problems—than our own?

Professor London's book is not a plea for unbridled technology. But it is a plea for balance. And school textbooks, he believes, are notoriously unbalanced. In dealing with environmental questions, for example, no textbook the professor could find made any mention of the following facts:

- Total automobile emissions of hydrocarbons, carbon monoxide, and nitrogen oxide in the U.S. are less than half what they were from 1957 to 1967.
- The amount of unhealthy sulfur dioxide in the air has been steadily declining since 1970.
- The bacteria level in the Hudson River declined by more than 30 percent between 1966 and 1980.

Textbooks, Professor London finds, mythologize nature as eternally benign until disturbed by man. It's a rare schoolbook that talks about volcanoes belching radiation into the air, floods that overwhelm river towns, and tornadoes that lift people into oblivion. Moreover, textbooks hardly mention the promise of a bright future already on the horizon—when average life expectancy may approach 90 years, when products derived from recombinant DNA research will eliminate most viral diseases, when we will enjoy greater leisure, and materials—especially plastics—will be better, stronger, and safer.

Professor London's conclusion—with which we heartily agree—is that we should help our children think for themselves and reach balanced conclusions. Let's look at their textbooks, not to censor them but to raise questions. Let's give them different points of view and help discuss them. That way we can educate a new generation of citizens who aren't scared by science, and who won't be swayed by old mythologies.

Our youngsters do have a future. We, and the schools, should help them look forward to it with hope, even as they prepare to deal with its problems.

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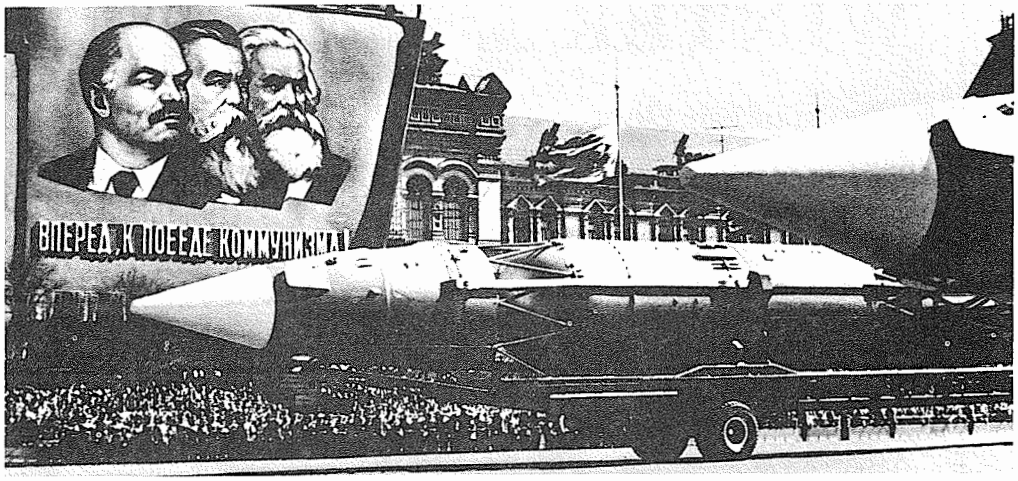

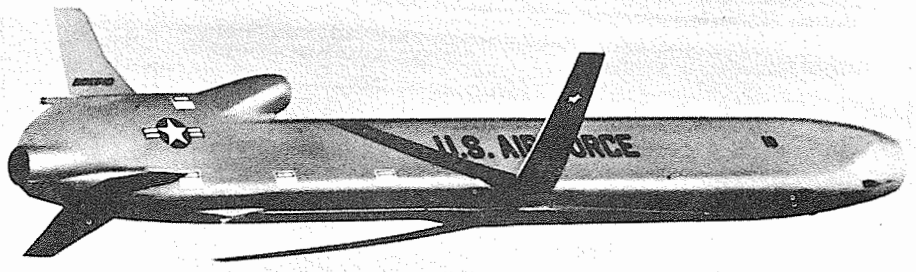

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THE
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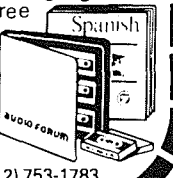

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Editor's Comment

What kinds of people read the *Wilson Quarterly*?

To find out, we occasionally ask a cross section of our 105,000 subscribers to fill out a questionnaire. We did so last April. The one overriding characteristic these men and women share is that, in the age of video, they are *readers*, buying on average 20 books a year, with a strong taste for history, economics, politics, fiction.

Matching the Wilson Center's intentions, the *Quarterly*'s audience is not primarily composed of academics. Only nine percent of our respondents describe themselves as teachers or professors; 31 percent are "managers and administrators"; 42 percent are "professional or technical" (engineers, lawyers, public officials, physicians, scientists, journalists). With a median age of 46, they are well schooled: Sixty percent report at least some postgraduate education.

And many are leaders in communities across America. Thirty-two percent have taken "active roles" on civic or social issues; 61 percent "personally know" their state legislator, U.S. Senator, or Congressman. Thirty-five percent have addressed a public meeting.

Almost 85 percent of our respondents report that they keep old copies of the *Quarterly*. We get daily requests from new subscribers who want back issues on certain subjects. Our Index (see pp. 156–159) is intended to help them, as well as researchers and librarians.

THE WILSON QUARTERLY

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PERIODICALS

Reviews of articles from periodicals and specialized journals here and abroad

POLITICS & GOVERNMENT

Elections on the Auction Block?

"When Money Talks, Is It Democracy?" by Mark Green, in *The Nation* (Sept. 15, 1984), P.O. Box 1953, Marion, Ohio 43305.

Since 1974, political action committees (PACs) funded by business, labor, and single-interest groups have multiplied like rabbits. But after early public alarm over the prospect of such committees "buying" elections, a pro-PAC backlash set in. PACs, it was said, are not really so bad. Green, president of the Democracy Project, a Washington advocacy group, contends that the critics were right.

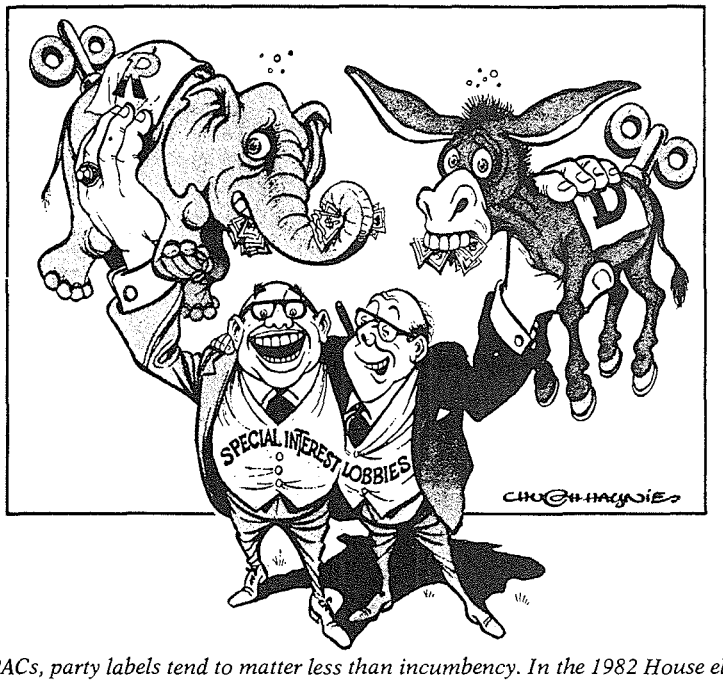
PAC defenders point out that such groups contribute less than 25 percent of all the money spent in House and Senate election campaigns —or just $83 million in the 1982 elections. True, says Green, but "PAC money, like snow in the mountains, gathers at the peaks." Committee chairmen and other powerful senators and representatives rake in the most cash (the House Appropriations Committee chairman collected 75 percent of his 1982 contributions from PACs), and incumbents fare much better than challengers (43 percent of the money in the 1982 campaign treasuries of the incumbent legislators came from PACs).

Green rejects the notion that most PAC donations (average amount: $600) are not large enough to make a difference. He notes that there are plenty of committees that give the maximum: $5,000 for the candidate's primary campaign, $5,000 for his general election campaign. Most politicians would find such a sum "memorable," Green says.

Can a member of Congress be swayed by a few thousand dollars? Green quotes Representative Tom Downey (D.-N.Y.): "You can't buy a Congressman for $5,000, but you can buy his vote." On issues of no great concern to constituents (e.g., whether to subsidize the widget industry), a generous campaign contribution may make a difference. As for the argument that PAC donations are not inducements to future votes but mere "rewards" for a prior record, Green asks: "Then why do so many PACs cross-examine candidates . . . about their positions on pending matters?"

Some PAC apologists maintain that donors often stand on opposite sides of issues and thus cancel each other out. But which PACs represent

POLITICS & GOVERNMENT



To PACs, party labels tend to matter less than incumbency. In the 1982 House elections, 67 percent of PAC money went to incumbent congressmen.

the poor, the unemployed, the ordinary consumer? None, says Green. And while business PACs sometimes split over such issues as protectionism versus free trade, Green suggests that agreement is far more common: "Did any steel company lobby for a stronger Clean Air Act?"

As Representative Barney Frank (D.-Mass.) has observed, Green writes, "Politicians are the only people we allow to take thousands of dollars from perfect strangers and not expect it to influence their judgment." Rather than cling to such delusions, he argues, Americans should demand federal financing of election campaigns.

A New Legal Theory For the 1980s?

"The New Jurisprudence" by Gary L. McDowell, in *The Journal of Contemporary Studies* (Summer 1984), Institute for Contemporary Studies, Department 7284, 785 Market St., Suite 750, San Francisco, Calif. 94103.

The Supreme Court, by most accounts, is moving Right. But even as the Court steps one way, the philosophical ground beneath it is shifting elsewhere, argues McDowell, a Tulane University political scientist.

In the nation's top law schools and in important outposts in the fed-

eral appeals and district courts, a new legal philosophy (or jurisprudence) has taken hold. Called "public law litigation," it was inspired by the Warren Court's (1953–69) judicial activism. Notable advocates include Harvard's Abram Chayes and Oxford's Ronald Dworkin. "The new constitutional theorizing is not aimed at the explication of the theoretical foundations of the Constitution," writes McDowell, "it is typically aimed at creating new theories of constitutionalism that are . . . superimposed on the Constitution."

Traditionally, American judges distinguished between social evils and constitutional violations. "Laws may be unjust, may be unwise, may be dangerous, may be destructive and yet not be . . . unconstitutional," declared delegate James Wilson during the Federal Convention of 1787. Public law jurisprudence emphasizes that federal judges must concern themselves not just with constitutional rights, but also with constitutional *values*. The constitutional protection against "cruel and unusual punishment" is thus broadened to include conditions, such as poor sanitation in prisons, that offend human sensibilities.

Judges once confined themselves in most cases to ruling on the matter at hand. Now, writes McDowell, "the resolution of abstract legal or constitutional issues is very often the [court's] primary objective and the resolution of a particular dispute between individuals merely a by-product." The traditional view was that rights were "limitations against governmental power for the protection of the individual; the new jurisprudence understands rights to be entitlements that the individual is owed by the government."

Moreover, public law advocates favor "prospective" rather than "historical" judgments, that is, judicial rulings that do not merely rectify past wrongs, but also impose systemic reform to prevent a recurrence. Such decisions have in some cases made local public schools and state mental health care programs the wards of federal courts.

As Alexander Hamilton wrote, all the rights and privileges of the Constitution "would amount to nothing" without the protection of courts. McDowell adds, though, that the Constitution will one day amount to nothing if it is not protected from the courts.

Elegy for the Sagebrush Revolt

"Why the Sagebrush Revolt Burned Out" by Robert H. Nelson, in *Regulation* (May-June 1984), American Enterprise Institute, 1150 17th St. N.W., Washington, D.C. 20036-9964.

Remember the Sagebrush Rebellion? During the late 1970s, Western governors and legislators, backed by ranchers, miners, and farmers, demanded that Washington hand over large tracts of federally owned land to the states. Today, the Sagebrush country is so quiet you can hear the wind whistle across it.

Despite its reputation as a haven of rugged individualism, the modern American West is the region "most dependent on the federal government," observes Nelson, a U.S. Department of the Interior

economist. Uncle Sam owns half of the West's land, including 86 percent of Nevada and 47 percent of California. Federal largess built the dams, aqueducts, and superhighways that sustain the West. In return for Washington's dollars, the Western states tacitly consented to federal control over much of what went on within their borders.

But this arrangement began to fray during the late 1970s. The 1976 Federal Land Policy and Management Act and other new Washington legislation—backed by environmentalists and by Eastern and Midwestern industrialists and labor unions aggrieved over "disproportionate" subsidies to the West—angered Westerners by limiting grazing, logging, and mining on public lands and by restricting the availability of cheap water and electric power. Such restrictions threatened to snuff out a regional economic boom.

To many Westerners, Washington's subsidies seemed to bring more trouble than they were worth. In 1979, Nevada's state legislators kicked things off by passing the "Sagebrush Rebellion Act," which "flatly declared the public domain lands in Nevada to be the property of the state" (a claim that has no prospect of legal recognition). Within a year, Utah, Arizona, New Mexico, and Wyoming passed similar laws.

Almost before the ink was dry on these laws, the states began to have second thoughts. Maintaining federal lands could cost a state up to $25 million annually. Miners and ranchers realized that the states would not continue Washington's practice of leasing them land at below-market rates. Finally, the Reagan administration appeased the Sagebrushers. Some 360,000 acres of federally owned Western land have passed into state hands since 1981—a tiny fraction of all federal lands, but an important token.

But the chief explanation for the Sagebrush Rebellion's early demise, Nelson believes, is that it lacked an intellectual rationale that could explain why state ownership was worth the increased price and would "serve the broad national interest."

A Bureaucratic Identity Crisis

"From Analyst to Negotiator: The OMB's New Role" by Bruce E. Johnson, in *Journal of Policy Analysis and Management* (Summer 1984), Subscription Dept., John Wiley and Sons, 605 Third Ave., New York, N.Y. 10158.

Top flight, important, but dull. That was the reputation of the White House's Office of Management and Budget (OMB) before Bert Lance and David Stockman came along. Today, the agency has more glamour, but it also faces an identity crisis of sorts.

Traditionally, the OMB has ridden herd on the federal bureaucracy on the president's behalf, pruning and shaping agency budgets into the unified federal budget submitted by the White House to Congress every January. Staffed by career civil servants and led by only a few political appointees, the agency was noted for its "neutral competence," writes Johnson, an OMB staff member from 1977 to 1982. In recent years,

however, OMB officials have spent more and more time on Capitol Hill, trying to push the president's budget through Congress—and thus more time in the news.

The change stems partly from Congress's overhaul of its own budget procedures. The Congressional Budget Impoundment and Control Act of 1974, for example, compelled the OMB to report to Congress frequently. It also created House and Senate budget committees and a Congressional Budget Office, all of which naturally developed ties to the OMB.

But the biggest change came after Ronald Reagan's election. Convinced that federal bureaucrats would resist deep budget cuts, Reagan gave his OMB director, David Stockman, increased authority within the executive branch. Stockman's four years as a Congressman schooled him in the ways of Capitol Hill and made him a valuable White House lobbyist there. The result, says Johnson, was an unprecedented centralization of power in OMB's hands—enough, he adds, to undercut the "iron triangles" of congressional subcommittees, federal agencies, and interest groups that had long shaped the budget-making process.

Today, the OMB faces a conflict "between its new role as 'packager' and 'seller' of the budget and its traditional role as overseer of the bureaucracy," according to Johnson. As senior OMB officials spend more time lobbying for the White House on Capitol Hill, they have less time to do their homework. The result: "Staff members are less able to brief the president accurately about . . . programs and to [draft] well-conceived proposals for him." This is the price of OMB's broader powers. Johnson suggests that there is no turning back now; Washington needs a centralized budget authority. Even after Stockman departs, OMB is likely to be home to more forceful political operatives and fewer flinty-eyed accountants.

FOREIGN POLICY & DEFENSE

Understanding Central America

"How to Understand Central America" by Mark Falcoff, in *Commentary* (Sept. 1984), 165 East 56th St., New York, N.Y. 10022.

Americans' misperceptions of Central America are numerous. Among them is the notion that the region's seven nations are all economically stagnant "banana republics," and that this is the cause of their political and economic woes.

In fact, writes Falcoff, a Fellow at the American Enterprise Institute, "between 1950 and 1978, the Central American republics registered a 5.3 percent annual rate of economic growth, during which time real income per capita doubled, exports diversified, and there was a significant growth in manufacturing." Between 1960 and 1977, the literacy rate jumped from 44 to 77 percent of the population, and the number of

doctors per capita doubled.

The region's political volatility springs from "the conflict between economic growth and outdated social structures." Amid rising popular expectations, political oligarchies have refused to give way, and poverty and inequality have persisted—42 percent of the region's people remained in "extreme poverty" as of 1981. Political upheaval was virtually inevitable.

The turmoil is greatest in El Salvador. In 1979, a coalition of Center-Left politicians joined reform-minded army officers who had deposed dictator Carlos Humberto Romero and governed the nation briefly before right-wing military men regained power. The experience led to El Salvador's Center-Left split. Part of the group followed Dr. Guillermo Ungo into an uncomfortable alliance with the Marxist Farabundo Martí National Liberation Front (FMLN). The others stuck with José Napoleón Duarte, who was elected president in May.

Duarte's relations with El Salvador's military *and* with the United States are at best awkward, adds Falcoff. The El Salvadoran president, a Christian Democrat, "cherishes fundamentally precapitalist notions of property, and favors the use of state power to reduce social and economic inequalities. His views on that subject, by no means extreme by Latin American standards, would shock most American conservatives."

For Washington policy-makers, the question is this: How can the Center-Left be put back together again? The Reagan administration's "scenario calls for some unwieldy pieces to fall neatly into place," observes Falcoff. With the help of U.S. military and economic aid, President Duarte must simultaneously tame the army, appease the 45 percent of the electorate that last May voted for Roberto D'Aubuisson's far-Right ARENA Party, pursue economic and human-rights reform, and beat the guerrillas.

Some U.S. critics of the Reagan administration favor a negotiated settlement that would bring the FMLN guerrillas into the government without elections. But Falcoff maintains that in such a "power-sharing" arrangement, the Marxists would soon squeeze out the centrists, just as their Sandinista allies did in Nicaragua after the overthrow of dictator Anastazio Somoza in 1979. Reagan may be asking a lot of Duarte, Falcoff concludes, but he would be asking even more if he expected moderates to survive in a government that included Marxists.

Revisiting the 'Accidental' War

"The Cult of the Offensive and the Origins of the First World War" by Stephen Van Evera, in *International Security* (Summer 1984), The MIT Press (Journals), 28 Carleton St., Cambridge, Mass. 02142.

World War I is often called the "accidental war." It is seen as the culmination of a "grab bag of misfortunes" opened by the assassination of Archduke Franz Ferdinand of Austria-Hungary by a Serbian extremist on June 28, 1914. Van Evera, a Harvard analyst, contends that what ap-

Belgium was the first victim of the kaiser's armies, even though it was Russia's mobilization that had alarmed the Germans. The Germans feared defeat if the Allies were allowed to seize the initiative.

pear to be accidents and blunders were the result of a "cult of the offensive" that reigned in European military and political circles of the day.

Early in the 20th century, advances in military technology—the invention of the machine gun, barbed wire, and rapid-firing rifles—gave defenders a decisive tactical advantage over attackers in war. But military thinkers totally misread these developments, Van Evera writes.

Instead, a "cult of the offensive" swept Europe. French president Clément Fallières expressed a typical view: "The offensive alone is suited to the temperament of French soldiers. . . . We are determined to march straight against the enemy without hesitation." Victory, it was held, would go to the bold and the swift. Wars would be short and decisive—a "brief storm," as German chancellor Bethmann Hollweg put it.

The cult of the offensive made the costs of aggression seem low to expansion-minded powers, such as Germany and Austria-Hungary, and thus made conquest all the more tempting. Van Evera adds that the secret entangling alliances that are often blamed for the war's outbreak

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were not so much the problem as the fact that the alliances were unconditional rather than defensive in design. Britain and France were dragged into the war even though their ally, Tsar Nicholas II, had mobilized his armed forces and thus provoked the Germans into calling up their reserves and firing the first shots.

Militarily, the cult of the offensive led commanders to make attacking first (and preemptively) the cardinal rule in any future conflict. Tsar Nicholas II was advised by his generals in July 1914 that no plans even existed for partial, defensive mobilization of the reserves to deter Austria-Hungary from making further threats against Serbia. Russia was forced to muster its forces against Germany as well. In Berlin, the offensive mentality reinforced fears that the Russian bear, if not struck first, would overwhelm Germany. As a result, Germany declared war on Russia on August 1, and general war soon broke out.

Van Evera believes that if Europe's leaders had understood the power of the defense—and foreseen the protracted trench warfare that claimed the lives of eight million combatants—"the Austro-Serbian conflict would have been a minor and soon forgotten disturbance on the periphery of European politics."

Reassessing the 'Ultra' Secret

"Ultra: Some Thoughts on Its Impact on the Second World War" by Williamson Murray, in *Air University Review* (July-Aug. 1984), Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

Thanks to William Stevenson's *A Man Called Intrepid* (1976) and other popular books, one of the best kept secrets of World War II is now a part of popular lore. In addition to making a good yarn, writes Ohio State University historian Murray, the Ultra secret offers some sobering lessons about military intelligence.

The story begins during the 1930s, when the Polish secret service managed to build a copy of the German military's encoding device, called the "Enigma machine." Before Hitler's 1939 blitzkrieg, the Poles passed a replica along to the British. To conceal the fact that they had access to top secret German military communications, the British and Americans created the Ultra system, which fed the information to a few top commanders through a communications network that lay entirely outside of normal intelligence channels.

Possession of the Enigma replica did not guarantee the Allies a steady stream of information: The Germans switched codes frequently, and it was often impossible to find the corresponding settings on the device. Even when information was available, the Allies did not always make proper use of it. In December 1944, for example, Enigma intercepts showed that German forces were massing for a counterattack against the invading Allied armies in Belgium. But the Allied high command, convinced that "the war was virtually over and the Germans could not

possibly launch an offensive," Murray says, disregarded the warnings and suffered heavy losses during the ensuing Battle of the Bulge.

Such blunders were "the exception rather than the rule," notes Murray. Ultra yielded precious information to the Allies: It aided in cornering the marauding battleship *Bismarck* in 1941, revealed that General Erwin Rommel's feared Afrika Korps was not as numerically strong as British commanders in North Africa had believed, and showed that air bombardments of German synthetic fuel plants were gradually crippling the Nazi war machine, which led the Allies to increase their air attacks. When British cryptologists managed to break the Enigma codes used by Admiral Karl Dönitz's U-boats in the North Atlantic, the results were dramatic. Because Allied merchant convoys were able to pinpoint and avoid the roving U-boat "wolf packs," ship losses dropped from 61 in June 1941 to 22 in July and stayed low.

Ultra's ultimate value to the Allies is difficult to assess, Gabriel argues. In fact, the clearest lesson emerges from the German side. Hitler's generals, aware that their moves were frequently anticipated, refused to believe that their codes could have been broken and insisted that there was a traitor in their midst. To underestimate one's enemies, Murray concludes, is the most fatal of mistakes.

More Promises Than Power

"When Policy Outstrips Power—American Strategy and Statecraft" by Eliot A. Cohen, in *The Public Interest* (Spring 1984), 20th & Northampton Sts., Easton, Pa. 18042.

Since World War II, U.S. policy-makers have struggled to bring American military capabilities into line with an ever-growing list of global responsibilities. Harvard political scientist Cohen contends that they have been less than successful.

In 1960, near the zenith of its global influence, the United States counted 2.5 million men in uniform, with a trained reserve of nearly four million. Since then, Washington has shouldered additional overseas burdens, pledging, for example, to defend Central America and the Persian Gulf. Yet, U.S. armed forces today number 2.1 million (some 500,000 stationed abroad), reserves just two million. Even more significant, in Cohen's view, is the spread of Soviet power, especially through "proxies" such as Cuba, Syria, and Vietnam. Moreover, the diffusion of advanced military technology now makes even third-rate regimes troublesome foes.

Twenty-five years ago, Cohen notes, Henry Kissinger declared that "we lack a strategic doctrine and a coherent military policy." The problem is even more severe today. The Pentagon's plans, for example, call for a rapid redeployment of existing units to cover contingencies. But, for both technical and political reasons, such mobility is not always feasible. As Cohen points out, "an army schooled and equipped for European warfare is not well-suited for jungle warfare, and vice versa."

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And the political strings attached to U.S. troops stationed in foreign countries can be hard to break. When President Jimmy Carter tried to withdraw army units from South Korea, political uproar forced him to cancel his decision.

Cohen believes that drastic reductions in U.S. forces overseas are neither necessary nor possible. Few U.S. allies have shown the will or ability to pick up the slack. But the Reagan administration's across-the-board increases in the defense budget (to $227 billion in 1984) are not the answer either.

Painful choices await U.S. leaders, warns Cohen. They must decide, for example, whether the defense of Western Europe will remain the U.S. armed forces' chief overseas mission and whether to strive for unilateral capabilities (versus relying more heavily on allies for military support). In sum, they must decide what "foreign policy commitments [the United States] has the resources and will to make good on."

ECONOMICS, LABOR, & BUSINESS

Ending the Latin Debt Crisis

"On the Consequences of Muddling through the Debt Crisis" by Rudiger Dornbusch, in *The World Economy* (June 1984), Basil Blackwell Publisher Ltd, 108 Cowley Rd., Oxford OX4 1JF, United Kingdom.

In August 1982, Mexico declared itself unable to pay its foreign debts, and in quick succession, Brazil and several other Third World countries followed suit. Wall Street and Washington were shaken; the overextended international banking system would be acutely threatened if any single debtor nation actually defaulted.

As Dornbusch, an MIT economist, notes, "muddling through" by all parties—stretched out repayments, emergency loans, and austerity rules laid down by the International Monetary Fund (IMF) as a condition for help to the debtors—saved the day. "Debt does not get paid," observed a senior Mexican official, "Debt gets rolled [over]."

Dornbusch sees serious difficulties ahead. He focuses on five Latin countries (Argentina, Brazil, Chile, Mexico, Venezuela) that, as of mid-1983, owed $191.5 billion to overseas creditors, including $83 billion to U.S. banks.

Washington's big-budget-deficit, high-interest-rate policies make it costlier for Latin debtors to borrow foreign money to pay interest on existing loans. Washington, unlike the governments of Western Europe, still does not insist that big banks maintain "appropriate loan-loss reserves" to cover the risks of foreign loans, and hence leaves the world banking system vulnerable to a domino effect default. Washington, anxious to protect some domestic industries, has frowned on subsidized Latin exports of steel, copper, textiles, shoes, et cetera to the

United States, even though export revenues are the chief means the Latin countries have to meet their financial obligations.

Dornbusch also scolds the IMF for forcing the debtor nations to adopt austerity programs that, by slashing government spending and imports, look good on paper but diminish long-term prospects for economic growth.

"Muddling through" will not suffice during the next phase of the debt crisis, Dornbusch warns. U.S. officials should 1) lower barriers to Latin imports; 2) get U.S. banks to write off some Latin debt in return for agreements by South American leaders to devalue national currencies in order to promote exports. That would leave the Latin nations poorer "but with employment and hope."

Japanese Managers In America

"The Japanese Manager Meets the American Worker" in *Business Week* (Aug. 20, 1984), Box 421, Heightstown, N.J. 08520.

Last year, Japan's Bridgestone Corporation bought a failing Firestone Tire and Rubber Company factory in LaVergne, Tennessee, and, to nobody's surprise, put it on the road to profitability. What *is* surprising, reports *Business Week*, is that Bridgestone, like other Japanese companies in America, is doing things the old-fashioned way.

Bridgestone is just one of 31 Japanese manufacturers that established an American foothold in 1983. Japanese companies now own 479

American business executives tour a Japanese factory. Some Japanese management "secrets" were originally borrowed from the United States.

plants in the United States, employing some 73,000 workers.

The company's recipe for the LaVergne plant is light on cheerleading and group calisthenics, heavy on the basics: "tighter quality standards, new equipment, and a stricter management approach." Bridgestone met union wage demands but also won concessions on work rules (e.g., top production jobs are now assigned on the basis of worker merit, not seniority). It has retrained American managers—most of them holdovers from the Firestone days—in basic business techniques, such as measuring statistically their own progress toward meeting company goals. One result: Output per worker is up from 17 tires per day to 28.

But Japanese-style management does not automatically bring bliss to the American workplace. At Sanyo Manufacturing Corporation's television and microwave-oven plant in Forrest City, Arkansas, workers complain of production-line speedups. Employee grievances are mounting at Sharp Manufacturing Company's Memphis, Tennessee, factory, according to union spokesmen, despite worker satisfaction with participation in the company's "quality circles." Many Japanese corporations are less than enthusiastic about U.S. labor unions. United Auto Workers organizers get the cold shoulder at Honda's Marysville, Ohio, factory and Nissan's Smyrna, Tennessee, assembly plant.

At Bridgestone, president Kazuo Ishikure has achieved mixed results. Worker distrust lingers from the Firestone era, says *Business Week*. One Japanese manager jokes with local union leaders: "We learned lots of four-letter words from you." Despite gains at the Tennessee plant, labor productivity still is only half that of the company's Japanese plant. Profits are still a year away. But Ishikure is confident that once American workers learn "the Bridgestone way of manufacturing," the tire factory's fortunes will take a turn for the better.

Big Labor Looks Wistfully At Europe

"The Future of American Unionism: A Comparative Perspective" by Everett M. Kassalow, in *The Annals of the American Academy of Political and Social Science* (May 1984), Sage Publications, 275 South Beverly Dr., Beverly Hills, Calif. 90212.

Since the end of World War II, America's labor unions have had their ups and downs, but their counterparts elsewhere in the industrialized world consistently fared better. Now, predicts Kassalow, a University of Wisconsin economist, the foreign advantage is likely to widen.

The U.S. work force has always been less unionized than Western Europe's. Whereas 29.3 percent of American workers held union cards in 1968, 35.8 percent of West German workers, 44 percent of British workers, and 61.2 percent of Danish workers did. By 1979, the unionized portion of the American work force had dropped to 24.9 percent. But unions by then claimed 39.2 percent of West Germany's work force, 55.8 percent of Great Britain's, and 75.7 percent of Denmark's.

Kassalow believes that American labor unions have suffered because

they must fight factory-by-factory for new members against sometimes fierce employer resistance. No such difficulties hamper European labor unions. By custom (and often by governmental edict), labor unions enjoy industry-wide recognition. They negotiate not with individual companies but with national employer associations. "There are virtually no important industries on the continent to which union recognition does not extend," Kassalow reports.

The fate of U.S. "Big Labor" may well hinge on whether it can win over workers in the growing service industries, such as banking, insurance, medical care. In Europe, these industries are already unionized.

During the boom years of the 1950s and 1960s, U.S. labor unions reaped some benefits from the decentralized style of American collective bargaining. European unions had difficulty cashing in on the boom because industry-wide bargaining forced them to accept labor contracts keyed to the least profitable companies. That kept union wages low: Some European employers during those years "often offered benefits well above the negotiated minimums, in order to recruit a satisfactory work force." U.S. labor unions, by contrast, were free to demand fat contracts from prosperous firms, skimpier ones from marginal companies.

Now, decentralization is hurting American unions, hindering efforts to form a united front against employer demands for wage and fringe benefit "givebacks" and for a national industrial policy to save jobs in declining industries.

In general, Kassalow writes, economic hard times hurt U.S. labor unions and their members more than their European counterparts, while booms bring them greater benefits. But, on both continents, organized labor's elixir is economic growth, which helps boost membership and wages.

SOCIETY

Preventing Crime

"Crime Free" by Michael Castleman, in *Social Policy* (Spring 1984), Room 1212, 33 West 42nd St., New York, N.Y. 10036.

It is hard to imagine a better candidate for a late-night holdup than a 7-Eleven convenience store. Yet while nationwide crime soared during the past eight years, the 7,000-store chain enjoyed a 56 percent drop in armed robberies.

The reason is simple: The 7-Eleven's parent, Southland Corporation, hired ex-criminal Ray Johnson to tell it how to deter would-be robbers. Johnson advised the company to move cash registers to the front of its stores, remove signs from the windows, and install exterior floodlights —all of which increased the possibility that a holdup would be seen and reported. He told the company to put the clerk and cash register on an elevated platform, so that would-be robbers could not see how much

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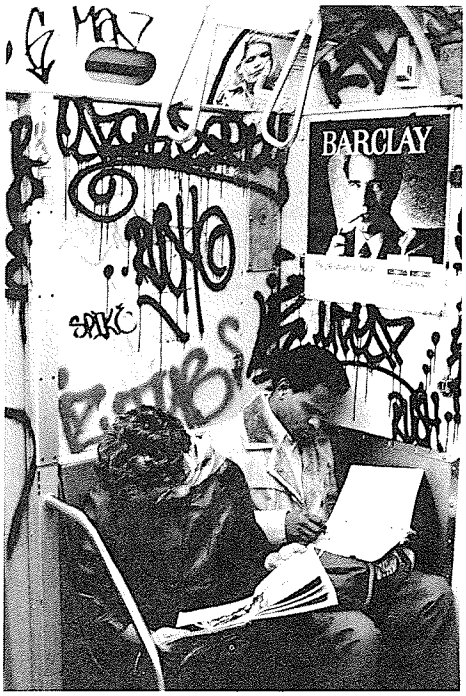

To subway riders, graffiti is more than a nuisance; it is an assault on the senses. Experience shows that quick cleanups of such spray-paint "art" discourage further defacement.

money was in the till, and hence know whether their risks would be well rewarded. As a finishing touch, the company sometimes installs conspicuous tape measures on the inside of front doors. This alerts criminals to the fact that clerks are trained to prepare detailed descriptions of them.

The success of the 7-Eleven formula, argues Castleman, an editor of *Medical Self-Care Magazine*, shows that "self-help" can be a more effective crime stopper than either eliminating the "breeding grounds" of crime or pushing for surer and swifter punishment.

Neighborhood watch groups are another example of effective crime fighting, he says. As many as five million Americans in 20,000 communities may be involved in such efforts. Not only do community watch groups help by reporting crimes to the police quickly, but they also serve as a signal to undesirables that the community cares and is on guard.

Signs of apathy and neglect are invitations to crime. In a 1969 experiment, Stanford University psychologist Philip Zimbardo abandoned two cars, leaving their hoods up, one in a run-down Bronx, New York, neighborhood, the other in suburban Palo Alto, California. Within a day, the Bronx car had been virtually stripped, but the Palo Alto car went untouched for weeks. Then, Zimbardo took a sledgehammer to it. Within hours, passers-by reduced it to a wreck. The lesson is borne out

in everyday experience: Quick repair of vandalized street lights and careful design of public facilities can reduce the appearance of neglect and thus minimize damage.

Fighting crime, Castleman argues, is at least as much a matter of refusing to give criminals opportunities as it is of getting more cops on the street and tougher judges on the bench.

Is TV Creating a 'Uni-Age' Society?

"The Adultlike Child and the Childlike Adult: Socialization in an Electronic Age" by Joshua Meyrowitz, in *Daedalus* (Summer 1984), American Academy of Arts and Sciences, P.O. Box 515, Canton, Mass. 02021.

Until recently, middle-class American children and adults lived in two different worlds, each with its distinct sphere of knowledge, language, behavior, and dress. Through their control over playmates, books, and conversation, parents and schoolteachers shaped what youngsters knew about life's "nastier realities."

No longer. "Childhood as a protected and sheltered period of life has all but disappeared," observes Meyrowitz, a University of New Hampshire professor of communication.

Not only do children today speak, act, and dress more and more like adults; many younger adults, reared on TV, act and dress "like overgrown children." Designer jeans, shorts and sneakers, T-shirts: These are now standard-issue clothing in a developing "uni-age" society. Adults and children alike use profanity; youngsters address their elders by their first names. In the courts, new "children's rights" are being carved out; on television, child actors (e.g., Gary Coleman) "play the roles of adult characters who are imprisoned in children's bodies."

Why the change? In some measure, Meyrowitz suggests, America's shift from a "book culture" to a "television culture" is responsible.

Parents once controlled what crossed the thresholds of their homes, but TV opens an entirely new "doorway" which is, as a practical matter, largely beyond their ability to control. (American children aged two to five average 25 to 32 hours of TV-viewing weekly.) In sound and colored pictures, the young see adults behaving not in ways that their parents may extol, but engaged in lying, cheating, adultery, mayhem. Problems that were excluded from the world of the young—birth control, abortion, alcoholism, suicide—have made a forced entry.

In addition to expanding children's knowledge of the wider world, TV takes them "backstage" in their own homes, revealing the anxieties and fears of adulthood that parents usually try to conceal. Once children become aware that the cool, calm self-possession of their parents is sometimes "staged," they may become "more unwilling to accept all that adults do or say at face value." That may also help explain the childlike behavior of so many young adults, Meyrowitz speculates. When there is nothing left to "hide from the kids," there is less reason not to act like a kid.

SOCIETY

Does It Pay to Go to College?

"The Job Market for College Graduates, 1960–90" by Russell W. Rumberger, in *The Journal of Higher Education* (July-Aug. 1984), Ohio State University Press, 1050 Carmack Rd., Columbus, Ohio 43210.

"It doesn't pay to go to college anymore" is a charge heard frequently since the late 1970s. Not true, writes Rumberger, a Stanford University researcher, although there are reasons to believe that a college degree earned today is not "worth" what it was 20 years ago.

In 1960, he notes, new graduates of four-year colleges earned 65 percent more than counterparts who had only high school diplomas. That advantage declined to 58 percent by 1980, a small loss considering the massive changes that swept the U.S. economy and higher education during the two decades.

College enrollment jumped from 3.8 million in 1960 to 8.5 million in 1970 and then to 12.1 million in 1980. During the same 20-year period, the number of college-educated people in the work force tripled. By 1980, about 20 percent of all U.S. workers were college graduates.

The American economy was also creating new jobs rapidly during the 1960s and 1970s. Total employment grew from 63 million in 1960 to 96 million in 1980. About 36 percent of the jobs created during the 1960s were professional or managerial; during the 1970s, that figure grew to 45 percent. But Rumberger estimates that such high-level jobs will account for only 28 percent of the employment growth between 1980 and 1990. One reason: a continuing slowdown in the growth of government, a key source of white-collar jobs.

In retrospect, he writes, the 1960s were a "golden era" for the college educated. College graduates were in short supply even as the demand for highly qualified workers mushroomed. In 1960, only two-thirds of all college graduates held professional or managerial jobs; by 1970, three-quarters did. According to Rumberger, the economy may well produce enough jobs to go around, but not necessarily enough high-paying white-collar jobs. In that respect, the 1980s will be a lot like the 1950s.

PRESS & TELEVISION

Journalist, Heal Thyself

"What Do Ombudsmen Do?" by Cassandra Tate, in *The Columbia Journalism Review* (May-June 1984), 200 Alton Place, Marion, Ohio 43306.

In 1967, amid growing public pressure for greater press accountability, A. H. Raskin of the *New York Times* was among the first to propose that newspapers appoint ombudsmen "armed with authority to get something done" about reader complaints of inaccuracy and unfairness.

That same year, Louisville's *Courier-Journal* and *Times* became the first papers to heed the advice.

Today, 36 of the nation's 1,701 dailies employ ombudsmen, including the *Washington Post* and the *Boston Globe*. Tate, a freelance writer, argues that it is no tragedy that the idea never really caught on.

In theory, the chief value of an ombudsman is that he can objectively analyze the shortcomings of editors and reporters. The ombudsman "prevents editors from sweeping anything under the rug," insists *Washington Post* executive editor Benjamin C. Bradlee. Richard Cunningham, former ombudsman at the *Minneapolis Tribune*, agrees. Editors, he says, have "automatic defenses" that allow them to brush off readers' complaints as the work of cranks and crackpots.

But journalists are far from unanimous about the virtues of ombudsmanship. Former *St. Petersburg Times* executive editor Robert Haiman, for example, calls it a "sham." He maintains that ombudsmen actually isolate editors by acting as a buffer between them and readers. James Gannon of the *Des Moines Register* adds that only top editors have enough authority to keep newsmen on their toes.

Not all of today's ombudsmen write columns in their newspapers (eight work strictly behind the scenes), and, according to Tate, few of those who do write say very much that is important. Too often, she contends, columns explore such "cosmic" questions as the relative merits of "Peanuts" as opposed to "Li'l Abner" or why newspaper ink comes off on readers' hands.

In the end, Tate agrees with former *Washington Post* ombudsman Ben H. Bagdikian, who suggests rather glumly that having ombudsmen is "better than nothing."

TV's Influence on Foreign Policy

"Foreign Policy on Deadline" by Lloyd N. Cutler, in *Foreign Policy* (Fall 1984), P.O. Box 984, Farmingdale, N.Y. 11737.

Lawyer Lloyd N. Cutler was already a shrewd Washington political "insider" when President Jimmy Carter asked him to become the White House counsel in 1979; but, he declares, "It came as a distinct surprise to me how much television news had intruded" into White House decision-making.

TV news, in Cutler's view, puts extraordinary pressure on the president to respond immediately to ominous overseas events. If the White House announces no action by the late afternoon TV-news deadline, "the evening news [correspondents] may report that the president's advisers are divided, that the president cannot make up his mind, or that while the president hesitates, his political opponents know exactly what to do."

Cutler blames this "TV doomsday clock" for President Carter's hasty August 1979 declaration that the presence of a Soviet army brigade in Cuba was "not acceptable." It turned out, however, that the Russian troops had been in Cuba since 1962. U.S. intelligence agencies had sim-

ply lost track of them when their attention shifted elsewhere during the Vietnam era: The "discovery" was a rediscovery. Had the false alarm appeared only in print and not on TV, Cutler argues, "the Carter administration might have been able to delay its response at least a few days," the time it took U.S. intelligence to remedy its absent-mindedness. But the incident damaged Carter's credibility and hurt chances for Senate passage of the then-pending SALT II treaty.

TV news also affects the substance of foreign policy decisions. Writes Cutler: "The ugliness of military combat or economic deprivation can be graphically conveyed [but] the complex policy considerations that usually lie behind a decision to risk these consequences are much more difficult to explain."

By the same token, the "constant drumbeat of TV news" hampered Carter administration attempts to win the release of the American diplomats held hostage in Iran through "quiet diplomacy."

Two-thirds of all Americans report that TV news is their chief source of information, adds Cutler. That means that whatever is on the tube is also on the minds of White House policy-makers, distracting their attention from problems that are often more important. Cutler is not optimistic about taming the TV tiger, but he believes that rewarding superior TV reporting (perhaps with the equivalent of TV Pulitzer Prizes) and exposing shoddy TV journalism might eventually make a difference.

How FDR 'Managed' The News

"The Great Debate: Roosevelt, the Media, and the Coming of the War, 1940–1941" by Richard W. Steele, in *The Journal of American History* (June 1984), Organization of American Historians, 112 North Bryan St., Bloomington, Ind. 47401.

America's major news media are frequently criticized nowadays for their "adversarial" stance toward government. Yet 45 years ago, as Franklin Delano Roosevelt edged the nation toward war, the broadcast and film industries were virtual propaganda arms of the Roosevelt administration.

To FDR, "the issue of war and peace was far too important a subject for debate," argues Steele, a San Diego State University historian. Nearly two years before Pearl Harbor, with Hitler on the march, the Roosevelt administration began to try to mobilize a reluctant nation for World War II. Realizing that Americans would no longer accept the flagrant propaganda techniques used during World War I, White House aides Stephen Early and Lowell Mellett inaugurated a new, more subtle approach: flooding radio, newspapers, and newsreel producers with seemingly neutral news and information that reflected the administration's viewpoint.

Two new agencies, the Office of Government Reports and the Division of Information of the Office of Emergency Management, relentlessly cranked out newsreels and press releases. The result, Steele says, was a "dull, steady, pervasive drum of preparedness information ema-

The first "Great Communicator"? FDR addresses the nation in July 1940, after his nomination for an unprecedented third term in office. The Democratic Party platform that year contained a stern antiwar plank.

nating from every popular source of public education."

"In almost every instance," he continues, "the nation's newspapers, radio stations, and movie-makers willingly contributed to the effort as a public service." Hollywood moguls were first on the bandwagon, in no small part because the success of Warner Brothers' *Confessions of a Nazi Spy* (1939) demonstrated that propaganda could pay. Top Warner Brothers, Paramount, and Metro-Goldwyn-Mayer executives offered their services directly to the White House.

Government officials were not above using carrots and sticks to achieve their ends. Newsreel companies, for example, were forced to cultivate official favor to ensure that their bulky equipment and lights would be accommodated at public occasions. The radio networks, confronting the threat of tighter regulation by the Federal Communications Commission, were even more compliant. Steele asserts that CBS's Boake Carter, the last major isolationist, anti-administration radio commentator, lost his job in 1938 as a result of White House pressure.

The nation's newspapers proved the least malleable of the mass media. They were too numerous and too heterogeneous in outlook to fall easily into line, though many gladly used government press releases as filler. Still, isolationist views got only limited attention; national debate on defense issues was thus diminished. In December 1941, contends Steele, "a great many Americans remained uncertain of the circumstances (beyond the Japanese attack on Pearl Harbor) that led them into global conflict."

RELIGION & PHILOSOPHY

What Is Bribery?

"Bribery" by Michael Philips, in *Ethics* (July 1984), University of Chicago Press, Journals Division, P.O. Box 37005, Chicago, Ill. 60637.

Suppose a policeman stops you for speeding, and you fold a $20 bill around your driver's license before handing it over. Also suppose he takes it and lets you drive off with only a warning. Is that bribery? The answer is not so obvious, according to Philips, of Portland State University.

The American public, easily angered by malfeasance in government and business, often fails to make crucial moral distinctions. Suppose Senator Smith, always friendly to farmers, accepts a pair of box seats at a Washington Redskins game from the Rutabaga Growers Association. Has he been bribed? Consider a more complicated case: In the ante-bellum South, a slave owner pays a slave to "throw" a plantation boxing match on which he has a bet. In Philips's view, what the master offers is a bribe, what the slave accepts is not.

Philips says that bribery has three characteristics: The recipient accepts a payment to act on behalf of another; the recipient's actions violate a law or unwritten understanding; and the violation harms the interests of those who depend on the recipient or his office. What matters most is whether there is an agreement, explicit or implicit, between the two parties.

In the slave owner's case, the money offered is a bribe because he has violated an unwritten understanding with other slave owners. But the slave is guiltless because he has no stake in the morally corrupt system. Senator Smith is in the clear because he has made no agreements.

Sometimes, what passes for bribery is actually extortion. Extortion occurs when an individual demands to be paid merely to do his duty. As American businessmen overseas have discovered, entering the lowest bid on a project may not be enough: Somebody's palm must be greased. Bribery? No, although paying an extortionist is not necessarily free of moral taint. But that, says Philips, is another matter.

Thoreau's Darker Side

"Thoreau and Anarchism" by Myron Simon, in *Michigan Quarterly Review* (Summer 1984), The University of Michigan, 3032 Rackham Bldg., Ann Arbor, Mich. 48109.

In his own day, Henry David Thoreau (1817–62) was known as a poet, a mystical nature writer, and a minor moralist of the American "transcendentalist" school. Many of his peers viewed him as a crank and misanthrope. Today, however, Thoreau is popularly regarded as a champion of the community of man, an architect of the strategy of nonviolent resistance to the state, and a moral precursor to Mahatma Gan-

dhi and Martin Luther King, Jr.

Simon, who teaches English at the University of California, Irvine, says that Thoreau himself would have been startled by his new image.

Thoreau's contemporaries surely would have been. They knew Thoreau as a troubled, terminally dyspeptic soul, a lifelong bachelor and curmudgeon. Robert Louis Stevenson dismissed him as a near-hermit devoid of sympathy for others; James Russell Lowell wrote that he was selfish and conceited.

Thoreau's rehabilitation in America began with the publication in 1931 of Henry Seidel Canby's *Classic Americans*, which hailed the Walden recluse as "an individualist citizen of the universe." Today, writes Simon, he is seen as an "introspective, ethereal bachelor of nature spurred to social activism by the State's murderous amorality."

But unlike the anarchist thinkers he is often compared to, Thoreau held both government *and* the governed in contempt. They believed in the liberated man's ability to build what the 18th-century British anarchist William Godwin called "a well-conceived society without government." Thoreau's view: "What men call social virtues, good fellowship, is commonly but the virtue of pigs in a litter, which lie close together to keep each other warm."

Nor did Thoreau have much use for political activism: "That which interests . . . any large number of men is always something trivial, as politics." Thoreau was an incisive critic of American society, Simon concludes, but his uncompromising insistence that government and men adhere solely to "higher" laws of conscience deprived his writings of any practical political import.

SCIENCE & TECHNOLOGY

Making Sense Out of Chaos

"Solving the Mathematical Riddle of Chaos" by James Gleick, in *The New York Times Magazine* (June 10, 1984), 229 West 43rd St., New York, N.Y. 10036.

Scientists have no choice but to assume that the natural world operates predictably, according to immutable laws. But they would be the first to admit that this is not always so, that chaos creeps into some corners of nature. Now, reports Gleick, a *New York Times* editor, a few scientists suspect that there is a method even in nature's apparent madness.

Slowly emerging is a fledgling discipline called simply "chaos." Its father is Cornell physicist Mitchell Feigenbaum. Although his theoretical work is extremely esoteric, it can be thought of as a quest to explain commonplace phenomena: Why does the steady pitter-patter of a dripping faucet become erratic? Why does rising cigarette smoke in a still room suddenly break into wild swirls?

In the mid-1970s, Feigenbaum began tinkering with a series of mathe-

matical equations that produced orderly strings of numbers that gradually gave way to disorderly ones. He noticed that certain patterns began to emerge in the breakdown. Describing them in mathematical terms consistently produced certain numbers—now known as "Feigenbaum numbers." The physicist even discovered a new universal constant (like pi): 4.669201609 . . . , which expresses how rapidly all systems undergo something called "period doubling" on their way to chaos.

Although Feigenbaum could not at first get his work published in professional journals, word spread quickly along the scientific grapevine. Gradually, it became apparent that Feigenbaum had approached in a general way what researchers in other fields were exploring in particular cases. For example, Feigenbaum's discoveries coincided with MIT meteorologist Edward N. Lorenz's work on what is sometimes fancifully called "the Butterfly Effect"—how "a butterfly flapping its wings today in Peking might affect the weather next month in New York," or, in other words, how a tiny variation in a system can produce chaos.

As it turns out, the Feigenbaum numbers do seem to be universal. Their existence, Gleick writes, shows that "of all the possible paths to disorder, nature favors just a few."

It is too soon to tell whether Feigenbaum's findings will have any practical applications. It could be that they will help scientists understand manifestations of chaos such as earthquakes, economic trends, and the sometimes deadly fibrillation of the human heart. Today, that possibility is real enough to have awakened the interest of people as various as Pentagon analysts and Wall Street stockbrokers.

The Fallacy of Computer Literacy

"The Underside of Computer Literacy" by Douglas Noble, in *Raritan* (Spring 1984), 165 College Ave., New Brunswick, N.J. 08901.

"A computer in every classroom and a floppy disk in every book bag" could well be America's slogan for the 1980s. But Noble, a schoolteacher and former computer programmer, thinks that today's fad for "computer literacy" in the public schools and elsewhere is pure hokum.

True, he says, computers will be everywhere before long: One estimate is that there will be 80 million computers in use in the United States by the end of the century. But "literacy" in computer languages (e.g., BASIC, FORTRAN) and the ability to program will be no more needed to operate a computer than a knowledge of auto mechanics is needed to drive a car—especially as the new devices become more and more "user friendly."

Behind the push for computer literacy is the notion that it will be a prerequisite in the job market of the future. But it is absurd to believe that the mere presence of a computer "will transform the skills required and radically raise the level of intellect needed" in most jobs, Noble contends. Far from requiring *greater* skills, Noble fears, comput-

erization will strip many jobs—especially clerical ones—of any remaining opportunities for human creativity. Whatever computer skills will be needed, he adds, will be easily acquired on the job. In 1990, there will be well over 100 million Americans at work, and only about two million of them will be in true computer occupations (e.g., programmers and systems analysts).

A computer literate citizenry is also often cited as the best defense against the triumph of Big Brotherism, Noble observes. But only the most sophisticated programmers can prevent computerized invasion of privacy. And knowing BASIC is beside the point. It would not give ordinary Americans any greater political voice in determining what role computers will play in U.S. society.

Computer literacy has nearly "created its own necessity," as it becomes a requirement for jobs in which it will never be used. Dazzled by the technology and afraid of being left behind, Noble says, too many Americans fail to recognize a pernicious fad for what it is.

Futuristic Ceramics

"High-Tech Ceramics" by Howard J. Sanders, *Chemical and Engineering News* (July 9, 1984), American Chemical Society, 1155 16th St. N.W., Washington, D.C. 20036.

Ceramics is a pleasant hobby, a nice way to make personalized gifts such as ashtrays, coffee cups, and vases. Ceramics is also a rapidly expanding $4-billion high-technology industry, reports *Chemical and Engineering News*'s Sanders.

The heat-resistant tiles layered on the skin of the space shuttle *Challenger* are made of "high-tech" ceramics, as are some artificial human heart valves and a variety of electronic devices. High-tech ceramics may help make the Pentagon's long-planned Stealth bomber invisible to radar. Obviously, these are no ordinary ceramics. They have names such as silicon carbide and cubic boron nitride. They are valued because of their extreme resistance to heat, their strength (diamonds are ceramics), and their peculiar electrical properties. Their chief drawback is the same as that of a homemade coffee cup: brittleness.

Ceramics, high-tech or low-tech, are made by subjecting a base material (such as clay) to extreme heat or pressure. Scientists are now working to find ways to reduce brittleness in the high-tech ceramics, manufactured by pressing or heating superfine powders. The researchers are focusing on purifying the powders and making the particles extremely small and regular in shape so that they fit tightly together. Also under study are new ways of mixing ceramic fibers with other materials.

The chief impetus behind much of this work is the prospect of developing ceramic gas turbine automobile engines to replace today's metal piston ones. Because ceramics can withstand higher temperatures than even the most advanced metal alloys, engines built mostly of ceramic parts could run hotter than their conventional counterparts, thereby burning fuel more efficiently and leaving fewer pollut-

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ants. And because ceramics weigh only 40 percent as much as alloys, ceramic engines would be doubly thrifty on gasoline. Detroit probably will not have a road-worthy ceramic engine until the 1990s, Sanders reports, but Japan's Mitsubishi Heavy Industries (whose cars are sold in the United States under the Chrysler name) promises to field one in three to four years.

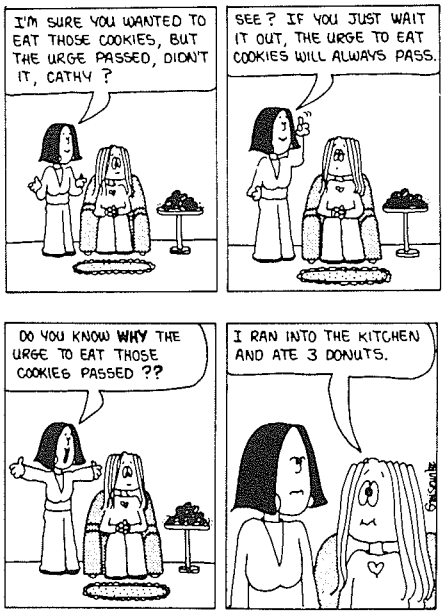
Today, most ceramics are used in electronics—as insulators and in integrated circuits and capacitors (which temporarily store electric charges). But ceramics research is still young, Sanders notes. As ceramics replace more and more metals and plastics, a "Ceramics Age" may not be far off.

How the Brain Picks the Menus

"The Ultimate Head Waiter: How the Brain Controls Diet" by Richard J. Wurtman, in *Technology Review* (July 1984), P.O. Box 978, Farmingdale, N.Y. 11737.

The human body's production of the chemical messengers that govern its internal affairs is largely unaffected by what nutrients are available. However, recent evidence suggests that some foods do trigger the release of such messages, according to Wurtman, a medical researcher at MIT.

Along with other researchers, he has conducted experiments with serotonin, a "neurotransmitter" that carries messages between nerve



An American obsession: "Cathy," of comic strip fame, has another go at dieting. In fact, doctors have little knowledge about how to shed weight permanently.

cells. From experiments with rats, he found that a diet rich in carbohydrates boosts the amount of serotonin in the blood. What message does serotonin "transmit"? In another experiment, Wurtman fed rats high-carbohydrate "snacks" and gave them a choice at mealtimes between high- and low-carbohydrate foods. Almost invariably, the rats chose the latter, as if they "knew" that they already had consumed plenty of carbohydrates.

Similar effects have been found by research doctors in humans. Serotonin, Wurtman says, "provides the brain with telltale information on the body's nutritional state. This information then helps the brain decide what and when to eat next, and whether to be sleepy or responsive to the environment."

About half of all obese people are "carbohydrate cravers," and Wurtman believes that most of them suffer from a short circuit somewhere in their serotonin-producing systems. Indeed, the drug d-fenfluramine, which stimulates serotonin production, sharply reduces snacking by carbohydrate cravers (whose cravings, oddly, seem to strike in each case at a certain time of day). But because such cravings are satisfied as fully by a 250-calorie bagel as by a 1,000-calorie ice-cream sundae, simply substituting less fattening carbohydrate sources may be the best weight-reduction strategy for these people.

Serotonin may also play a role in other forms of obesity. The neurotransmitter produces a feeling of relaxation and sleepiness, which suggests that some big carbohydrate consumers may in fact be "self-medicating" against the effects of anxiety or depression.

The obese are not the only people who may profit from the new insights into the diet-brain connection. Some research suggests, for example, that Alzheimer's disease, a disorder that afflicts five percent of Americans under age 65 and whose symptoms resemble senility, may be related to a shortage of the amino acid called choline. Choline, available from certain foods, is an essential element in the neurotransmitter acetylcholine.

RESOURCES & ENVIRONMENT

Understanding El Niño

"Floods, Fires, and Famine: Is *El Niño* to Blame?" by Michael H. Glantz, in *Oceanus* (Summer 1984), Woods Hole Oceanographic Institution, Woods Hole, Mass. 02543.

An increase in shark attacks off the coast of Oregon. Drought in Sri Lanka. Windfall profits for Brazilian soybean farmers. What do these three phenomena have in common? All were cited in 1982 and 1983 as indirect effects of *El Niño* ("The Child").

El Niño is a complex meteorological phenomenon that occurs

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when, for reasons that are still unclear, the ocean surface off Peru and elsewhere in the southern Pacific warms up, touching off a series of dramatic wind and weather shifts. The global importance of *El Niño* only recently began to dawn on meteorologists, though its existence has been noted by ship captains and Peruvian fishermen for centuries, reports Glantz, a National Center for Atmospheric Research scientist.

After *El Niño* recurred during 1972–73, scientists began putting together a picture of its worldwide effects. Some were obvious. Global food production dropped in 1972 for the first time since the late 1940s. *El Niño*'s abnormally warm waters altered wind and barometric pressure patterns on a massive scale, producing droughts in Africa, Australia, Central America, and the Soviet Union. Some effects were subtle: Soviet crop failures prompted Moscow's massive grain purchases from the United States during the early 1970s, which temporarily furthered East-West détente.

The 1982–83 *El Niño* was "one of the most extreme on record," notes Glantz. It was also the first that scientists monitored as it was happening, allowing them to study more closely its "teleconnections," or linkages to other meteorological events.

El Niño appears at irregular intervals—notable occurrences were in 1891, 1925, 1934–41, and 1965—with different characteristics and effects each time. The 1982–83 *El Niño*, for example, was accompanied by heavy rains and storms in California, while earlier ones brought drought to the state. On the East Coast of the United States, the 1982–83 episode made for a much warmer winter than usual.

But Glantz adds a word of caution. Nearly every burst of strange weather everywhere on the globe during those two years was laid to *El Niño*. In fact, however, meteorologists are far from knowing for sure when bad weather results from *El Niño* and when mere coincidence brings the two together. And forecasts based on faulty guesses about such linkages, he says, are "worse than no forecast at all."

ARTS & LETTERS

A Rebirth of Jazz?

"Young Jazz Musicians" by Gary Giddins, in *Grand Street* (Summer 1984), 50 Riverside Dr., New York, N.Y. 10024.

Jazz in America is on the verge of a renaissance. Sadly, very few Americans are aware of it, writes Giddins, music critic for New York's weekly *Village Voice*.

Jazz moves in cycles, he notes. "Brief bursts of innovation alternate with longer stretches of consolidation." Inevitably, the public prefers the more accessible music from the more conservative eras. Louis Armstrong's innovative "hot" jazz of the 1920s was followed by commer-

cialized swing in the '30s; the bebop played by Charlie "Bird" Parker in the 1940s gave way to the more digestible "cool" sound in the 1950s; John Coltrane's avant-garde saxophone work of the 1960s was followed by popular jazz-rock fusion. If the cycle stays true to form, a new creative outburst is now due.

Giddins sees "an astonishing array of talent" in jazz today. But, so far, no leader with the stature of an Armstrong or Coltrane has emerged to lead a breakthrough. Even so, many of today's jazzmen are virtuosos, applying the avant-garde musical vocabulary to jazz and blues classics.

Unfortunately, none of these young players—saxophonist David Murray, pianist Hilton Ruiz, trumpeter Woody Shaw—get much of a hearing outside of Manhattan. There, a galaxy of nightclubs nourishes a lively jazz scene. But few promoters or major American record companies seek out jazz musicians, only a handful of radio stations play their music, and few of the college campuses that hosted performances by the Modern Jazz Quartet or Gerry Mulligan during the 1950s exhibit much interest in such music today.

Ironically, outside of their Manhattan oasis, American jazz musicians find some of their most enthusiastic audiences overseas. The world's leading jazz magazine, *Swing Journal*, is published in Japan, and many top American jazz players are forced to record for tiny companies in Germany, Denmark, and Italy.

An exception to the general neglect is the 22-year-old trumpeter Wynton Marsalis, who recently won Grammy awards for his jazz and classical recordings. But Giddins is not optimistic about any jazzman's prospects for lasting public recognition. He recalls how one noted critic complained about the absence of prominent composers at a 1965 White House arts festival, even though a featured performer at the festival was Duke Ellington. To the critic, as to many Americans, the jazzman was invisible.

Shakespeare's Heyday

"William Shakespeare and the American People: A Study in Cultural Transformation" by Lawrence W. Levine, in *The American Historical Review* (Feb. 1984), 400 A St. S.E., Washington, D.C. 20003.

A young Frenchman attending a performance of one of Shakespeare's plays in a San Francisco theater in 1851 was astonished when the audience periodically burst into "shrill whistles and savage yells."

Such crowd reactions were not uncommon in 19th-century America, writes Levine, a historian at the University of California, Berkeley. Shakespeare was very much a part of popular culture. In Philadelphia during the 1810–11 theater season, the curtains rose on 88 performances, 22 of them Shakespearean plays. In New York City, 10 different versions of *Hamlet* were staged during the 1857–58 season. By the turn of the century, however, Shakespeare's very popularity would cost him his audience.

Theater audiences during most of the 19th century were "social

microcosms" of the United States, Levine says. The gentry occupied the boxes, in the "pit" were middle-class patrons, and the gallery was the preserve of the common people. Shakespeare's plays served as the centerpiece of programs that included minstrel shows, acrobats, and other entertainments; and the shows traveled far and wide. Makeshift stages in Western outposts such as Red Dog, Rattlesnake, and Hangtown drew some of the best Shakespearean actors that the East, and even Europe, had to offer. Just about everyone was familiar with Shakespeare, Levine notes. Countless intentional parodies, such as *Julius Sneezer*, attest to that.

Shakespeare was popular for a number of reasons. His plays wore well in a society that valued oratory, and they lent themselves to melodrama. Shakespeare also seemed to be in tune with American moral sensibilities. The words, "The fault, dear Brutus, is not in our stars, / But in ourselves," could just as well be those of Thomas Jefferson as of Cassius in *Julius Caesar*.

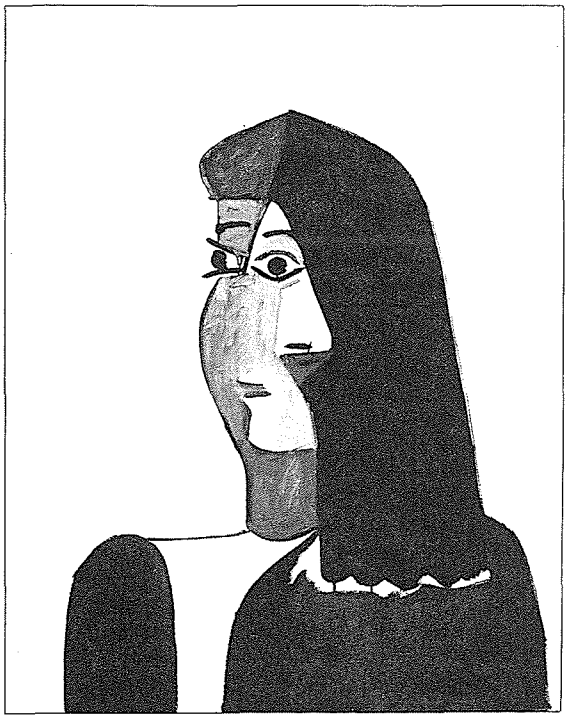
Yet, after the mid-19th century, "polite" culture gradually claimed Shakespeare for its own. Among the reasons: The masses of newly arriving immigrants demanded more entertainment that did not have to be heard to be enjoyed—boxing, burlesque, baseball. But Levine sees growing class divisions as the chief cause. Middle-class theatergoers lost their enthusiasm for popular showplaces, such as one in Philadelphia where the clientele was given to pelting the performers with rotten fruit and the management felt obliged to warn that "officers are appointed who will rigidly enforce decorum." So the well-to-do segregated themselves from their uncouth countrymen. And separate audiences, Levine notes, gave rise to separate cultures.

Picasso's Last Paintings

"The Catch in the Late Picasso" by John Richardson, in *The New York Review of Books* (July 19, 1984), P.O. Box 940, Farmingdale, N.Y. 11737.

During the last decade of his life, Pablo Picasso (1881–1973) fell from favor among art critics, and his works from that period are still not well regarded. But Picasso's friend and biographer, John Richardson, contends that they represent "a phenomenal finale to a phenomenal career."

In 1961, Picasso moved to a villa in southern France shortly after his marriage to Jacqueline Roque, the patient, protective (and much younger) woman whose presence henceforth dominated his life and work. After the move, the artist rarely left his immediate neighborhood, but he continued working vigorously until his death, guarded all the while by his wife. As in the past, the transformation in Picasso's life was mirrored in his work. Many of the paintings and prints of this period depict "baleful nudes flaunting their sexual parts." If some of these nudes and lovers often look like wrestlers, it is because Picasso "got hooked on *Catch*," the French version of staged television wrestling. *Catch* also contributed to "the general air of burlesque violence" in the late works.



Picasso's wife, Jacqueline Roque, was the model for his 1963 painting, Head of a Woman.

The "not very sexy" sexuality of these works is seen by many critics as a pathetic reflection of the artist's own waning sexual powers, but Richardson argues that Picasso used sex as a metaphor for the struggle, self-expression, and occasional comedy involved in the making of art. The vulgarity of what Picasso referred to as his "superreal" women—"hefty, smelly creatures" Richardson calls them—"threatened a generation nurtured on [abstract] art that had been deodorized and sanitized." In his eighties, Picasso could still shock even the avant-garde.

To charges that Picasso during these years borrowed from his artistic predecessors and executed his paintings clumsily, Richardson concedes nothing. Picasso, sure of his place in the history of art, felt no compunction about "cannibalizing" past masters, commenting on their work, and, as in the case of Edgar Degas, even inserting their likenesses into his own paintings. The seeming clumsiness of the style in these late works, Richardson insists, is nothing but an attempt to ensure that technique would not stand in the way of subject.

Often that subject was art. More often it was Jacqueline Roque. Her presence in Picasso's work during these years is rivaled only by her influence on his life. For that reason, Richardson says, this last of Picasso's great periods should be called *l'époque Jacqueline.*

OTHER NATIONS

Japan's Effective Public Schools

"Japanese Education: How Do They Do It?" by Merry I. White, in *The Public Interest* (Summer 1984), 20th & Northampton Sts., Easton, Pa. 18042.

In education, as in business, Americans are studying the "Japanese edge." If there is a "secret" to Japan's educational success, writes White, a Harvard sociologist, it is that the Japanese believe even more than Americans do in the importance of schooling.

The Japanese spare no effort to achieve educational excellence. Their school year is 60 days longer than the standard American 180-day term, and homework assignments are staggering by comparison. The far-reaching social consensus on education has allowed Tokyo to centralize school administration. Education outlays, amounting to 8.6 percent of the gross national product (versus 6.8 percent for the United States), are evenly distributed from community to community. Half of all education spending is financed out of national revenues.

Japan's system is best seen up close, says White. Teachers enjoy great respect. They are hired for life and earn about $2,000 per year more than other Japanese civil servants, though less than middle-echelon corporate executives. A teacher's duties extend far beyond the schoolhouse door: He oversees his students' vacation studies and frequently visits their homes.

The typical Japanese grade-school classroom is not quite what an American would expect, White reports. Children jump up and down, chatter about the teacher's questions, and shout out answers. To the teacher, White explains, enthusiasm is more important than quiet. (Japanese teachers spend about 10 percent of their time maintaining classroom discipline; American, 60 percent.)

But the real secret of Japanese education, White says, can be summarized in one word: "Mom." When children enter elementary school, their mothers begin parallel classes (called *mamajuku*) so that they can help the kids study. Standard equipment for the young student is an enclosed study desk—complete with built-in light, shelves, clock, and pencil sharpener—which is, in White's words, positively "womb-like." A popular accessory: a buzzer to summon Mom for help or a snack.

Surprisingly, the public schools do little to foster competition. Rarely is anybody allowed to fail or skip a grade; separate "tracks" for especially bright or slow students, common in U.S. schools, do not exist in Japan. But the pressure to perform is intense in the after-school *juku*, preparatory courses for college entrance exams. So important are these tests that some Tokyo hotels provide special last-minute study facilities, complete with "tension-release rooms."

In the heterogeneous United States, such a system would not work, White concludes. But there is a simple lesson Americans can learn: Total commitment to schooling by parents and educators pays off.

Democracy In Argentina

"Argentina and Democracy" by Edward Schumacher, in *Foreign Affairs* (Summer 1984), P.O. Box 2615, Boulder, Colo. 80321.

In October 1983, Argentinians surprised themselves when they made moderate Raúl Alfonsin their president. That historic election marked the end of a seven-year military dictatorship and, possibly, the long domination of Argentinian politics by Juan Perón and his followers.

Can Argentina finally shed its 50-year-old reputation as "the bad boy of the Western Hemisphere"? asks Schumacher, a *New York Times* correspondent.

The nation has considerable assets. Its people enjoy the third highest standard of living in the Western Hemisphere (behind the United States and Canada); "literacy is high, poverty low, and racial divisions hardly exist." Argentina is the world's third largest grain salesman. But it has long been plagued by political factionalism and economic woes. During the past 40 years, 46 cabinet economic ministers have come and gone. Inflation since 1976 comes to a "mind-boggling" 259,400 percent. The most frightening statistic of all: Argentina owes $45 billion to foreign banks, making it the world's third largest debtor, behind Brazil and Mexico.

Alfonsin must solve Argentina's economic crisis if democracy is to survive. Waiting in the wings is the military, which has unseated six civilian governments since 1930. Another adversary is the Peronist party, created by dictator Juan Perón, who ruled from 1946 to 1955, and again from 1973 to his death in 1974. The Peronists are a disparate lot, spanning the ideological spectrum from Left to Right, but their power base is in the nation's strong labor unions. Any move by Alfonsin to restrain wages or impose austerity plays into the hands of his political foes.

The new president has enjoyed some success in wooing the Peronist faction led by Perón's third wife, Isabel. The forced retirements of half the nation's admirals and generals strengthened Alfonsin's control over the military, already shaken by its defeat in the 1982 Falklands War with Britain. Yet Argentina's domestic economic problems are daunting, Schumacher notes, and they are compounded by the demands for sacrifice by overseas creditors and the International Monetary Fund. Without Washington's financial aid and intercession with Argentina's impatient creditors, he concludes, Alfonsin's prospects are bleak.

Egypt's Threatened Coptic Christians

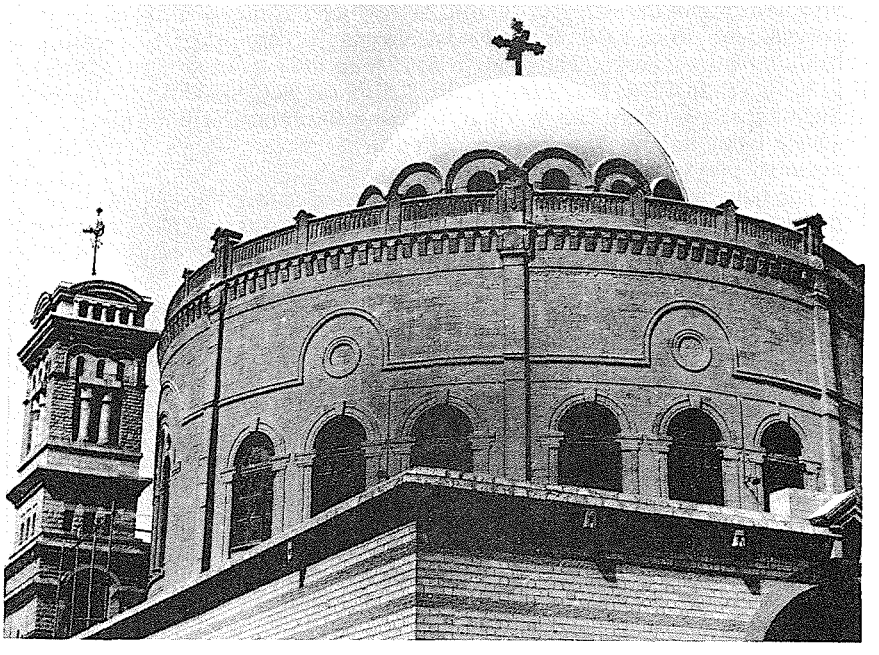
"Sectarian Conflict in Egypt and the Political Expediency of Religion" by Hamied Ansari, in *The Middle East Journal* (Summer 1984), 1761 N St. N.W., Washington, D.C. 20036.

Religious strife never seems to be far from the surface in the Middle East—between Muslims and Christians or Jews, and among Muslims. In Egypt, a long-standing truce between the Muslim majority and Coptic Christians has been showing signs of strain.

OTHER NATIONS

The first manifestations of the tension began to appear after Egypt's defeat in the 1967 Arab-Israeli war, notes Ansari, a Johns Hopkins scholar. To counteract what they perceived as the nation's moral drift and defeatism, Muslim fundamentalists began forming *jama'at*, fraternal groups devoted to traditional Islamic ways. The rise in Muslim religious fervor aroused uneasiness among the Copts, a Christian sect numbering in 1976 between 2.3 million (says the government) and eight million (say the Copts) in a land of 36.6 million. How much room would there be for a Christian minority in a fundamentalist Muslim Egypt? The Cairo government long restricted the number of Copt churches and forbade Copts to proselytize their Muslim countrymen. In 1971, their frustration compounded by anxiety over Islamic fundamentalism, the Copts elected a militant pope, Shenouda III.

Soon thereafter, isolated outbursts of Muslim-Christian violence began. Ansari argues that Egypt's President Anwar Sadat exacerbated the strains by exploiting Muslim religious passions for political advantage. Following a 1980 state visit to the United States marred by the protests of vocal Copt demonstrators living there, Sadat accused Pope Shenouda of conspiring to undermine "the Islamic character of the state" and of aiming to carve out a separate Christian state in Egypt.



St. George's Coptic Church in Cairo. Egypt's Coptic Christian Church was established under Roman rule and flourished under the Byzantine emperors. It went into decline after Arab Muslims invaded the country in A.D. 639.

Matters reached a head in June 1981, when Copts and Muslims clashed in a Cairo slum, and 17 people were left dead. That fall, Sadat felt obliged to crack down on both Christian and Muslim groups. He exiled Pope Shenouda, broke up militant organizations of both persuasions, and began to jail their leaders. To halt the arrests, members of the extremist Muslim Tanzim al-Jihad group gunned down Sadat on the sixth of October.

Egyptian President Hosni Mubarak seems to have learned the lesson of Sadat's death, Ansari says. He has a broad domestic political coalition and has avoided sectarian rhetoric. But Ansari fears that other Egyptian politicians may find it harder to resist appealing to Muslim religious passions to boost their own popularity.

Whither Sweden?

"The Rational Humanitarians" by Hans L. Zetterberg, in *Daedalus* (Winter 1984), American Academy of Arts and Sciences, P.O. Box 515, Canton, Mass. 02021.

For much of the 20th century, Sweden has served as the world's model of a welfare state. Now, however, it seems full of dire portents, writes Zetterberg, who heads the Swedish Institute of Opinion Research.

Sweden's welfare state is very much a reflection of the national character, he says, a special brew of rationalism and humanitarianism. Rationalism in the sense that the Swedes like to stick as close to facts as possible. "Political debate in Sweden deals primarily with technical questions," Zetterberg says. Swedes tend to be faintly embarrassed by discussions of values or religious faith.

Swedish rationalism and humanitarianism have become wedded to an unshakable faith in government that dates back centuries. In part because they were spared feudal rule and always had a voice in their government, Zetterberg says, the Swedes never developed deep skepticism about the state. They tend to "regard bureaucracy as reason and, therefore, justice incarnate."

That belief is a key ingredient in the nation's cradle-to-grave "organized humanitarianism." Medical and dental care are practically free, and no tuition is charged for education up to the Ph.D. level. The government gives newlyweds low-interest loans to set up housekeeping. The system imposes a heavy burden of taxation, but Zetterberg sees a more pernicious flaw. Humanitarianism of this kind, he says, "loses its heart." The average citizen "begins to believe that his fellows will be taken care of by the system without any effort on his part." Meanwhile, an overweening welfare bureaucracy increasingly segregates beneficiaries from everyday life. "Children are sent to day-nurseries; the unemployed, to retraining centers; . . . the aged, to old people's homes."

Zetterberg fears that despite its many triumphs, the Swedish welfare state will produce an enervated citizenry. "Today's nonmilitary high-tax society is about to give birth to the computerized, controlled one of tomorrow," he predicts. "We ought to be able to do better."

RESEARCH REPORTS

Reviews of new research by public agencies and private institutions

"Beyond Monetarism: Finding the Road to Stable Money."

Basic Books, 10 East 53rd St., New York, N.Y. 10022. 270 pp. $16.95.
Author: Marc A. Miles

In August 1971, President Nixon shut the U.S. gold window, declaring that Washington would no longer redeem foreigners' dollars for gold. Two years later, Washington pulled out of the fixed international exchange rate system established under the 1946 Bretton Woods Agreement. In October 1979, Federal Reserve Board Chairman Paul Volcker announced that the board would adopt "monetarist" policy prescriptions.

All of these events were landmarks on the road to disaster, argues Miles, a Rutgers economist and self-described "supply-sider."

Today's inflation rate, finally cut to between four and five percent after a deep recession, is still more than double the average rate during the 1946–71 period. And not since the mid-19th century have *interest* rates approached the levels of recent years.

Miles blames monetarism most of all for the instability of the dollar in recent years. Monetarists, led by the University of Chicago's Milton Friedman, hold that the key to fighting inflation and promoting economic growth is a slow, steady increase in the nation's money supply. But Miles sees a number of flaws in this view.

The Federal Reserve Board, he argues, does not really control the money supply. Within the United States, its powers are substantial, but the dollar is a global currency. European banks with dollars in their vaults escape the Fed's regulation, and they can "create" new dollars at will simply by making loans denominated in U.S. currency.

How large is this "Eurodollar" market? In December 1982, Americans had $350 billion in their checking accounts; Eurodollar deposits overseas totaled $291 billion.

Miles also asserts that while monetarists have "burned up a lot of computer circuits" trying to confirm their theory, there is no real proof that changes in the money supply affect inflation, interest rates, and economic growth. It is far more likely that money supply fluctuations are the *effect*, rather than the cause, of changes in these indices.

By focusing on the quantity of money, Miles continues, the Federal Reserve Board has ignored the most important question Americans ask about the dollar: How much is it going to be worth in the future?

The Federal Reserve, he argues, should concern itself with prices, not the money supply. It could do that by buying and selling designated commodities to ensure that their prices stay constant.

Many of his supply-side colleagues favor a gold commodity standard, but Miles favors a "market basket" of commodity futures (e.g., wheat, potatoes) and, to stabilize interest rates, long-term U.S. Treasury bonds. The Federal Reserve would set a target rate of, say, five percent interest on the bonds. If rates rose higher, it would sell bonds; if they dropped, it would buy bonds. No effort would be made to control the money supply.

Fixed international exchange rates might be necessary to restore America's economic health, Miles adds, but the first step is to concentrate on achieving price stability.

"The Reagan Record."

Urban Institute, 2100 M St. N.W., Washington, D.C. 20037. 415 pp. $12.95.
Editors: John L. Palmer and Isabel V. Sawhill

During his first four years in office, Ronald Reagan's chief accomplishment was to change the terms of debate on U.S. social policy. He shifted public (and congressional) attention from new domestic programs to self-help and budget cutting. The results, according to this Urban Institute study, are sometimes surprising.

Hardest hit were the working poor, who benefited little from Reagan's tax cuts, suffered most in the 1981–82 recession, and were further afflicted by curbs on social programs.

In 1982, a total of 34.4 million Americans were living in poverty, as officially defined. Under Reagan, "the rich got richer as the poor got poorer," say the authors. However, "the safety net is still largely intact for the non-working poor," notably single mothers and the elderly. Moreover, most of those able-bodied Americans (some 500,000 recipients of welfare checks and almost one million potential food stamp recipients) who were deprived of benefits by Congress continue to work instead of reapplying for government assistance.

Reagan's tax policy had similar results. It did not favor poorer Americans by conferring immediate benefits, but spurred the work ethic that Reagan believes is their best long-term hope. Tax cuts gave the poorest families a reduction of only three dollars a year, while bestowing $2,429 on families in the wealthiest 20 percent of U.S. society. But the tax reductions encouraged greater work effort generally, by offering incentives to people to toil longer hours or to seek higher and more challenging positions since the "net financial rewards" for work had increased.

Coupled with higher Pentagon budgets, however, the tax concessions produced "unprecedented peacetime [budget] deficits." The national debt incurred over the past four years will nearly equal the sum of all previous debt in U.S. history. The 1981 cumulative national debt of less than $800 billion will swell to more than $1.5 trillion in 1985.

The authors observe that Reagan blames former presidents for the high inflation (12.4 percent in 1980) and unemployment (seven percent) that he faced when he took office. In fact, they say, these difficulties were largely the product of the international oil crises of the 1970s and, thus, beyond the control of the United States.

Reagan's White House also claims successes that were not of its own doing. For the 8.6 point drop in inflation between 1980 and 1983, the authors say, Reagan must share credit with "good luck and the Federal Reserve [Board]." Half the decline came at the cost of a severe "tight money" recession that produced 11 percent jobless rates in 1981–82. Another third came from favorable shifts in food, energy, and import prices.

Many of Reagan's more dramatic reform moves were blocked or blunted by Congress or the courts, note the authors. The Food Stamp Program, slated by the White House for 51.7 percent cuts over four years, was sliced only 13.8 percent by Congress. Indeed, most of the Reagan policies (e.g., changing federal enforcement of civil rights) have been mandated not by Congress but by executive action, meaning that future presidents can easily reverse many steps taken during the "Reagan Revolution."

The Belgian painter René Magritte was a champion of surrealist art, which aimed at expressing the imagination as revealed in dreams, free of conscious control. Does a work such as his 1937 Le principe du plaisir *(The pleasure principle) suggest that the artist had a "mind"? If so, must such a "mind" be human? Could a computer have had Magritte's vision—and put it to canvas?*

The Mind

The first philosopher in the Western tradition was probably Thales of Miletus. Pondering the world around him in the 6th century B.C., he decided that everything is composed, in one way or another, of water. After Thales, things became more complex.

Later Greeks added other fundamental elements: air, earth, and fire. Then came Socrates' teacher, Anaxagoras. He argued that all the elements were directed by something even higher: *nous* (mind), the "purest of all things." Ever since, philosophers have puzzled over the mystery of the mind.

Does it exist? If so, how does it relate to the material world—including that mass of maybe a trillion nerve cells that is the human brain? Or is it a mirage, no more than an idea that *Homo sapiens* (Man the knower) developed in the prescientific era to explain the capacity for thought, feeling, and deliberate action that marks him off from the rest of nature?

Mirage or not, changing notions about the mind and the nature of reality have been important all through history. The foundations of religion, already weakened by the Reformation, were further shaken by Thomas Hobbes's argument that all is matter, the soul is a chimera, and free will an illusion ("nothing taketh a beginning from itself"). The growth of modern science both spurred and was spurred by the ideas of John Locke and other 17th-century Empiricists concerning the veracity of human perception. Metaphysical theories have shaped views about personal responsibility, and crime and punishment.

Even so, the mind faded as an object of academic curiosity in Europe and the United States some years ago. In the 1920s, psychology was claimed by the "behaviorists," who said that human actions can be studied solely in terms of stimulus and response, reflecting a Hobbesian view that people are basically automatons. Philosophy also left the mind off its agenda, especially after Gilbert Ryle blasted "the dogma of the Ghost in the Machine" in his 1949 polemic, *The Concept of Mind.*

Lately, the mind—or, rather, interest in the mysteries it represents—has made a comeback. On campus, philosophy courses

are regaining popularity, and behaviorism is giving way to cognitive psychology, the study of the thinking processes. Meanwhile, new perspectives on the long closed world of mental operations are being provided both by advances in the neurosciences and the explosion in information technology. The question raised by HAL, the willful computer in the 1968 film *2001*, is getting serious attention: Can a machine have a mind?

Here, Richard M. Restak reviews the philosophers' struggle with the idea of the mind, Robert J. Sternberg explores the promise of cognitive psychology, and Robert Wright assesses the hopes that information technology may yield "artificial intelligence."

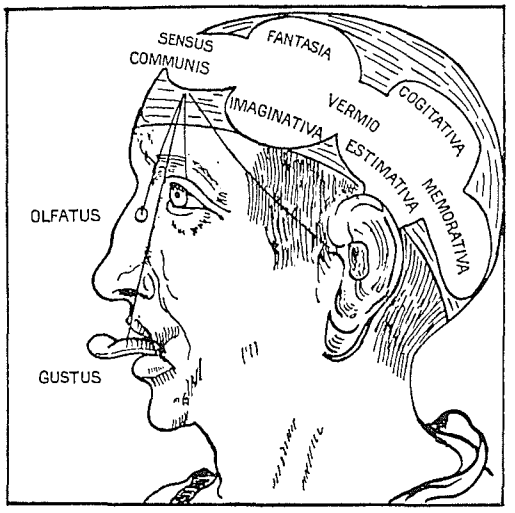
IS THIS CAT NECESSARY?

by Richard M. Restak

Someone once described a philosopher as a blind man in a dark room looking for a black cat that was not there. If the author was referring to a philosopher trying to define the human mind, he may have had a point.

At first glance, a definition of the mind seems obvious. After all, we speak of it daily. We talk of making up (or losing) one's mind, call some of our neighbors "mindless," and sometimes suggest that one of our nearest and dearest does not "know his own mind." But mostly, we use the word as shorthand for memory, feeling, intelligence, reason, perception, judgment, or something else. Do we add anything to our discussion when we speak of the mind instead of talking more specifically of, say, thinking or remembering? Or is the mind such a vague concept that, despite our best efforts, we are like the blind philosopher stumbling around a darkened room?

One reflection of our difficulty with the mind is the fact that there is no exact word for it in some languages—even German, the medium of many philosophers and of the founders of psychology. When Immanuel Kant was trying to create an anatomy of the mind for his *Critique of Pure Reason* (1781), he found that he could not even *invent* a precise term for the matrix within which, he claimed, are embedded sensibility, understanding, reason, and judgment. When they talk of the mind, Germans



The 16th-century Dominican friar Johannes Romberch saw the mind as a series of "faculties" that processed information received by the senses.

sometimes use the quaint term *Gemüt*, which refers to a person's nature. On other occasions they favor *Seele*, which corresponds to the Greek *psyche* and to soul in English. Then there is *Geist*, or spirit.

But none of these is quite right. Many who seek to understand the mind do not believe in a soul. And what exactly is spirit? Despairing of a satisfactory definition, some thinkers have decreed the black cat out of existence. In *Philosophy and the Mirror of Nature* (1979), the American philosopher Richard Rorty dismissed the mind as "just a blur—the sort of thing you get when you lay tracings of two delicate and complicated designs down on top of each other."

But if the mind does not exist, why was it necessary to invent it? And when did the invention take place?

No one will ever know if the idea first occurred to some cave man contemplating his image on the surface of a pond. But the earliest writing showing an awareness of something like what philosophers later called the mind is a series of "dream books" composed on clay tablets by the Assyrians in the fifth or sixth millenium B.C. These deal with dreams about death, the loss of teeth or hair, even the shame of finding oneself naked in public—all matters implying belief in a personal identity.

A society's view of dreams may be a measure of its sophistication about the mind: A belief in the reality of dream content implies a failure to distinguish fantasy from reality, without

which a concept of mind is impossible. Primitive man, as philosopher Charles W. Morris noted in *Six Theories of Mind* (1932), "makes no sharp distinction between mind and nature, between a private and subjective life of consciousness and an outward world of corporeal events. There is no formulated problem as to how mind and nature can interact, or how mind can know a world that is not mind."

The ancient Egyptians' preoccupation with a god of dreams, Serapis, probably coincided with a concern about the relation of the body to the mind or spirit. Their observation that life depended on breath, and that death coincided with the cessation of respiration, provided the basis for a belief that the spirit dwells within the body but does not depend on it for existence. It was the spirit that required the food, jewels, games, and other items found in Egyptian tombs.

To the early Greek philosophers, the mind was pivotal in the maintenance of order and reason in the world. Anaxagoras declared it the ruler of "the whole revolving universe," which mind had put in motion "in the beginning." Plato went further, saying that the mind was not only immaterial but separate from the body, which it governed. But while the Greeks generally believed that the body was involved with the senses and conscious awareness, and that the mind's realm was knowledge, language, intelligence—and, most of all, reason—it was left to others to develop the problem that bedevils philosophy today.

The 'Third Eye'

That is the so-called mind-body problem. It dates from the 17th-century work of the first modern philosopher, the French scientist and mathematician René Descartes. Aiming to tear down the authoritarian ideas of medieval church philosophers and construct a basis for the advancement of science, Descartes argued in his *Meditations* (1641) that if all assumptions about reality are tested, there is only one assertion that is not open to doubt: that man thinks. The one proof of existence, he concluded, was consciousness: "I think, therefore I am."

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He said that the world was composed of both matter and immaterial spirit. Man's body hosts a "rational soul," or mind, which Descartes put in the pineal gland in the brain. Perception did not depend on the organ doing the perceiving. It was this "third eye" that evaluated events in and beyond the body.

In Descartes's day, when the brain's chemical and electrical workings were unknown, that was an arresting argument. He did not explain how matter and something immaterial could interact, in defiance of all known laws of nature. But his idea that somewhere humans have an inner observer who "experiences" and comments upon events in the surrounding world survived. This assertion of the existence of two interdependent but fundamentally incomparable aspects of reality, mind and matter, is known as dualism. Its legacy is a series of questions. Is the mind different from the brain? Can a computer have a mind? What is the role of consciousness in a theory of the mind?

The dualist view was taken to extremes by Bishop George Berkeley, the Irish-born, 18th-century Idealist philosopher. He maintained that the material world really does not exist: It simply consists of images in the mind, and God is the source of all perception. Said Berkeley: "To be is to be perceived."

Berkeley's Idealism was hard to come to terms with, as James Boswell's account of Samuel Johnson's riposte showed: "Striking his foot with mighty force against a large stone till he rebounded from it, 'I refute it *thus*!'" Of course, all that Johnson knew of the stone was his own experience of it—precisely Berkeley's point.

How, in fact, does one prove that a thing exists apart from somebody's perception of it? The British theologian and novelist Ronald Knox limned the problem in a pair of limericks:

There was a young man who said, "God
Must think it exceedingly odd
    If he finds that this tree
    Continues to be
When there's no one about in the Quad."

Dear Sir:
        Your astonishment's odd.
I am always about in the Quad.
    And that's why the tree
    Will continue to be,
Since observed by
    Yours faithfully,
    God.

The Scotsman David Hume tried to resolve the mind-matter dilemma with an agnostic brand of Idealism called Skepticism. He argued that the mind was just "a bundle" of different perceptions, whose "ultimate cause is perfectly explicable by human reason." But in a moment of candor rare for a philosopher, Hume admitted continuing puzzlement: "I dine, I play backgammon, I converse and am merry with my friends; and when, after three or four hours' amusement, I return to these speculations, they appear so cold and strained and ridiculous that I cannot find in my heart to enter into them any further. . . ."

The Beetle in the Box

Well before Hume's time, the influence of religion was waning. Indeed, Berkeley's Idealism was meant to counter the efforts of various 17th- and 18th-century thinkers to expel the mind from the debate about reality. Spurred by such works as Thomas Hobbes's *Leviathan* (1651) and the ideas of the French philosopher Julien de La Mettrie, who viewed man as a soulless creature ruled by the laws of nature, materialism—the proposition that only matter and energy exist—took hold.

By the late 18th century, the German dramatist and scientist Johann Wolfgang von Goethe suggested an alternative to haggling over the mind's "nature." He argued that it is only truly revealed in action: "We exert ourselves in vain to describe the character of a human being; but assemble his actions, his deeds, and a picture of his character will confront us."

This emphasis on behavior has parallels in the Eastern philosophies, particularly Zen Buddhism, which takes the view that one is as one does. Goethe introduced in the West the idea that, as the late Walter Kaufmann of Princeton observed in *Discovering the Mind* (1980), "man is his deeds, that mind is what it does, and that the way to discover the mind is not through concept-mongering, but through experience."

Experience implies development, a possibility ignored by earlier thinkers. In Kant's work, for instance, there is, as Kaufmann notes, "no inkling that the mind might change in the course of history, not to speak of biological evolution or the course of a person's life." The notion of a developmental mind would be central for later theorists, notably for the Germans who launched psychology in the 19th century and for Jean Piaget, the 20th-century Swiss student of child development.

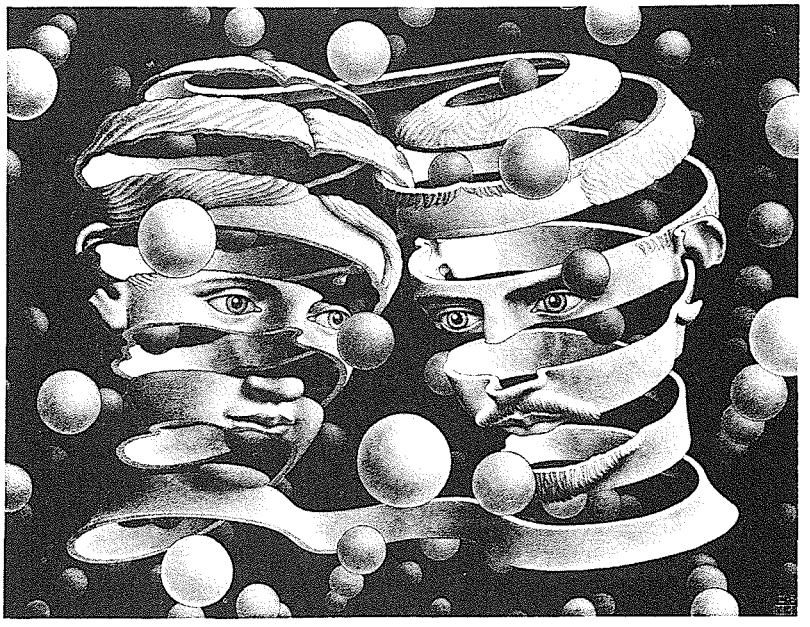
If the mind develops over time, as such men believed, it is best understood as a process, rather than as an entity of some kind. The correct way to proceed, therefore, is to study feelings,

emotions, desires, thoughts, and fantasies. The mind is all of these, yet it cannot be precisely defined by reference to any one of them alone.

To the psychiatrist, "mind" is synonymous with emotions; to the cognitive psychologist, it refers to the ways we perceive and process information; to the philosopher, it involves reason and logic. Each of these specialists focuses on a different aspect of man's mental life, and each one, like the proverbial blind men palpating the elephant, is convinced that his conclusions are the basis for broad generalizations.

Viewing the confusion raised by these approaches, some philosophers have contended that the existence of the mind is so *obvious* that no proof is required. Certainly it is difficult to disagree that there is something unique about what New York University philosopher Thomas Nagel calls the "subjective character of experience." If we wish to know the mind, we have merely to close our eyes and experience a state of utter subjectivity.

Yet when we try to describe what we experience by introspection, we run into trouble: Language cannot adequately express it. Moreover, what we learn cannot be verified in any way.



Philosophical issues fascinated the Dutch artist M. C. Escher. The figures in his 1956 lithograph Bond of Union *might be musing over a metaphysical question: Is the world—other people, even the universe—all in the mind?*

DEFENDING THE 'GHOST'

Just as most thinkers in the past saw the mind as a mysterious immaterial essence, most of those who ponder metaphysics today hew hard to some sort of materialism, a view that everything "mental" will eventually be explained in terms of physical laws. Two vigorous dissenters are Sir John Eccles, the Australian neurobiologist who won a Nobel Prize in 1963 for his work on showing how electrical impulses are transmitted in the brain, and Daniel N. Robinson, professor of psychology at Georgetown University.

In *The Wonder of Being Human* (1984), they argue that the most ardent materialists aim to "show that our ageless talk about the mind, feelings, and the like is but a vestige of religiomagical ignorances. It is finally 'ghost talk,' whose vocabulary will be properly translated by the findings of science, and thereupon eliminated from philosophically polite discourse." If the materialists have their way, they say, "all religions will finally be seen as the mythologies they are, and, apart from literary purposes, we will speak of the 'human condition' in the precise and morally neutral language of physiology."

What is new about this "nonsense," Eccles and Robinson maintain, is only "the willingness of otherwise sensible men and women to accept it." It was to underline his dismay about materialism in the 18th century, they say, that England's Bishop George Berkeley pressed his Idealism: the proposition that all one can really know of anything is what is in one's mind, such as a perception, an image, a thought, a memory—in short, an idea. Far from needing a material brain to have a mind, he argued, one first had to have a mind to know anything about matter. Berkeley's Idealism, say Eccles and Robinson, "was designed not to make us skeptical about the 'real world' but to show us how such a world is literally and factually unimaginable in the absence of mind."

Asked about Idealism today, modern materialists are apt first to dismiss it as "rubbish." But finally, the authors say, they are likely to make the same objection to it that modern dualists do, which is simply that it does not square with common sense: It "does not satisfy our deepest intuitive understandings of the relationship between ourselves and the world around us."

But materialism, the authors insist, fails the same test: Any view "that obliges us to deny the existence of thoughts, feelings, motives, will, memory, imagination, moral sensibility, and consciousness is false *because* it is incredible. For it to be incredible, there must be disbelief and, therefore, belief."

Thus, "arguments seeking to reduce mind to matter or to eliminate it altogether are self-defeating precisely because they are *arguments*." To argue is to believe. And to believe, Eccles and Robinson would have it, is to have a mind.

When someone looks into himself, the Austrian philosopher Ludwig Wittgenstein suggested, he encounters a "beetle in a box" that he alone can see. No one can enter into the consciousness of another and experience his "beetle." Introspection, as a proof of the mind's existence, is therefore a blind alley, bordered on one side by a vicious solipsism ("only *I* exist") and on the other by a hopeless agnosticism ("Who are you to tell me what I am feeling or thinking? Or I to tell you, for that matter?"). The existence or nonexistence of the mind thus becomes a puzzle worthy of Kafka.

Materialism and Machines

Attempts have been made to accept the situation, to say that the mind is simply an "immaterial substance." But does this make sense? Inflation, poverty, and health are not "substances" or "things" but, rather, terms to describe aspects of reality. In order to use the word *poverty*, most people do not mentally envision a ghostly substance that somehow exists outside of perceptual awareness. Yet when it comes to the mind, many thinkers persist in treating it as a specific entity, much as they might speak of a chair or a mountain range. What they are doing, however, is confusing a thing and a *process*.

This confusion permeates our language and culture. Colin Boakemore's *The Mechanics of the Mind* (1977) and Anthony Smith's *The Mind* (1984) are two popular books that are actually about brain research, neurophysiology. The titles imply that by studying the *brain* one can learn something about the *mind*—that it is something that can be taken apart, tinkered with, perhaps even tuned up.

The mind-as-mechanism idea persists even among scientists. In the 1950s, the British philosopher Charles Dunbar Broad observed that "if a man referred to his brother or to his cat as 'an ingenious mechanism,' we should know that he was either a fool or a physiologist. No one in practice treats himself or his fellow man or his pet animals as machines." Yet, he added, scientists "seem often to think it their duty to hold in theory what no one outside a lunatic asylum would accept in practice."

The mind-as-machine view has, nevertheless, received some support from studies of brain injuries. Damage to parts of the brain can produce mental impairment. Intelligence, memory, language, motivation, perception—all can be affected by an injury. Indeed, consciousness, basic to any theory of the mind, depends on a thumbnail-sized area in the brain stem; brain-surgery patients, who are usually kept awake during oper-

ations since no pain is felt when the brain is touched or cut, have lost consciousness when this area has been pierced by a probe.

It is thus tempting to declare that the mind is simply the brain and put an end to 2,000 years of speculative philosophy—despite the fact that the mind involves a series of activities that, now at least, cannot be explained in purely neurobiological terms. This declaration was made by the behaviorists, who decided that the mind was irrelevant and demanded that psychology restrict itself to what can be observed. While a generation of psychologists explored the workings of stimulus and response, "Skinner boxes," and maze-running rats, they ignored decision-making, changes of "heart," resolutions, religious conversions, and other mental operations that occur in the absence of any observable behavior.

By the 1960s, these and other weaknesses of behaviorism led materialist philosophers to new ways of explaining away the mind and mental phenomena. One argument was that, to understand the mind, one need only discuss matter and its "transformations" into sensations, images, memories, and other manifestations. Today, the most common expression of this position is the "central-state identity theory," which holds that the mind is nothing more than the state of the brain at any given instant. In this view, it is at least theoretically possible to infer thoughts from observations of changes within the brain, since the brain and the mind are identical.

This theory has several interesting implications. If the mind is indeed nothing more than a manifestation of one material substance (the brain), then there is nothing precluding the development of a mind within other material bodies (the silicon chips of a computer). To the committed materialist, when one achieves a sufficient degree of complexity in an "artificial-intelligence" machine—presto!—mind will emerge.

The 'Criteria Question'

The difficulty here stems from a persistent problem: the lack of firm criteria for defining what the mind is. If a machine achieves a mind-like status, how is it to be recognized?

John McCarthy of Stanford, a pioneer in the artificial-intelligence development effort, has this to say on the subject: "Machines as simple as home thermostats can be said to have beliefs, and having beliefs seems to be a characteristic of most machines capable of problem-solving performances." His point is that, since machines can be said to hold beliefs, a feature of the human mind, they too can be said to have minds.

René Descartes, here in a 17th-century engraving, believed that those who pursue philosophy should do nothing else: He sold the French estates he had inherited so as to be able to think "without cares or passions to trouble me."

Ponder the implications of this view. If thermostats possess beliefs, then the same could probably be said for automated doors, microwave ovens, surface-to-air missiles, burglar alarms, and other labor-saving mechanical devices—perhaps even toasters, which "decide" when the bread is done. The list of things with beliefs might finally include just about everything.

Which is no help at all. Instead of clarifying our ideas about mind, notes philosophy professor John R. Searle of the University of California, Berkeley, the thermostat-as-mind argument only confuses the issue. "For now the mind is everywhere. What we wanted to know is what *distinguishes* the mind from thermostats."

In recent years, several philosophers and artificial-intelligence specialists have tried to specify qualities that serve as criteria for defining the mind. Among the candidates, besides the holding of beliefs: purposeful behavior, "intentionality" (e.g., the ability to desire or choose), and a capacity for conscious, subjective experience. Some have suggested conscious awareness—though this falls afoul of the fact that when we are not conscious (as in dreamless sleep), we do not lose all of our beliefs and, say, cease to be Republicans or to desire world

peace and universal brotherhood. Beliefs, or attributes such as jealousy, often operate outside of awareness, becoming conscious only at times.

Cognitive psychology and neurophysiology have only recently conferred scientific respectability on the insight that many important components of the mind remain permanently outside of awareness. In a word, we are denied *accessibility* to our own internal acts. Although it was Sigmund Freud who first popularized the notion, belief in *unconscious* actions is not at all limited to psychoanalysts. "A great deal of our thinking proceeds without conscious awareness," writes Oxford philosopher Stuart Hampshire. "In the exercise of the use of language itself and in many of our skills, we are thinking preconsciously, working things out without knowing how we worked them out, or by what steps we arrived at the conclusion."

The Great Mistake?

Consider an example cited by Bertrand Russell. "Suppose you are out walking on a wet day, and you see a puddle and avoid it. You are not likely to say to yourself: 'There is a puddle; it would be advisable not to step in it.' But if somebody said, 'Why did you suddenly step aside?' you would answer, 'Because I didn't wish to step into that puddle.' You know, retrospectively, that you had a visual perception, and you expressed this knowledge in words. But what would you have known, and in what sense, if your attention had not been called to the matter by the questioner?"

A proposed answer to the failings of consciousness and self-awareness as measures of the mind is to consider the mind as a form of information. In *God and the New Physics* (1983), physicist Paul Davies argues that "if the mind is basically 'organized information,' then the medium of expression of that information could be anything at all; it need not be a particular brain or indeed any brain. We are 'messages in circuitry,' and the message itself transcends the means of its expression."

Despite the appealing simplicity of this argument, it remains obvious that mental operations involve more than information. The essence of what we call the mind often consists of deciding what to do with information already at hand.

Machines, too, exhibit dualism: They are often engaged in activities that cannot be described in mechanical terms. "If a computer is carrying out mathematics," says Richard Gregory, professor of neuropsychology at the Brain and Perception Laboratory at England's University of Bristol, "you need mathemat-

ical concepts to describe what is going on; electronics is not adequate, mechanics is not adequate. So there's a dualism in a machine, but not a metaphysical dualism in the sense of a hovering mind affecting a machine. But rather that the procedures carried out by the machine are richer than and different from the mechanical and electronic processes described by the engineer, and I think this is also true of the brain."

This separation between physical structures and processes carried out by these structures applies to both machines and brains. The brain is a physical structure, yet it also carries out many processes—thinking, remembering, and the other activities that Descartes describes as *res cogitans*. What is gained, in the end, by bundling these processes and labeling the resulting mélange "the mind"?

The *invention* of the mind is not only unnecessary, but illogical as well. To introduce the mind when discussing neurophysiology or the mechanics of computers is to engage in what philosopher Gilbert Ryle, in his 1949 attack on dualism, *The Concept of Mind*, called a "category mistake": equating terms that actually are of different logical types. Contrasting mind and matter, Ryle suggested, is as illegitimate as would be the contrast of "'she came home in a flood of tears' and 'she came home in a sedan-chair.'"

To talk of the relationship of the mind to the brain, or the mind to a computer, is to make just such a category mistake. Thinking, remembering, reasoning, perceiving—such processes result from the activities of brains and, in recent times, machines as well. But these processes are not equivalent to a thing—the mind—any more than the flight of a swan can be considered a thing somehow separate from the swan itself.

Why postulate, as so many have, the existence of a "mind" interposed between a mysterious mental process and the brain, or computer, that makes such a process possible?

REINVENTING PSYCHOLOGY

by Robert J. Sternberg

Most of us spend much of each day thinking—about our work, the world we live in, and whatever comes to our attention. Cognitive psychologists are scientists who think about thinking itself. Can we identify the mental processes involved? If so, how do we use them? How might we improve them?

Serious people have been pondering the nature of thought for centuries. As a scientific pursuit, however, the study of thinking—cognition—is relatively new.

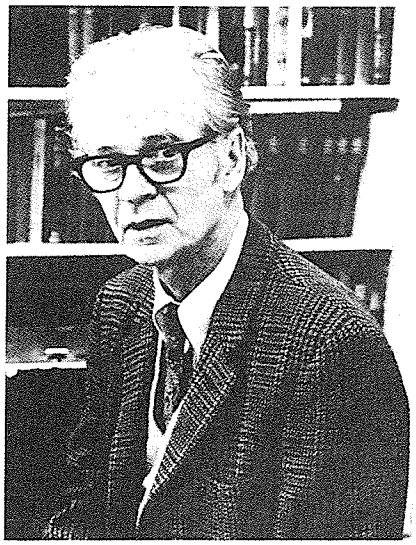
When Wilhelm Wundt, the German experimental psychologist, launched what he called the science of immediate experience during the late 19th century, scientific study of all kinds was flourishing. Physics, the most "objective" of all the disciplines, was probing the mysteries of matter and energy. But man, too, was a subject of wide interest, spurred in part by Charles Darwin's theory of evolution through natural selection. Physiologists approached the human body as an apparatus ruled by the laws of physics and chemistry. The psychologists, aiming to be as methodical as anyone else, also dealt with man as mechanism—*l'homme machine* as 18th-century philosopher Julien de La Mettrie put it. They focused on the observable and measurable. A distance was to be kept from what the founder of psychoanalysis, Sigmund Freud, would call "psychic reality."

But how to explore the mind's workings? In 1868, the Dutchman Frans Donders suggested that a start be made with a "subtraction method." For instance, he said, the time required to add two one-digit numbers could be found by subtracting the time it took to add four such numbers from the time needed to add five. Donders studied many mental operations in this way.

Modern cognitive psychology might have developed from that simple beginning, but it did not. Donders's work was attacked.

Critics argued that his method was scientifically invalid; there was a chance that subtraction itself altered the mental operation being studied. Enough psychologists shared this and other worries to abandon Donders's approach.

Psychology then took divergent paths. One was the stimulus-response approach championed by John B. Watson, in *Behaviorism* (1925), and further developed by Harvard's B. F. Skinner and others. To the behaviorists, mental processes were



The 19th-century German Wilhelm Wundt launched psychology as the study of mental processes; Harvard's B. F. Skinner and others shifted the focus to behavior, but now the science is again dealing with processes.

largely irrelevant. They aimed to explain behavior wholly in terms of punishment and reward, carrot and stick. This idea seemed to promise "results," and came to dominate psychology, especially in the United States and the Soviet Union.

The other path was the Gestalt, or "holistic," approach of the Germans Wolfgang Kohler and Max Wertheimer. They thought mental processes critical to organizing information provided by the senses, but hard to analyze. And even if one knew all the mind's processes, they said, one still would not understand mental performance well; the whole is greater than its parts.

The behaviorist and Gestalt camps debated for years over who best advanced the science. But by around 1960, the debate was stale. It was apparent that behaviorism just was not going to tell us much about how people handle complex functions, such as learning languages and solving problems, because it ignored the mental processes involved. Bothersome too was the behaviorists' denial of the existence of anything like free will—a fact that stirred novelist Arthur Koestler to blast behaviorism as "a monumental triviality that has sent psychology into a modern version of the Dark Ages." Holistic theory, for its part, seemed merely to redescribe mental phenomena, rather than ex-

plain them. Psychology was ready for a new approach.

As so often happens in science, a number of psychologists began to see things in a new way at the same time. By the late 1950s, Herbert Simon of Carnegie-Mellon University, George Miller at Harvard (now at Princeton), and others were urging renewed emphasis on cognition. The way to understand mental functioning, they said, was to understand mental processing.

By then, sophisticated research tools were available. The computer offered not only new ways of running tests, but also the possibility of simulating human cognition. Precision instruments improved experimentation. Saul Sternberg of Bell Laboratories was able to show how an alternative to Donders's century-old subtraction method could isolate mental processes without raising the doubts that Donders's tests had: In 1966, he measured operations taking as little as 40 milliseconds—the time required to compare a digit on paper with the mental representation of a digit in the head.

Thus equipped, psychologists were ready to probe cognition deeply. What kinds of things could they learn?

Consider this problem of analogy:

WASHINGTON is to ONE as LINCOLN is to
(a) FIVE (b) TEN (c) FIFTEEN (d) TWENTY

Analogies have long served as a basis for measuring intelligence. Early in this century, the study of mental ability was based chiefly on "factor analysis," a statistical method of relating intelligence-test scores to mental ability. If some students take tests in vocabulary, reading comprehension, figural analogies, and letter-series completions, those who test well (or poorly) in vocabulary might be expected to do the same in reading; ditto for figural analogies and letter series. This suggests that there are underlying verbal and reasoning "factors." Factor analysis has confirmed this.

But factor analysis could not take psychology very far. Tests could not prove one factoral theory of mind to be better than others, or even to be false; in science, a theory is not deemed worthy of attention unless it can be proven wrong if it is wrong. Factor analysis also just did not say much about the processes underlying intelligence: Merely to say that a good analogy-

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solver has strong reasoning ability means little.

Cognitive psychology deals with intelligence by separating reasoning into components. Faced with analogies such as the one above, people perform four main processes before they answer.

Encoding, which translates a stimulus into a mental representation. Here, one might encode the information that WASHINGTON was a president, is on a bank note, and was a war leader.

Inference, which finds a rule that relates the first term of an analogy to the second. The relations between WASHINGTON and ONE: He was the first president, is on a $1 bill, and was a leader in the first major American war.

Mapping, which finds a " higher order" rule relating the two halves of the analogy. Both WASHINGTON and LINCOLN are presidents, faces on bills, and war leaders.

Application, which generates a rule that forms a correct answer and rejects the alternatives. Here, the answer is (a) FIVE, reflecting LINCOLN's image on the $5 bill.

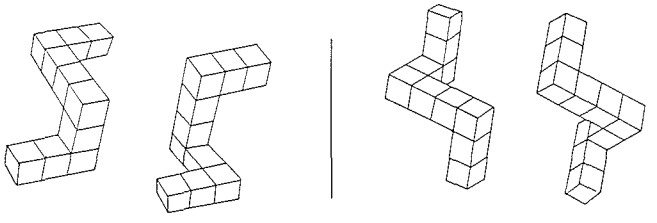
By analyzing processes in this manner, cognitive psychologists have addressed many questions. Some of the problems that have come under study:

- How long does thinking take? The time required by a mental process can be measured. For some verbal analogies, I have found that people tend to spend roughly 54 percent of their time encoding the terms, 12 percent inferring relations, 10 percent mapping higher order relations, seven percent applying relations, and 17 percent in giving the answer. If an analogy is solved in five seconds, 2.7 seconds would be spent in encoding.
- What distinguishes "good" reasoners? In most inductive problems (those without a logically necessary solution), adept reasoners are usually faster than others at answering, but spend more time "up front" deciding what to do; in physics, for instance, experts tend to pause at the beginning of a problem to "represent" it with a diagram or a set of equations. Poorer reasoners are more likely to jump to a conclusion, then reach a dead end. They take a "local" approach, dealing more with the specifics of a problem than with its "global" aspects.
- What is "general" about general intelligence? People who are good at certain mental activities are good at others. Those who read with high comprehension tend to have big vocabularies, to be adept reasoners, to have large stores of general information, and to be articulate. To factor-analytic theorists, this suggested that a "general factor" of intelligence exists. But merely labeling "general" ability does not say what it is.

We have found that the mental processes cited above are used in almost all tests yielding a "general" intelligence factor. Research on analogies shows that while good reasoners tend to be faster than others in inference, mapping, application, and response, they are slower in the first step, encoding. They spend more time getting a clear sense of a problem and thus need less time to solve it. So general intelligence can be explained at least in part in terms of the processes used.

But even more important are the higher order processes that direct the operation. While inference and application, say, are important to general intelligence, even more basic is the "executive" process that decides to use them. Cognitive analysis has thus given us a solid basis for understanding general intelligence, which had been lacking before.

Psychologists are also studying the forms of mental representation on which mental processes act—the forms that information takes in the head. Much of this work grew out of a study published in 1971 by Roger Shepard and Jacqueline Metzler. They showed people pairs of perspective drawings like these:



The test participants had to judge as quickly as possible whether the figures differed only in rotation, or also in terms of a reflection. (In the pair at left, one figure is a mirror image of the other. The pair at right differ only in rotation.)

The key finding was that the time needed to recognize identical pairs depends on how far out of congruence they are. This suggests that people rotate images into congruence in their minds in the same way that objects can be manipulated in the real world. Other studies have shown that the speed of mental rotation—from 320 to 840 degrees per second—depends on the image. Letters and numbers can be rotated faster than figures. Robert V. Kail, Phillip Carter, and James Pellegrino reported in 1980, based on results of tests conducted at the University of Pittsburgh, that the speed with which mental rotation can be performed increases with age, at least from grade three to college. Stephen Kosslyn of Harvard has studied other aspects of

imaging. When asked "Which is larger, an elephant or a fly?" people can answer rapidly. But if asked about a cow and a camel, most take longer; the smaller the disparity between the two objects, the slower the response. Other research has shown that in such tests people actually do seem to visualize the two objects and then compare their size.

Though not all psychologists believe that the case for such imaging is proven, most now seem persuaded that people *can* form mental images and move them around.

How Knowledge Is Gained

During the last decade or so, there has been much study of "domain-specific" skill and knowledge—that is, expertise. It is clear that we cannot fully understand excellent performance in any area unless we understand the role of experience.

The key study here was conducted by William Chase and Herbert Simon in 1973, with Master, Class A, and novice chess players. At the time, it was assumed that the experts had a "strategic" advantage: They could plan and "see" more moves ahead than others. But the Chase-Simon tests showed that, in fact, experts plan no further ahead than beginners (the intermediate players did the most forward planning). What marked the Masters was their experience: They could apply recollections of 10,000 or more board positions to their playing.

The findings about memory were also intriguing. The experts were better than others at recalling chess pieces in important board positions, but not at remembering other positions. They were adept at storing *crucial* facts.

From chess, research spread to other areas of expertise: reading, vocabulary, physics, medical diagnosis. Some of the most interesting work has been done on political problem solving by James Voss and his colleagues at the University of Pittsburgh.

For one study, they gathered four kinds of participants: political scientists specializing in the Soviet Union, political scientists with other specialties, political-science students, and chemists with no special knowledge of the Soviet Union. The participants were asked to imagine that they had been made head of the Soviet Ministry of Agriculture and now had to devise a plan to boost low crop production.

The more expertise the participants had, the more time they spent in setting up an initial representation of the problem. The chemists and students devoted the least time to this; the political scientists with non-Soviet expertise, more; and the Soviet specialists, the most of all. The results recall the tendency of

DID INTELLIGENCE END EVOLUTION?

Of all the things that differentiate man from other animals, none has been more important than intelligence, the ability to think and reason. Dolphins, elephants, and other species have developed larger brains. But only man has been able to use mental power to solve even elementary problems such as securing a steady food supply—a task that lesser creatures, with no agriculture, must face over and over again. How did man evolve, in only a few thousand years, from a simple hunter to a masterful being who can deal with complex matters just by, as Isaac Newton said of his approach to questions of physics, "constantly thinking unto them"?

The time and manner of the appearance of intelligence—now commonly viewed as a bundle of discrete mental abilities—is unknown, and may remain so. But in his book *Mind*, published in 1982 when he was at the University of Rochester, experimental psychologist David A. Taylor offers an intriguing hypothesis. He argues that man, in the course of evolution, developed the power to think in small steps that are analogous to those that children are known to take as they acquire the capacity to imagine, to communicate, and finally to reason analytically.

Like the fish, insects, and other lower order beings that first appeared 400 million years ago, a human infant does not think; it reacts instinctively to sensations, such as pain and hunger. Then, at about age two, it develops something known only to mammals and other higher order animals: the capacity to frame mental images, even without input from sight or the other senses. It can imagine things, drawing if necessary only on the information in its brain—a copious library that, by adulthood, can hold more than 500 times as much information as the *Encyclopaedia Britannica*.

This in itself was a useful adaptation: A person could imagine danger in places where he had encountered lions and avoid those places. But development went further: Man became able to imagine lions hunting, dozing, and doing other things. That is, he acquired the ability to produce mental images according to certain patterns. In much the same way that preschool children first begin to "think," humans learned to form sequences of images and to guide them according to learned rules. Research has shown that children do not truly begin to think abstractly until they master language, which trains them to order images in terms of rules. The same precept, Taylor argues, applies to the human race. Only after man acquired

good problem solvers to focus on global, up-front planning, but there is a difference: The chemists could be expected to be excellent problem solvers, but they did not do the global planning that the political scientists did. Yet research on chemists has shown that they do considerable global planning when faced

language did he become capable of abstract thought.

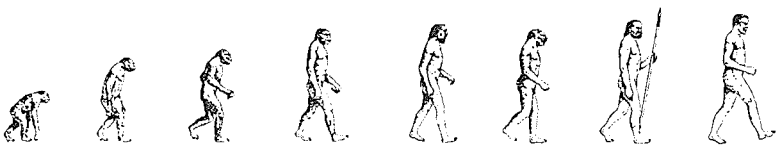
Like imaging, language was useful in itself: It "facilitated vital social practices such as communal living and organized hunting. The fact that it also made thinking possible may have been no more than a serendipity." But thought gave man his "tremendous" edge in the Darwinian fight for dominance in the world.

The final step in the evolution of intelligence, in Taylor's scenario, came when man started to think about thinking itself, including ways to improve it. This may have occurred as recently as the dawn of recorded history. Early writings show no sign of abstract thought or description of mental processes. Stories and myths displaying concern with the ideas and feelings of the characters involved came later—not too long before the Greeks began to study thinking and to lay the foundations of modern logic and philosophy. Thus, abstract thought is a fairly new phenomenon. Says Taylor: "The speed with which intelligence ultimately evolved once the conditions were right is testimony to the tremendous advantages it conveyed in the struggle for survival."

But in endowing man with intelligence, says Taylor, "evolution literally outsmarted itself." Through thought, man has reduced most of the usual threats to survival, such as hunger, disease, and climatic hazards. Result: "There is no longer any selection on the basis of genetic fitness; the weak as well as the strong survive to bear children, and there is no improvement from one generation to the next. In short, evolution appears to be over. . . ."

Biological evolution, that is. It has been replaced by cultural evolution, whose basic unit, "its equivalent of the gene, is the idea."

Among the products of this evolution has been the scientific method, which in a few hundred years has given man vast powers to shape his world. It may even let him "restart" biological evolution, through genetic engineering. In sum, Taylor argues, the advent of intelligence "brought several billion years of biological evolution to a halt," but man has "replaced it with a new form of evolution that is entirely under our control. We are, in effect, the inheritors of evolution. The future is ours to choose."



with problems in their own field.

The findings are convincing: Knowledge of a specialty plays a vital role in problem solving. An understanding of mental processes alone will not show how experts differ from others.

Yet all this has left some cognitive psychologists, including

me, with a sense of discomfort. Certainly, experts know more than do novices, which is bound to lead to better performance: Nonexperts cannot spend much time in up-front planning if they have no knowledge of the field to apply. But one might wonder how the experts became experts and why others, with similar experience, did not. Not everyone who plays thousands of chess games will become a Master; not all who read a lot will become expert readers. To understand expertise, then, one must start not with knowledge, but with its acquisition.

Consider vocabulary. The view my collaborator, Janet Powell, and I have taken is that differences in vocabulary relate to differences in abilities to learn new words from their context. Try to define the two uncommon words in this passage:

> Two ill-dressed people—one a tired woman of middle years and the other a tense young man—sat around a fire where the common meal was almost ready. The mother, Tanith, peered at her son through the *oam* of the bubbling stew. It had been a long time since his last *ceilidh*, and Tobar had changed greatly; where once he had seemed all legs and clumsy joints, he now was well-formed. As they ate, Tobar told of his past year, re-creating for Tanith how he had wandered far in his quest to gain the skills he would need to be permitted to rejoin the company. Then, their brief *ceilidh* over, Tobar walked over to touch his mother's arm and left.

How do people figure out unknown words and thus build vocabulary? According to our theory, there are three important ingredients in the recipe for deriving word meanings: contextual clues, mediating variables, and cognitive processes.

Various contextual clues establish that *oam* means steam: We learn that the *oam* rises from a stew and that one can see through it. For *ceilidh* (reunion), we are given two temporal cues: that it had been a long time since Tobar's last *ceilidh* and that it is brief, suggesting that *ceilidhs* are rare and limited in duration.

Mediating variables affect our ability to use contextual cues. For instance, multiple appearances of a word (as with *ceilidh*) usually help us apply our cognitive processes to the cues. Three processes are critical here.

One is "selective encoding," by which one decides what information is relevant for finding a meaning. For *oam*, the cues are that it emanates from a stew, that one can peer through it, and that it is associated with fire. "Selective combination" enables one to assemble the cues. "Selective comparison" enables one to

relate new knowledge to old knowledge. Here, one would consider things that relate to the clues—and come up with steam.

Selective comparison is especially critical in remembering new words. Often, one looks up a meaning in a dictionary, then soon forgets it. When one fails to relate a word to information one already has, it is difficult to retrieve later.

We have long known that vocabulary is the best single indicator of intelligence. But this did not make any particular sense in the absence of a theory of how some people acquire large vocabularies, while others do not. We now understand how differences in this, and in intelligence in general, can be traced in part to differences in ability to learn new words and concepts.

The processes of learning are not important only to vocabulary, of course. They also operate in what is known as insight. Consider some famous examples from science.

Alexander Fleming's 1928 discovery of penicillin was an insight of selective coding. In looking at a Petri dish containing a culture that had become moldy, Fleming noticed that bacteria near the mold had been destroyed, presumably by the mold. In essence, Fleming encoded this visual information in a selective way, zero-

Experiments with sound have raised hopes that IQ, now rated by written tests, might be measured by brain-wave activity. The waves triggered by aural stimuli have been found to be large and fast moving in bright people.

ing in on the part of what he saw that was relevant to the discovery of the antibiotic. He had no previously available cues for selective encoding to work on, but he focused on what to him was a new kind of cue—the destruction of the bacteria by the mold.

An example of an insight of selective comparison is Friedrich Kekule's 1865 discovery of the structure of the molecule of benzene fuel. After struggling with the matter to exhaustion, he slept and dreamed of a snake curling back on itself and biting its tail. When he woke up, he realized that the curled snake was a visual metaphor for the core of the molecule, which is a ring of carbon atoms.

Since we cannot probe insights of this caliber in experiments, my colleague Janet Davidson and I have studied more common ones—those needed to solve problems in such books as *Games for the Superintelligent*. Two examples:

- If you have black socks and brown socks in your drawer, mixed in a ratio of 4 to 5, how many socks will you have to take out to make sure of having a pair of the same color?

- Water lilies double in area every 24 hours. At summer's start there is one lily on a lake. It takes 60 days for the lake to be covered with lilies. On what day is it half covered?

Both problems require minor insights. People who fail the socks quiz tend to focus on the ratio of black to brown socks, and then to have trouble seeing how to use the information. But the ratio is irrelevant, as is seen by those who selectively encode that the only important facts are that there are two colors, and that a pair of the same color is needed. Even once this is encoded, one must selectively combine the information to realize that the answer is three socks; even if the first two one pulls out are brown and black, the third must make a pair.

The second problem also contains irrelevant information (that there is only one lily at first). It also requires selective combination to figure out that, with the daily doubling, the lake will be half covered on the 59th day—the day before it is fully covered.

Although people differ widely in their insight skills, research that Davidson and I have conducted shows that, to some degree, these skills can be acquired. After some weeks of drill in selective encoding, combination, and comparison, fourth, fifth, and sixth graders do better with simple insight problems.

Cognitive psychologists generally hope to use the knowledge they are gaining to improve people's thinking skills. Ultimately, many of us would like to see the day when what we are

learning can be applied not only to everyday problem solving, but also to the thinking that policy-makers do when they make the judgments that affect us all.

Has cognitive psychology delivered on its promise? I believe that it has, in nearly all respects.

First, this science's aim was largely to find out what happens in one's head as one thinks. Though that goal got lost during the focus on behaviorism, research is now providing theories and methods needed for understanding mental processes.

Second, these theories and methods apply to interesting problems, such as the nature of imaging, insight, and vocabulary growth. Initially, with any new paradigm, there is a fear that it will answer only questions that no one cares about. Cognitive psychology has not had this problem.

Third, different aspects of what we are learning are coming together. In its early days, it seemed that the field might offer little more than detailed analyses of isolated mental operations without providing any understanding of how they relate to each other. This has not happened. For example, we have found that the insight processes are basically the same as those of vocabulary acquisition—though it is one thing to use selective encoding in divining the meaning of a new word, and another to apply it in finding that a mold (penicillin) is a potent antibiotic.

But no scientific approach is flawless. There is, in my opinion, one serious problem with cognitive psychology. It is *too* cognitive.

Thought is very much influenced by emotions, motivations, and desires. No matter how finely we analyze the thought processes and the mental representations on which they operate, we will not understand thought in its totality unless we understand how it is driven by, and drives, the noncognitive or "affective" side of human nature—love, pain, belief, will, and so on.

Cognitive scientists sometimes seem reluctant to acknowledge the need to combine their work with an understanding of these "softer" aspects of man's nature. Yet I suspect that we will never understand some of the most important decisions that people make, or the true reasons that they solve problems as they do, unless we probe the noncognitive as well as the cognitive side of the mind. This remains, as the philosopher and psychologist William James said of the nature of personality, "the most puzzling puzzle with which psychology has to deal."

THINKING MACHINES

by Robert Wright

In July 1979, Italy's Luigi Villa, the world backgammon champion, took on a robot in a $5,000 winner-take-all match in Monte Carlo. The robot was linked by satellite to Pittsburgh's Carnegie-Mellon University, where a Digital Equipment Corporation PDP-10 computer, animated by a program called BKG 9.8, mulled things over. Villa was a 2 to 1 favorite; no machine had ever beaten a world champion in a board or card game.

But BKG 9.8 beat the odds. It won four of five games and, through judicious use of the doubling die, converted that advantage into a score of 7 to 1. "Only one thing marred the scene," recalled BKG 9.8's creator, Hans Berliner, writing in *Scientific American*. "Villa, who only a day earlier had reached the summit of his backgammon career in winning the world title, was disconsolate. I told him I was sorry it had happened and that we both knew he was really the better player."

Berliner's trade is that ambitious branch of computer science called artificial intelligence, or AI. Its goal, as defined by Berliner, is to make computers do things "that if a human being were to do them, he would be considered intelligent."

Defined this broadly, AI has room for two kinds of researchers. The field's "pragmatists" aim to replicate the results, but not necessarily the processes, of human cognition. They do not care if their machines *think* like humans, as long as they *act* like humans. Thus, the electronic chessboards that have brought automated defeat within reach of middle-income Americans do not win the way people win—by discerning and short-circuiting the opposition's strategies, or by forging boldly ahead with a master plan of their own, or by venting their aggression on a move-by-move basis. Rather, these machines rely on superhuman feats of calculation. At each juncture, they trace out thousands of possible sequences of moves and countermoves, noting the pieces won and lost, and then assign each possible action a number reflecting its likely long-term value. The rest even a human could do: make the move with the highest number.

The other kind of AI researchers are programmers who, like Berliner, see their mission partly as the duplication of the human thinking process. They write programs that work the way the mind works—or the way they suspect it works. To them, BKG 9.8

World War II gun directors, such as this one at a Newfoundland base in 1943, did more than help anti-aircraft weapons track enemy planes; they spurred early interest in the idea that machines could be imbued with intelligence.

represents a theory of how backgammon players think.

Whether or not programs such as BKG 9.8 can be said to show "intelligence," they have produced facsimiles reasonable enough to impress students of human behavior. AI has drawn the attention of cognitive psychologists in search of a fruitful metaphor for the mind, a fresh stock of terminology, or both. They have packed journals with "flow charts" of the human thinking process: Their models of the mind come complete with "preprocessing mechanisms" and "verbal protocols," and can "recover perceptual input"—even though they may labor under "incomplete feedback conditions."

As Princeton's George Miller has written, many psychologists have come to take for granted "that men and computers are merely two different species of a more abstract genus called 'information processing systems.'"

So have some journalists. The press regularly recounts the exploits of AI researchers whose progeny "think" like doctors and "understand" news articles. Alas, as computer scientists themselves concede, such accounts fall somewhere between oversimplification and distortion. *Newsweek*, reporting in 1980 that comput-

ers can "draw literary analogies" among Shakespearean plays, conjured up images of an IBM 4300 poring over *Macbeth* and then turning to a worn copy of *King Lear*. In fact, the computer scanned plot summaries that read more like the computer language FORTRAN than Elizabethan English: "Macbeth marry Lady-Macbeth. Lady-Macbeth is a woman—has property greedy ambitious. . . . Mac-duff is a noble—has property loyal angry. Weird-sisters is a hag group—has property old ugly weird—number 3."

Sticking to the Weather

Once the hyperbole is stripped away, computer scientists turn out to be only human—and to consider their machines only machines. AI's early optimism has been tempered. The difficulty of replicating even the more mundane cognitive functions has left some researchers saying what poets, mystics, and various other skeptics have said all along: The mind is not a computer. Putting it very bluntly, Marvin Minsky, former head of MIT's AI laboratory, says, "I'll bet the human brain is a kludge."

The field known today as artificial intelligence might well have been called "cybernetics," the rubric under which scientists first tried to simulate thinking electronically. Cybernetics began during the 1940s as the study of feedback systems. Its founder, the MIT mathematician Norbert Wiener, sought to make anti-aircraft guns self-aiming by giving them radar information about the speed and direction of targets. The parallels between this "feedback loop" and the human nervous system suggested that comparisons between mind and machine might be fruitful—an idea that fed on enthusiasm about new "electronic computing machines." Soon cyberneticists were building networks of elaborately interconnected switches, modeled after the brain's masses of neurons. But these "neural nets" displayed little intelligent behavior. By the late 1960s, this line of research had reached a dead end.

The term "artificial intelligence" was coined by Stanford's John McCarthy to describe a 1956 conference at Dartmouth, where he then taught mathematics. In a grant proposal submitted to the Rockefeller Foundation, McCarthy wrote that the meeting would address the "conjecture" that each aspect of intelligence can be "so precisely described that a machine can be made to simulate it."

The conference supported that conjecture. Allen Newell, J. C.

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Shaw, and Herbert Simon, three scientists connected with Carnegie Tech (now Carnegie-Mellon), together with the Rand Corporation introduced a computer program called LOGIC THEORIST. Confronted with 52 of the theorems proved by Alfred North Whitehead and Bertrand Russell in *Principia Mathematica* (1925), LOGIC THEORIST proved three-fourths of them—and one of its proofs was more "elegant" (i.e., straightforward) than the original.

Moreover, LOGIC THEORIST did not rely on brute force, trying every combination of logical rules until it found one that worked. Instead, it used "heuristics," rules of thumb that narrow one's focus in the face of numerous options that may lead nowhere. Newell, Shaw, and Simon, intent on modeling human thinking, made their program fallible.

Flushed with success, Simon ambitiously staked out AI's territory. There are now, he declared, "machines that think, that learn, and that create. Moreover, their ability to do these things is going to increase rapidly until the range of problems they can handle will be coextensive with the range to which the human mind has been applied."

Over the next few years, computer scientists produced one intriguing plaything after another. The Conversation Machine, built in 1959, could make passable small talk—so long as its partner communicated by typewriter keyboard and did not stray too far from the subject of the weather. In 1961, a program written by an MIT graduate student got an A on a calculus exam. By 1962, a string quartet had performed music composed by a computer that had used rules of counterpoint formulated by the 16th-century Italian Giovanni Palestrina.

The 'Common Sense' Problem

By the mid-1960s, though, the heady years were over. Impressive as AI's feats seemed, they still paled in comparison with the human mind's accomplishments. For example, General Problem Solver, a program unveiled by Newell, Shaw, and Simon in 1957, proved to be less capable than its name suggested. True, it was more of a Renaissance man than was LOGIC THEORIST: It could handle not only algebra problems but also logical puzzles, such as how to get three missionaries and three cannibals across a river alive using only a two-man boat. Still, these are not the kinds of skills most people associate with the word "generalist."

General Problem Solver's limitations suggested that intelligence cannot be boiled down to a few versatile techniques. It seemed, rather, that the human intellect depends on a large repertoire of tools, many of them useless without vast quantities of

PUTTING 'THE USELESS SCIENCE' TO WORK

ENIAC, the first fully electronic computer, blinked to life at the University of Pennsylvania in 1946. But the history of programmable machines goes back to Charles Babbage, the eccentric 19th-century English inventor of, among other things, the train cowcatcher. During the 1830s, he began work on his "analytical engine," which was to use steam power, punched cards, cogs, levers, and pulleys to solve mathematical and logical problems. Although the British government refused funds to build the contraption, its very concept raised the same machine-versus-man issues that the work of Artificial Intelligence (AI) advocates does today. Indeed, Babbage's collaborator, Lord Byron's science-minded daughter Ada, felt obliged to explain that, while the engine could do "whatever we know how to order it to" do, it had "no pretensions to *originate* anything."

The idea behind Babbage's machine (and ENIAC) originated a lot: an information industry whose worldwide revenues now total an estimated $175 billion and whose products are spreading to homes, offices, and factories everywhere in the industrial world. It has even spawned a genus of industrial robot that in 1982 numbered about 6,000 in America and 25,000 in Japan. Yet serious work on applications of AI, once called "the useless science," is fairly recent.

"Vision systems" are a high priority. Most factory robots must blindly follow their programmed directions; now ways are being developed for them to "see" and correct their errors as they go about cutting, welding, sorting, and assembling. Machine Intelligence Corporation of Sunnyvale, California, and Japan's Yaskawa together market a $105,000 "inspector" that compares parts on an assembly line with an image in its memory and removes parts that are bad.

Many firms are working on "expert" systems that can sift through a "data base" in a given field, answer questions, and offer advice. SRI International of Menlo Park, California, has stockpiled the expertise of geologists on natural resources in a program called Prospector. The program pinpointed a molybdenum deposit deep in Washington's Mount Tolman that had long eluded human prospectors.

Another AI goal has been to permit access to data-base information by way of plain English instead of requiring knowledge of some arcane computer language. Cognate Systems of New Haven, Connecticut, has designed a way of coupling a "natural language front end" with data on oil wells. To get, say, a map of all wells drilled by a cer-

specialized knowledge. Accordingly, during the late 1960s and early 1970s computer scientists turned their attention to "knowledge engineering," the transplanting of expertise from doctors, geologists, and mechanics to "expert systems." This research would eventually produce programs such as INTERNIST-I, an aid to medical diagnosticians: In a 1983 test

tain firm in a certain area, an engineer need only ask for it. In another application, IBM is adapting an editing program called EPISTLE to summarize mail for busy executives.

To date, work on AI applications has been pursued mainly by small firms and academic researchers in the United States and Europe. This is changing.

In 1982, Japan, a laggard in the global computer sales competition, launched its first broad effort to develop "intelligent" products based on original, Japanese research. A joint venture of private firms and public laboratories, backed by a government commitment of $450 million over 10 years, it has been dubbed the Fifth-Generation Project, reflecting its focus on the new "massively parallel" computers intended to emulate human thought. (Computer generations are defined by their innards. Today's state-of-the-art machines—the fourth generation—are built around very large integrated circuits, called VLICs; the third generation used integrated circuits; the second used transistors; and the first, sired by ENIAC, had vacuum tubes.)

The Japanese, who describe their project as "the space shuttle of the knowledge world," aim to perfect a range of marketable devices, such as speech-activated typewriters, optical scanners that can read written language, and translating machines.

Britain and other European nations have launched major computer research programs. In the United States, still Number One in information technology, several computer firms have set up AI departments; 18 corporate giants, among them Control Data and Lockheed, have formed a research and development consortium, headquartered in Austin, Texas. But the big backer of advanced computer technology is the federal government, especially the Pentagon. In 1984, the Defense Department announced plans to spend $600 million over five years to develop new computer-based systems. While the focus is on military applications—such as a robot Army combat vehicle—the hope is to produce devices whose ability to see, speak, reason, and understand speech will have civilian uses as well.

U.S. spending by government and industry on advanced computer technology in 1984 alone may total $230 million. The stakes are high, too. Joseph P. Traub, head of computer-science studies at Columbia University, argues that progress in AI may determine which nation leads in computers during the 1990s—and, thereby, which "will be the dominant nation economically." Indeed, where might Britain be had it built Charles Babbage's analytical engine?

involving cases drawn from the *New England Journal of Medicine*, it proved nearly as accurate as the attending physicians.

But even with the mechanization of expertise, AI still faced the "common sense problem." Computers can play respectable chess and diagnose soybean-plant pathology with the assurance of a county agent, yet they cannot comprehend "The Farmer in the Dell."

"It's your home computer. It wants to know why you're not home." The rapid spread of low-cost "personal" computers, which first appeared in 1975, helped wire the notion of manlike machines into American popular culture.

In trying to imbue computers with common sense, researchers have had to grapple with questions of logic. How large a role does it really play in human thinking? How large a role should it play in machine thinking?

Marvin Minsky believes that the mind rarely functions with the rigor of logic: "I suspect we use it less for solving problems than we use it for explaining the solutions to other people and—much more important—to ourselves." Machines will not truly think, he suggests, until they can formulate vague definitions, harbor inconsistent ideas, and, on weighing evidence and finding it incomplete, jump to the nearest conclusion.

One of Minsky's favorite illustrations of logic's shortcomings is the "dead duck." Birds can fly, a duck is a bird, Joe is a duck. A computer with powers of deduction will conclude that Joe can fly. But what if Joe is dead? And what about Hubert the penguin, a bird who will never take wing? A child knows that neither can fly; a computer relying on deductive logic does not.

Exceptions can be programmed into a computer, but if there are too many it is not worth devising the rules in the first place. The real world, Minsky argues, is laced with both rules and ex-

ceptions, yet people cope anyway; deductive logic, therefore, must not be central to their thinking.

Researchers trying to teach machines to comprehend "natural language" (such as English) have confronted a second shortcoming of logic. Much of what humans absorb while reading does not follow logically from what is written. A newspaper reader does not have an airtight case in concluding that an assault victim who was "treated and released" was slightly injured. Still, such common sense reasoning is almost always on target.

Surviving Contradictions

Ambiguity further complicates matters. How is a computer to know that the meanings of *flies* and *like* change from one sentence (time flies like an arrow) to another (fruit flies like an apple)? Of course, context may clarify things. Is the computer at a college reunion or an exterminators' convention?

By giving computers such contextual information, Roger Schank, head of Yale's AI laboratory, has attacked several problems of language comprehension. Each of his "scripts" sets the context, providing generally safe assumptions about the way a given situation unfolds. Schank's "restaurant" script keeps the computer from even contemplating the possibility that "tip" refers to Gallant Prince in the seventh at Belmont, and also facilitates reading between the lines; when a customer leaves a big tip, the computer is told, it probably means that he liked the service.

Scripts are variations on "frames," a more general concept developed by Minsky. Both help computers cope with complexity by limiting the frame of reference to the situation at hand.

And, some researchers feel, both have limitations when taken as theories of human cognition. A single script or frame houses much information, but it would take a great many scripts to get a person through the day. Do humans really carry around thousands of separate frames and pop a new one into the mental projector every time they move from the food store to the street, or turn from the obituaries to the sports page? Is nature, with its preference for simplicity, really likely to build brains that have to perform such a complex juggling act? In their simplest form, theories based on frames suggest that this is indeed the case.

There are other theories of cognition that do not call for so much shuffling of information, but not all can be tested easily on conventional computers. They are more compatible with a coming generation of machines called "massively parallel," computers that some tout as the new wave in AI.

If machines are going to think like humans, Minsky says, they

must quit defining words with mathematical precision and, instead, associate each word with a mélange of related words. They must be more like Euthyphro, the Greek sage who could name pious men but could not give Socrates a definition of piety.

"What if we built machines that weren't based on rigid definitions?" Minsky has written. "Wouldn't they just drown in paradox, equivocation, inconsistency? Relax! Most of what people 'know' already overflows with contradictions. We still survive." An "associationist" approach to defining words, he believes, will be easier with massively parallel computers.

Virtually all of today's computers are based on the "von Neumann architecture" developed by mathematician John von Neumann during the 1940s. A von Neumann machine is run by a central processing unit that retrieves information from the computer's memory, modifies it according to the program, and then either returns it to memory or prints it out and forgets it. Generally, such machines can do only one thing at a time.

In a machine with parallel architecture, though, different processors work on different aspects of a problem simultaneously. Though parallel computers have been around for some time, thus far none has been—well, massive. But Thinking Machines Corporation of Cambridge, Massachusetts, hopes to have a large prototype ready in 1985, and MIT is constructing a version of its own, the Connection Machine. Both will have some 250,000 processors, each powerful enough to be a capable computer in its own right; chips will be wired so that each one can communicate with any other. Even so, the machine will simulate only a thin slice of the mind, and MIT is already planning a larger version.

Majority Rule

In massively parallel computers, no one processor does anything very sophisticated, and none oversees the operation of the others. Intelligence is not imposed from the "top down"; it emerges from the "bottom up," much the way that collectively intelligent behavior arises in an ant colony despite its nonhierarchical structure and lack of individual genius.

Proponents of massive parallelism view the mind as a society. Jerome Feldman of the University of Rochester writes of "winner-take-all networks" in which "coalitions" of processors continually clash. In Feldman's model, concepts are represented not by strings of symbols, as in a von Neumann computer, but by patterns of interconnection among processors. This approach, he says, offers a way to address the issues of ambiguity and context more economically than do scripts and frames.

Take a sentence such as "John threw a ball for charity." In the machine envisioned by Feldman, the two senses of the verb *to throw*—to hurl, and to host—would live in separate processors, or "nodes." Upon encountering this sentence, both nodes would seek support for their interpretations; they would try to find other words in the sentence with which they have an affinity— with which they are connected.

Both would have immediate success. The *hurl* node is wired to the node housing the corresponding sense of *ball,* a spherical object. The second sense of *to throw,* to host, is linked with the second sense of *ball,* a dance. Once these two links are activated, they try to embrace one another.

Victory goes to the majority. When each pair tries to encompass the third key member of the sentence—the swing vote—only one succeeds. The *dance* node is connected to the *charity* node; charity balls are common enough to warrant that linkage. But the more conventional sense of *ball* searches in vain for a link with *charity.* The *host-dance* coalition now has control of the sentence and will electronically suppress any dissent.

In Feldman's model, as in models embodying scripts and

HAL grows up: In 2010, *the sequel to* 2001, *the ornery computer gives his "life" to save Capt. David Bowman (Keir Dullea) and spacecraft colleagues.*

frames, context helps. If "John threw a ball for charity" had come up at a social committee meeting, connections already activated would have headed off any grassroots drive for a *baseball* interpretation. Thus, Feldman says, the "connectionist paradigm" offers "dynamic" frames. They resolve ambiguity and take account of context, but do not come in bulky packages that must be juggled. Instead, a frame is defined by the prevailing pattern of interconnection among tiny packets of information, all of which stay put; dynamic frames can be modified subtly or dramatically without any reshuffling of information.

A Healthy Conflict

Ideas bearing some resemblance to Feldman's have been around for some time. In *Psychology* (1893), William James explored the "principles of connection" in accordance with which "points" of the brain are linked by "discharges" and thoughts "appear to sprout one out of the other." Later, came the cyberneticists' "neural nets," designed to learn by memorizing patterns of interconnection among nodes. Because neural nets did not live up to their billing, the von Neumann architecture was the only game in town by the 1960s, when psychologists turned for inspiration to computer science.

Almost every Psychology 101 student since then has encountered fruits of that search—textbook flow charts tracing the path of information through a mental processor and into long-term memory. Had massive parallelism been in vogue years ago, those charts might look different: Information might be dispersed through a huge honeycomb, and "bits" processed where they reside.

And the prospect of machines behaving intelligently might not seem so dehumanizing. No central processing unit will exert tyrannical rule over a massively parallel machine; the democratic behavior of the processors will be so unruly that not even a program's creator will always be able to predict results.

Would that uncertainty reflect a certain capriciousness on the part of the machine—even, perhaps, a trace of free will? Some computer scientists will go so far as to call such unpredictable behavior "nondeterministic"—which, in the language of philosophy, suggests freedom from mechanistic rules.

If massive parallelism lives up to the expectations of its strong advocates, this question may well be asked: Were the first 30 years of AI, with their emphasis on the "top down" approach to simulating intelligence, just a long detour for all the psychologists who were suckered onto the bandwagon?

Few in AI seem to think so. Whatever the value of massive

parallelism as a metaphor for mind, no one contends that it can capture the entire thought process. Herbert Simon points out that, regardless of how information is processed at subconscious levels, it must pass through the "bottleneck" of conscious attention, which is clearly a "serial," not a parallel, processor; a person can entertain only one thought at a time.

Simon does not share Minsky and Feldman's high hopes for massive parallelism. He does agree that logic plays a limited role in thought—he won the 1978 Nobel Prize in economics for his theory of "bounded rationality," which stresses the arbitrary nature of much human decision-making. Still, he notes, conventional computers have shown an ability to simulate nonlogical processes, even if those simulations take longer than they would on parallel machines. Much enthusiasm about massive parallelism, he says, is "romanticism."

There is one point, though, on which massive parallelism's supporters and detractors agree: No matter which of AI's models of thought prevails, computer science will have made a lasting contribution to cognitive psychology. At the very least, computers force a theoretician to define his terms; it is hard to turn murky thinking into a successful computer program.

This benefit was foreseen nearly four decades ago by Harvard psychologist Edwin G. Boring. He had been challenged by Norbert Wiener to describe a capacity of the brain that no machine could ever duplicate. Just contemplating that challenge, Boring found, was enlightening. It forced him to refine his ideas about the nature of intelligence. Boring urged others to try this experiment in their heads—to pretend, in essence, that they were computer programmers trying to simulate human thought, and consider the issues that they would thereby confront.

In a 1946 edition of the *American Journal of Psychology*, he asked readers: "With what property must a robot be endowed by its maker in order that it may make discriminations, may react, may learn, may use symbolic processes, may have insight, may describe the nature of its own functions and processes?" Contemplating this question, he suggested, is "the way to go" at the question of how the mind works. "It is a procedure that keeps us clear."

BACKGROUND BOOKS

THE MIND

In an ancient Indian legend illustrating the wisdom of the god Shiva, each of two men, a thinker and an athlete, has his head removed and grafted onto the other's body. The wife of each becomes confused as to which portion of her spouse she should stay with. Shiva, who sensed the importance of consciousness and knew where it lay, told them to go with the head.

Today, readers interested in the mind have a problem not unlike that of the wives. The literature is divided into two camps: There are writers who believe in some form of immaterial mind, and others who think that a material explanation of the brain will finally answer all questions about man's mental life.

Even good surveys of the field, such as **The Natural History of the Mind** (Dutton, 1979, cloth; Penguin, 1981, paper), inevitably take sides. Author Gordon Rattray Taylor leads his audience through the arcane mind-matter debate, with engaging side trips into anthropology and neurophysiology. But ultimately he concludes that "the great adventure of exploring the most complex system we know of in the universe" will justify faith in an immaterial mind.

Some who share this view are scientists. The most ardent dualist in print today may be the 81-year-old neurobiologist Sir John Eccles, whose many works include **The Self and Its Brain: An Argument for Interactionism** (Springer, 1977, cloth; Routledge & Kegan, 1984, paper), in collaboration with philosopher Sir Karl Popper, and **Mind and Brain** (International Cultural Foundation, 1982). Other dualist arguments are presented in the mathematician and philosopher Jacob Bronowski's **The Identity of Man** (Natural History, 1965, cloth; 1971, paper) and neurosurgeon Wilder Penfield's **The Mystery of the Mind** (Princeton, 1975, cloth & paper).

On the materialist side, the central testament remains philosopher Gilbert Ryle's **The Concept of Mind** (Barnes & Noble, 1949, cloth; Harper, 1983, paper). It was the first modern assault on dualism, whose tenets Ryle attacked with what he concedes is "deliberate abusiveness."

A rather more poetic early work of materialism is anthropologist Loren Eiseley's **The Mind As Nature** (Harper, 1962), which foreshadowed the "identity theory"—the idea that "mind" is simply the sum of what goes on in the central nervous system. More detailed treatments of the emergence of human awareness can be found in Gregory Bateson's **Mind and Nature: A Necessary Unity** (Dutton, 1979, cloth; Bantam, 1979, paper) and Julian Jaynes's **The Origin of Consciousness in the Breakdown of the Bicameral Mind** (Houghton, 1977, cloth; 1982, paper).

The demystification of the mind reached a peak in the branch of psychology that took its name from John B. Watson's **Behaviorism** (People's Institute, 1924, cloth; Norton, 1970, paper). Behavioral psychologists carried Watson's dictum that the study of human action "needs consciousness as little as do the sciences of chemistry and physics" as far as it would go. The idea that all behavior could be explained by responses to pleasure and pain was developed by Harvard's B. F. Skinner into an argument that personal liberty and free will (and thus good and evil) are just illusions. Skinner's **Beyond Freedom and Dignity** (Knopf, 1971, cloth; Ban-

tam, 1972, paper) widened the gulf between the behaviorists and scholars with more "humanist" ideas.

Many of cognitive psychology's contributions to the study of mental operations are outlined in **The Mind's I: Fantasies and Reflections on the Self and Soul** (Basic, 1981, cloth; Bantam, 1982, paper) by Douglas Hofstadter and Daniel Dennet. Jerome Bruner's **In Search of Mind: Essays in Autobiography** (Harper, 1983), offers a broad view of what psychology has been able to determine about such processes as "knowing" and "learning," as well as about improving the intellect.

Herbert Simon lays out the hopes for *machine*-made intelligence in **Sciences of the Artificial** (MIT , 1969, cloth; 2nd ed., 1981, cloth & paper). Joseph Weizenbaum's **Computer Power and Human Reason: From Judgment to Calculation** (W. H. Freeman, 1976, cloth & paper) and Hubert L. Dreyfus's **What Computers Can't Do** (Harper, 1972, cloth; 1979, paper) suggests some of the limits to artificial intelligence (AI).

For those still uncomfortable with terms such as "parallel architecture," Pamela McCorduck's **Machines Who Think** (W. H. Freeman, 1979, cloth; 1981, paper) is a user-friendly history of AI. Those convinced enough by information technology to suspect that the mind indeed may be a mechanism—and a relatively poor one at that—may profit from Hofstadter's exuberant **Gödel, Escher, Bach: An Eternal Golden Braid** (Basic, 1979, cloth; Random, 1980, paper). His argument, spun out with engaging puzzles, riddles, and dialogues, is that the truly perfect thinking machine would, like man, be far from a creature of cold mathematical logic and precision.

The computer culture, rather than just the computer, is MIT sociologist Sherry Turkle's interest. In **The Second Self: Computers and the Human Spirit** (Simon & Schuster, 1984), she takes a careful look at the rising electronics in-group peopled by "hackers" and members of the AI priesthood. She concludes that the debate about "what computers can or cannot be made to do ignores what is most essential to AI as a culture: building not machines, but a new paradigm for thinking about people, thought, and reality."

The question of whether the mind is a machine may never be answered definitively, and maybe that is just as well. A Yes answer would devalue our sense of humanity; a No would deny our ability to understand ourselves scientifically.

Instead, we may be served best by a paradoxical conclusion: Yes, the mind is a machine; and No, it is not. The study of the mind can be approached profitably in both ways. Though this seems contradictory, there is an oft-quoted aphorism in physics: "The opposite of a shallow truth is a falsehood, but the opposite of a profound truth is often another profound truth."

—Susan Baur

EDITOR'S NOTE: *Susan Baur, 44, is a graduate student in psychology at Harvard. Readers may wish to consult books cited in the preceding essays, as well as in* WQ*'s previous articles on The Brain (Summer 1982) and Psychiatry in America (Autumn 1983).*

THE BROKER STATE

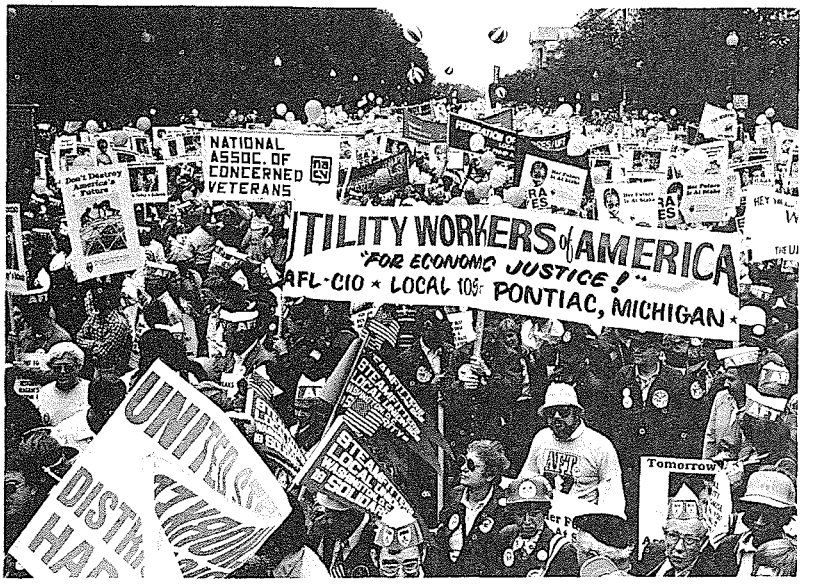
Ever since the New Deal began, the future role of the federal government in the nation's social and economic life has been a matter of intense debate, especially at election time. Conservatives have warned of creeping Welfare Statism; populists and liberals have often envisioned a regime increasingly dominated by Big Business and serving its interests. Both visions have been wrong. America has not become Sweden, nor has business ever become a unified, dominating force in Washington. Under Republicans and Democrats alike, historian Otis L. Graham, Jr., suggests, the federal system has remained essentially what it became under Franklin D. Roosevelt—the Broker State. Here, he reflects upon the virtues and flaws of America's peculiar *ad hoc* regime and its prospects.

by Otis L. Graham, Jr.

When the Great Depression reached rock bottom in the winter of 1932–33, there were not many American models of a government adequate to deal with the catastrophic economic crisis.

During the 1920s, the State had been responsible for some promotion of agriculture; a scattering of targeted subsidies for emerging industries such as oil, airlines, radio; a tariff designed to protect influential business sectors. But federal policy had no significant influence upon the economy, upon science and technology, let alone upon the arts, education, health care. The federal budget during the 1920s never absorbed more than three percent of the gross national product (GNP), and *all* government purchases (federal, state, and local) never surpassed 11 percent.

The "American System," to use Herbert Hoover's phrase, was not laissez-faire capitalism. Calvin Coolidge did not entirely abandon the antitrust or regulatory roles inherited from the administrations of Woodrow Wilson and Theodore Roosevelt. But the State during the '20s did not merit the labels Regulatory State or Welfare State that would later be invented.



A small sampling of America's many interest groups was in evidence at the Solidarity Day parade in Washington, D.C., on September 19, 1981.

Perhaps the only significant public figure to worry about this *ad hoc* arrangement was Hoover. As Secretary of Commerce (1921–28) and as President (1929–33), he labored to design what historians have called the Associative State. In his view, an activist government should promote *rational* economic development through information sharing and social research, while encouraging private interests to combine in trade associations. All this was to be accomplished voluntarily. Hoover did not quite have time to realize his vision of a proper political economy—one in which the State would be far more active than in William McKinley's day. But Coolidge must be judged wiser, or at least luckier, than the innovative Hoover. He pronounced the modestly active and entirely probusiness government of the prosperous 1920s a perfect institution, properly married to a cornucopian capitalism. He held the line against such changes as were urged on him by farmers or by other social tinkerers, including Hoover. And he went into retirement just eight months before the Great Crash.

Thus there were no adequate models for the role of government in the malfunctioning capitalist economy after 1929. Franklin D. Roosevelt and his New Dealers were interested in strategic ideas to provide coherence to the torrent of reforms that they pushed in 1933 and after. Their attempts to introduce forms of national planning during the 1930s are most instructive. Drawing upon the nation's successful expe-

rience in mobilizing for World War I and upon what would now be called "corporatism," early New Deal planning efforts stressed government-business partnerships (with labor a weak third party). Institutionalized in the National Recovery Administration and the Agricultural Adjustment Administration, these partnerships had as their goal the preservation of existing producer groups and, secondarily, the protection of consumers through price- (and some wage-) fixing under federal supervision. How such measures would add up to a general economic recovery was never quite clear. And this uncertainty led New Dealers to contemplate a central federal agency for coordinating diverse activities and insuring strategic coherence. The failure of this effort to create a coordinated national-planning program, which had considerable business and conservative support for a time, is an interesting story that has been dealt with elsewhere.*

Beginning in 1935, the older liberal faith in breaking up large corporations—based more on a suspicion of bigness than on confidence in the beneficial effects of competition—eclipsed the partnership-and-planning gospel. FDR began to attack Big Business and accumulated wealth and to stress antimonopoly efforts. To contemporaries, he appeared confused. To recent historians, it seems that he was attempting a blend of the planning and the free-market traditions within liberalism. The one went back to Theodore Roosevelt's New Nationalism, the other to Woodrow Wilson's New Freedom. By 1937, FDR aimed at a planning state that used antitrust as a tool. This was the final New Deal, requested in 1937-38 through bills establishing presidential planning, Supreme Court reform, and party realignment.

But FDR was beaten; the real New Deal was rejected. By 1938, the New Deal momentum was spent, and threats of war in Europe overshadowed the domestic agenda. Everybody, including Roosevelt, agreed to call the new State system "the New Deal." Yet one could argue that the New Deal that FDR wanted was never put in place. Federal activity had vastly expanded, but in the haphazard fashion characteristic of American politics. Regulatory assignments were enlarged,

*See, for example, my book, *Toward a Planned Society: From Roosevelt to Nixon* (Oxford, 1976).

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and collective bargaining was enforced; a system of social insurance, work relief, and welfare measures was instituted; subsidies were granted to farmers, industries, and regions (the South and the Rocky Mountain West). The federal share of GNP had tripled, and Washington was, for the first time, a more important fiscal influence than were state and local governments combined. But it was not a planning State, nor a market-restoring State, as earlier liberal theory had projected.

What, then, was the American State's role at the end of the 1930s? The State had certainly been transformed in size and function, its lead assignment a de facto (and, after the Employment Act of 1946, a de jure) responsibility for economic management. But which Americans were its potential or likely beneficiaries? What would be its direction? Was it benign or malevolent? Who called the tune?

Several early answers deserve mention. Strident predictions that the post–New Deal State could not be reconciled with capitalism or liberty came from various conservatives, among them ex-President Hoover. James Burnham wrote a scolding book in 1949 entitled *The Managerial Revolution*, concluding that federal technocrats would run the country now, not in the interest of the proletariat but in pursuit of efficiency and their own power. Perhaps Burnham, entering his conservative phase, listened too much to some of the New Dealers themselves. James M. Landis and other liberal bureaucrats wrote books celebrating the public administrator's role as social manager. Both Burnham and Landis were wide of the mark. The State did not take its cue from the bureaucracy, which was in any event not so benevolent, malevolent, or efficient as these early premonitions suggested. Nor did it take its lead from the President, at least not in any sustained way. The post–New Deal system was a weak-president system, following the defeat of Roosevelt's 1937–38 plans.

And the goal of the State? It was to remedy the many fundamental market failures besetting American capitalism—redistributing income to maintain demand, regulating monopolies that could not be dismantled, nurturing economic development in lagging regions, protecting the environment and natural resources, ensuring the economic security of all established interest groups, even, parsimoniously, the disadvantaged. Thus protected from its own worst tendencies, the capitalist system would produce a decent life.

While part of this design conformed to FDR's view of the post–New Deal State in America, many who shared his goal doubted the system had even a reasonable hope of success. Some liberals, including Eleanor Roosevelt and the Brain Truster Rexford Tugwell expressed doubt that the presidency itself, the government's medley of powers, and pub-

lic understanding of it all added up to a workable system. The system lacked a strong center, a planning presidency. Other voices of dissent were heard from the Left, dimly. Socialists predicted that the New State would soon founder and open the way for their own Norman Thomas, since capitalism could not be stabilized; or, they predicted that the New Deal system would slide inexorably into fascism (after *that*, socialism). Marxists, their criticism of bourgeois reformism undercut by the popularity of the New Deal, produced no coherent analysis of the emergent post–New Deal State.

The most perceptive contemporary observer, it seems from this distance, was journalist John Chamberlain, whose *The American Stakes* (1940) described a "Broker State" as the outcome of the New Deal experimentation. Chamberlain correctly saw that the New Deal had abandoned the early hope of a centrally concerted recovery-and-reform effort, accepting in its place the role of broker among organized interest groups. Washington itself had thus become a sort of modified marketplace, a "parallelogram of pressures," a place of exchange where groups within the economy brought their special problems and bargained for State-conferred advantage. He did not claim that it was a particularly rational arrangement, but it was democratic in appearance, flexible in goals.

Chamberlain's brokerage government disappeared during the year after his book appeared, replaced by the planned mobilization of wartime. The State was hardly the responsive broker from 1942 to 1945; it had reasonably clear goals of its own to pursue and necessarily made decisions that did not derive simply from interest-group bargaining. But the wartime centralization ended with the victory of 1945. After a brief debate over a proposal for peacetime planning as embodied in the original Employment Act of 1946, brokerism returned. The post–New Deal system began its long career, surviving, with modifications, from the administration of Harry S Truman to that of Ronald Reagan.

To stress continuity in this way may disturb those who are impressed by the differences in policy when Republicans and Democrats alternate in the White House. Even more might it affront those who, looking beyond policy to structure, note changes that have worked their way into American government since 1945.

These folk have a point. To begin with, the State is much larger now than it was in 1940. By the early 1970s, government at all levels claimed about one-third of the GNP for goods, services, and transfer payments. More important readjustments of power had taken place, of which we mention only a few. With the rearmament triggered by the Korean War came a level of spending for national-security purposes

that has built up the most imposing network of power in America—what Eisenhower dubbed the "military-industrial complex." Another structural evolution required longer to mature—the transformation of intergovernmental relations, of our federalism.

Before the New Deal, state and county governments were generally antiquated. Large cities struggled with problems unrecognized by the states. Regional governments were nonexistent. But a surge of federal grants during the 1930s and again during the 1960s wrought significant changes, producing a more integrated and effective system. Thanks in part to "one-man, one-vote" court decisions, state governments, at least most of them, have become more active and less exclusively bound to rural interests. To a slightly lesser extent this has happened, at least in some parts of the nation, to counties. Substate and multistate regionalism has made a cautious appearance.

Thus the postwar years have not been a static time for governmental roles or structures. One notes also the wave of the "new social regulation," which arrived with the late 1960s, adding consumer, workplace, environmental protection, and "affirmative action" responsibilities to the multilayered State. In Congress we have seen changes in committee and subcommittee numbers and staffing, and a new budget process. Money is more important in electioneering than ever before, reflecting the ability of TV, radio, and direct mail to by-pass older means of reaching the voter or partisan activist. The federal judiciary plays a role in policy-making that infuriates those who remember more deferential judges and more explicit statutes. Federally financed public-interest lawyers have shifted some influence to the formerly uninfluential—consumers, the poor. These and other structural changes in the State were not in place at the end of the 1930s, nor in 1945. Who is to say that these changes have not given us, even before the election of President Reagan, a new State in a new political economy?

I argue that they have not. Despite changes in ruling party, with what sounds like sharp shifts of ideology, the continuities are impressive. What might be called the decision of 1932–36 continues to hold: Self-guiding capitalism abandoned, the State plays a major role in social management. And what might be called the compromise of 1937–38 has also held: The new Liberal State neither restores markets nor carries out plans but brokers the requests of interest groups while using Keynesian tools to stimulate economic growth.

Busy on several fronts, the State has not possessed a clear conception either of what the national interest requires or of what national goals ought to be. Moreover, it has lacked any central institution to survey the social or policy whole. During the last years of the 1970s, as dur-

ing the 1930s, the State in all its parts made policy in pieces, incrementally, responding mostly to the pressure of organized interests and occasionally to its own internal impulses. The State was mammoth and omnipresent, but agreeable and not inclined toward coercion. The American government rarely acted to *redistribute* power or to discipline private groups, preferring to serve as a mediator and broker delivering favors in proportion to pressure. As the component parts of the State dealt with interest groups, an invisible hand presumably orchestrated the whole of policy toward some public good.

What is the result of this mode of governing, when the "political" has so much to do with the "economy"? Since the 1930s, there have been and continue to be claims that "the big capitalists" would control the State. But the facts have not confirmed this prediction, at least not in its simple form. In the New Deal days especially, but also thereafter, the State has responded to noncapitalist groups and even organized some of them for smoother participation. The New Deal assisted labor and devised a program for tenant farmers, and the State in recent years has proven quite receptive to the lobbies of groups one would not exactly call capitalist—environmentalists, rifle owners, the radio listeners of the Reverend Jerry Falwell. As for the capitalists themselves, their tendency to disagree, as with the steel industry in conflict with steel users, refutes such simplistic theories of "big capitalist" domination. And of course the State responds to more than just the Washington lobbyists; it listens to the pollsters, to the governmental bureaucracy itself, and to much else.

But typically the American State has responded to interest groups. Despite the cacophony and frequent irrationality of results, as when the government both promotes and condemns the production and use of tobacco, there is a pattern beneath the confusion. A group or groups develop a grievance, usually an economic one. Congressional hearings are held to clarify and legitimate the issue, with only the strongly affected groups appearing. A program is set up, and neither in the legislature at the program's birth nor during its lifetime in the executive branch is it scrutinized for its compatibility with other social concerns.

Political scientist Theodore Lowi has called this a condition of "permanent receivership" in which "any institution large enough to be a significant factor in the community shall have its existence underwritten" by public authority. Lowi calls this sort of policy-making "unintentionally reactionary," but the word conservative is preferable, for it stresses the tendency to preserve existing arrangements against the hardships of change whether they come from market forces, technology, or even (as with Chrysler, New York City, and now Continental-

Illinois Bank) bad management. Others have used the word "corporatist" to characterize that strong tendency in the modern State to blur the distinction between public and private realms by handing over not just the design but the operation of public programs to representatives of certain economic groups. The pursuit of public ends through private instrumentalities is prevented with great difficulty from becoming the pursuit of private ends, using public authority but removing it from public accountability.

Through all this, the State remains, for the most part, neutral. It entertains no notion of rearranging the society beneath it, and apart from foreign policy, almost never conceives and pursues some goal it has not first heard about from some clamoring group of citizens. There have not been many exceptions, and those usually came through the courts. Federal judges brought the State to the aid of the American Indians, a weak interest group, and launched the epochal drive to bring legal equality to the black population. One of the things that made Lyndon Johnson's War on Poverty so exceptional was that it had not been conceived by the poor who stood to gain most from it.

Whether fairly distributed or not, a banquet of benefits was spread by the postwar political economy (the Department of Defense and its contractors receiving more than a generous share), and leaders of both parties claimed credit for it. The system was stable by any standards, including those of our own national history. No radical economic or political developments interrupted the relatively smooth flow of events. The broker system was more popular than unpopular. Its critics were vocal, but ineffective: John Kenneth Galbraith, warning in *American Capitalism* (1952) of an inflationary bias in any system that rewarded all claimants and lacked a basis for discipline; socialists, who did not like liberal capitalism; Barry Goldwater; various right-wing extremists; academic writers who pointed out that interest-group bargaining tended to leave out the poor, the consumer, the unborn, and the environment. These critics could not get the system changed.

Equally ineffective was another group of critics of considerably more power—sitting presidents of the United States. From Eisenhower to Carter, without exception, they left a record of formally and informally expressed frustration. Assuming FDR's stance, that the president was the people's only elected voice, they each had carried what they (at least) knew to be majoritarian, national programs into the minefields of the Broker State. Save only for LBJ, and then only for two years, each had been substantially blocked. "There are more impediments to our success than we had imagined," conceded John F. Kennedy. "Government doesn't work," Richard M. Nixon scrawled on the margin of a

speech draft by William Safire.

This perception of governmental impotence was shared by many in the academic and public-administration fields. Political scientist James M. Burns called it *Deadlock of Democracy* in his 1963 book, stressing both the electoral and the governmental sources of a system that resisted policy redirection. Parties had lost their 19th-century vigor, Congress had weakened its leadership and multiplied its committee fiefdoms, the presidency was ill organized for domestic management. Many critics noted that it seemed to require crisis to move the deadlocked postwar system—a thalidomide tragedy, a Santa Barbara oil spill. What Henry C. Hart, another political scientist, wrote about water policy could stand for all policy: "General interests are asleep, to be awakened only by floods and droughts, by catastrophe."

A series of writers specialized in describing and deploring the thick minefield of Madisonian checks: congressional committees, iron triangles, the permanent government. This, at least, was the preferred imagery of liberals, who stressed the veto design of governmental structure. More conservative observers saw paralysis in another way, preferring the image of "overload," a system swollen to immobility as a result of having taken on too much.

These perceptions of the State, while not unheard over the earlier years during which the system was in place, reached a new intensity as the 1970s advanced. The 1970s brought problems that the system did not handle well. During the boom era, roughly from wartime demobilization to the recession of 1970, growth had underwritten the system. For a number of still-disputed reasons, the growth curve slowed and then flattened in the 1970s, as inflation and stagnation became compatible and gradually lowered the American standard of living. Productivity increases disappeared, and foreign competition began to cut deeply into formerly invulnerable American industries—auto, steel, machine tools, electronics.

Journalists, politicians and some academics wrote about "the decline of America," and many of them, regardless of party, found the errors of the State to be contributing causes. The Republican version of this State criticism blamed overregulation, overspending, and overtaxing: old ideas with little analytical but much political merit. The Democratic version of the State-based explanation of the troubles of the late-1970s economy came to be called neoliberalism, and stressed the inability of interest-group liberalism to permit a shift of economic resources from old industrial regions to new.

The complaints of the late 1970s were, by far, the most serious. They came not only from its enemies but from its friends. Joseph Cali-

fano, Lyndon Johnson's White House aide and Jimmy Carter's Secretary of Health, Education and Welfare (HEW), wrote in 1978:

> Power is fragmented in Washington these days, not just within the executive branch, but by legislative mandates within HEW itself. . . . Political party discipline has been shattered by the rise of special-interest politics in the nation's capital. Washington has become a city of political molecules, with fragmentation of power, and often authority and responsibility, among increasingly narrow, what's-in-it-for-me interest groups. . . .

If there is an underlying crisis of the State, as so many are saying, it was visible in 1978, well before the election of a man whose domestic model, in liberals' eyes, is the government and America of Calvin Coolidge. Carter's presidency began auspiciously with promises of competence, awareness of limits upon the welfare mission, and healthy suspicion of official Washington's errors. Some saw in him a new leader with a more disciplined conception of the basic liberal agenda, representing an opening to long-excluded groups and regions. But by 1978 his popularity had peaked, and the political pundits were writing about another failed presidency.

Historians are likely to improve upon the voters' verdict, citing, on the positive side, Carter's impressive environmental record, his attack upon a range of social and governmental problems, and his struggle to base U.S. foreign policy on some conception other than anti-Sovietism.

More important in revising our understanding of the Carter era will be a broader perspective on the evolution within all Western political economies during the 1970s. England, Finland, Sweden, and Switzerland were among the countries that experienced revolts from the Right (and Center) against rising taxes and welfare expenditures. Reagan brought that middle-class revolt to the front of U.S. politics somewhat late by European standards, though Barry Goldwater, George Wallace, and, in their way, Jimmy Carter and Jerry Brown were harbingers of what was coming.

The change of direction initiated by the election of Mr. Reagan is yet incomplete, too close for clear appraisal. But even early inspection reveals that the promised revolution—which was to include at least a partial dismantling of the New Deal—has not quite occurred. Budget cuts capped the growth, but did not threaten the existence, of welfare programs; nor did they touch middle-class social-insurance entitlements such as Social Security, Medicare, and Medicaid. The rest of the "supply-side" experiment was botched by the administration or compromised by congressional opposition. The tax cut lacked economic rationality, enriching mostly the already rich. Deregulation went slowly, except in the environmental field, and the new federalism went almost nowhere.

As it stands now, changes in tone and agenda are considerable, but the Broker-Regulatory-Welfare State still presides. Tax and regulatory policies have been tilted more strongly toward the owners of capital, social-welfare policy has become slightly more astringent, military interests have fattened, the growth of the State sector has leveled off. These changes would never have brought recovery in 1983–84 without a mounting deficit, and the deficit, of course, is a time bomb.

Not Reagan policies but the last remission of the energy crisis brought a reprieve from that major source of inflation and other economic trouble.

In short, this is an uncertain time, almost certainly not leading back to the happy hands-off days of the '20s. For the last decade at least, there has been a remarkable outpouring of ideas suggesting how to fix our erratic State. Should Reaganism falter, the planning idea will doubtless come forward again, as it did during the 1930s and again (as with the Humphrey-Javits, then Humphrey-Hawkins employment bills) during the 1970s.

This time there will be a difference. Planning is called Industrial Policy (IP). Though IP has many forms and advocates, most formulations respect market forces, disavow "the rigidities of national economic planning," and aim at cooperative government-capital-labor mechanisms to restructure failing industries or equip new industries for international competition, or both. Every Democratic candidate for president in 1984 went on record in favor of some version of IP.

When things begin to go awry, it is a good rule to ask if one is posing the right questions. Perhaps the problems of the contemporary American State are not internal, matters of design and mission, but also and primarily outside, in some social pathology or maladjustment? Many have thought so. Jimmy Carter told the public that a "malaise" of the American spirit was at the root of government troubles. That his case was not convincing does not discredit the idea.

Consider the centrifugal forces at work: political parties continuing to weaken, voters disaffiliating, and legislators taking increasingly independent and unpredictable positions. The family has splintered variously into divorced, remarried, and live-in units. Racial, ethnic, sexual, and religious groups have become ever more assertive of prerogatives endorsed or hinted at during the civil-rights era. Large-scale immigration began during the late 1960s, almost all of it from the Third World, bringing fresh recruits, numbering more than one million a year, to swell America's economically and socially isolated underclass.

Our 19th-century forebears would tell us that Americans have always been a heterogeneous, fractious people, insufficiently united by common

values or purpose. But the last third of the 20th century appears to be the time of the unraveling of even the earlier social and civic ties that eased the task of governing. An old theme in our political discourse seems now more pressing: the articulation of a national purpose.

Earlier efforts to supply national direction have merely demonstrated the difficulties—the pieties contained in the report of Dwight D. Eisenhower's Presidential Commission on National Goals (1960), Nixon's "lift of a driving dream." Still the efforts continue. Reagan reaches backward to the individualistic materialism of the 1920s, the "American dream," and joins this with the nation's unifying antipathy toward the Soviet adversary.

The vision of some of his critics has stressed the inclusion of the formerly excluded; they struggle to offer a sense of social purpose other than the eternal and hazardous arms race with Moscow. But the Democrats, too, now talk of "economic growth" as the central American goal, without commencing the painstaking effort of showing how such growth may continue without the limitless population growth that undermines all gains.

An alternate vision lies in the direction of what Worldwatch Institute's Lester Brown calls a "sustainable society," or what Franklin Roosevelt once termed "a permanent . . . national life," requiring population stabilization and profound changes in people's attitudes toward resources, the biosphere, and self-fulfillment. Much work remains to be done by its advocates to make that vision clearer, more compelling, free of the taint of stagnation.

A populist Democrat might say that what is needed is the time to allow a new sense of national direction to build from below. But leaders understandably think that they must lead, and will be sorely tempted, if matters worsen, to substitute a national purpose more familiar and binding than either individual enrichment or some obscure Buddhist economics of stability and redistribution. That might well someday be war, since we have not yet invented its moral equivalent.

The underlying crisis of the Broker State, when the center does not hold, reflects a social loosening beneath the apparatus and daily performance of government. We "have lost our core project," to use sociologist Amitai Etzioni's words, a condition for which the State possesses only dangerous remedies. Thus, whatever our present difficulties, there may be worse trials ahead for this elderly, dear republic.

Detail from a late 17th-century religious triptych. The Virgin Mary is especially venerated by Ethiopian Coptic Christians, who believe her to be not only the mother of Jesus Christ but also of God the Father.

Ethiopia

"Revolutionary Ethiopia or death" was the choice offered to Ethiopians by their chief of state, Mengistu Haile Mariam, last September, on the 10th anniversary of the revolution that ended the rule of Emperor Haile Selassie I. Such rhetoric is not unusual in postcolonial Africa, known for its cycles of coups and countercoups. But Ethiopia is different. The revolution ended a monarchy that had ruled an independent Ethiopia for almost 2,000 years. Dissatisfied with the pace of change under Haile Selassie, Mengistu and his associates have tried to forge a modern Marxist state overnight. Using terror and coercion, they have met with no great success. Why? Here, Paul Henze suggests that history may offer some explanations.

by Paul B. Henze

Addis Ababa (New Flower) takes the airborne traveler by surprise. Coming in from the north, one flies first up the narrow, green Egyptian valley of the Nile, then over the barren Nubian Desert in the Sudan. Across the Ethiopian border, the desert rises to a high plateau, broken by deep gorges. On the plateau is a patchwork of grain fields and thatched-roof farmsteads that continues for hundreds of miles. Its pastoral character gives little hint that a city of 1.3 million inhabitants is nearby, just over the Entoto mountain range, with its 11,000-foot heights clothed in dark cedar and eucalyptus. As the jetliner crosses the highest ridge, there, out of nowhere, appears Ethiopia's capital.

Ramshackle shanties with tin roofs spread out on the lower slopes; clusters of modern concrete-and-glass buildings anchor the city center, laced by broad avenues that dwindle into twisting dirt paths on the outskirts.

Little would seem to have changed during the last 10 years. The cool, thin mountain air—at over 8,000 feet, Addis Ababa is the highest city in Africa—still carries the scent of the eucalyptus groves scattered throughout the city. Street boys and beggars continue to jostle pedestrians on Churchill Avenue, which connects the railway station and city hall. Hawkers in the Mer-

cato—a vast market built during the 1935–41 Italian occupation—peddle crosses and icons to tourists. Old men wearing a sort of jodphurs and the *shamma*, a white cotton toga, still bow toward the National Palace as they did during the times of Emperor Haile Selassie.

But inside the palace there is no longer an emperor. And here and there in Addis Ababa is evidence of the 1974 revolution that saw Haile Selassie's 44-year rule ended by a group of soldiers known as the Derg—the word for "committee" in Ge'ez, the ancient Semitic tongue still used by Ethiopia's Orthodox priests.

Haile Selassie's National Palace is today the site of the annual Revolution Day (September 12) reception. A 12-foot-high statue of Lenin stands between the palace and Africa Hall, headquarters of the United Nations Economic Commission for Africa. Revolution Square, formerly Holy Cross Square, boasts a new pink granite sculpture of Karl Marx. Above, giant portraits of Lenin, Marx, and Engels—floodlit at night—beam down approvingly.

Even so, the trappings of socialism have not changed the character of the capital; everything there, as novelist Evelyn Waugh noted in 1930, is "haphazard and incongruous." High-rise apartments loom over back yards crowded with chickens and goats. Donkeys laden with firewood trot down Entoto Avenue among Fiat automobiles, Honda motor scooters, and Mercedes buses.

For the privileged, the Hilton Hotel has remained the social center of the capital. Government officials, American and German businessmen, and diplomats of various nationalities gather around its swimming pool, enjoying the view the hotel affords of the city. Revolution or no revolution, Addis Ababa is still the "Capital of Africa": a designation it has earned as the site of 68 embassies, several United Nations offices, and the headquarters of the Organization of African Unity, over whose establishment Haile Selassie presided in 1963.

One begins to wonder: How has the 1974 revolution affected Ethiopia? The Derg promised equality, political freedom, and rapid economic development. Land reform, introduced immediately, has undoubtedly made many of Ethiopia's 32.9 million citizens more equal. New schools and expanded rural health services have improved life in much of the country.

But Ethiopians enjoy no political freedom. All opposition is

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Despite its pro-Soviet stance, the Derg has yet to provide the USSR with permanent port facilities on Ethiopia's 628-mile Red Sea coastline.

illegal. The state controls Addis Ababa's two daily newspapers, as well as a host of other publications. Publishing anything without official permission is against the law. Perhaps as many as 100,000 Ethiopians have died in revolutionary violence, an equal number in continuing regional strife. More than one million have fled to neighboring Djibouti, Somalia, and the Sudan.* Derg chairman Lt. Col. Mengistu Haile Mariam, a former artillery officer, has been Ethiopia's official chief of state since early 1977. His two predecessors died in Derg shoot-outs. In short, like most African countries, Ethiopia has yet to see a new dawn of liberty.

*In the United States, there are some 40,000 Ethiopian exiles, concentrated in New York City, Los Angeles, and Washington, D.C. Most are highly educated; many, nevertheless, drive taxicabs and operate restaurants.

The economy, instead of expanding under "revolutionary socialism," has stagnated. With an annual income per capita of $140, Ethiopia remains one of the world's poorest nations. Industry is embryonic—cement is one of Ethiopia's few nonagricultural products—and industrial output grew by only two percent last year, versus eight percent a year during the 1960s. Agriculture accounted for almost half of Ethiopia's estimated 1982 gross domestic product, and for 90 percent of the nation's exports (mostly coffee and hides). Almost anything can be grown in Ethiopia; it is the potential breadbasket of Africa. But land reform has brought no surge in productivity. A drought in the northern highlands—as severe as the one that Haile Selassie tried to ignore in 1973—has left many Ethiopians struggling just to feed themselves. The average Ethiopian born today will live to the age of 46. Even a citizen of Bangladesh can expect to live three years longer.

The resources that might have been used to improve agriculture or to build factories instead support a 250,000-man army, Africa's third largest. Backed by the Russians, the Ethiopians defeated the invading Somalis in a 1977 war for control of the Ogaden region in the south. But rebels in the northern provinces of Eritrea, Tigre, and Gonder still confront the government with what Chairman Mengistu has labeled "a life-or-death struggle to safeguard . . . our revolutionary motherland." Military spending consumed some 10 percent of the 1982 budget, and the civil wars show no signs of abating.

Lesser peoples might have disintegrated in the face of such pressures. But 2,500 years of recorded history attest to the staying power of Ethiopian culture, a culture protected by a remote and rugged geography, nurtured by an ancient religion, and preserved by a resilient highland race.

I

LAYERS OF TIME

If history were like petroleum, extracted from the earth and refined for profit, Ethiopia would be one of the richest countries in the world. Its "proven reserves" are great and the probability of further extensive finds is high. Two hundred miles northeast of Addis Ababa, a parched lake-bed in the Afar Triangle has yielded one of the oldest collections of near human ancestors. Here, in 1974, the American paleontologist Donald Johanson

came upon the three-million-year-old remains of a female hominid who died in her twenties. Subsequent discoveries by Johanson and others led to the designation of a new forebear of modern man, *Australopithecus afarensis*.

Most of the major paleontological finds in Ethiopia are located within or near the Great Rift Valley—the "cradle," many paleontologists believe, of ancient man. Stretching from Mozambique through the Red Sea to Israel, the valley bisects Ethiopia diagonally, like a crack in a plate.

The two "halves" of the plate are the Eastern and Western highlands. Together, the highlands account for almost two-thirds of Ethiopia's territory. In the east, they slope down through grasslands and desert to the Somali border. In the west, the descent is less gradual, dropping off through deep gorges into the Sudan. The Ethiopian portion of the Rift Valley begins at Lake Turkana and continues as a string of lakes until it widens in the northeast to form the Danakil Depression, the lowest point in Africa and one of the hottest areas in the world—a lunar-like wasteland where temperatures commonly rise above 130 degrees.

Christianity Plus

Not far beyond the Danakil Depression lies the Red Sea, on whose shores Ethiopia's recorded history begins. Egyptian texts chronicle voyages to the "Land of Punt," somewhere in the Horn of Africa, around 2300 B.C. The works of Homer contain no fewer than five references to Ethiopia, which he described in the *Odyssey* as "at Earth's two verges, in sunset lands and lands of the rising sun." The name Ethiopia itself is Greek, meaning "country of people with burnt faces."

Legend, in many cases, does double duty as history. Scattered references to Ethiopia occur in the Old Testament, including the tale of the Queen of Sheba's visit to King Solomon. The *Kebra Nagast* (The glory of kings), an Ethiopian epic of the 14th century A.D., formalized the story. According to this version, Solomon seduced the Queen, who later gave birth to a son, Menelik I. Thus began the so-called Solomonic Dynasty that would rule Ethiopia until Haile Selassie's fall in 1974.

Where did the Ethiopians come from? Many historians believe that Arab colonists crossed the Red Sea from Yemen during the first millenium B.C. and established a powerful state at Axum, in the present-day Ethiopian province of Tigre. Ethiopians still proudly point to their Semitic light skin, thin lips and noses, and wavy hair; dark skin is disdained—so much so that Derg chairman Mengistu's dark complexion is

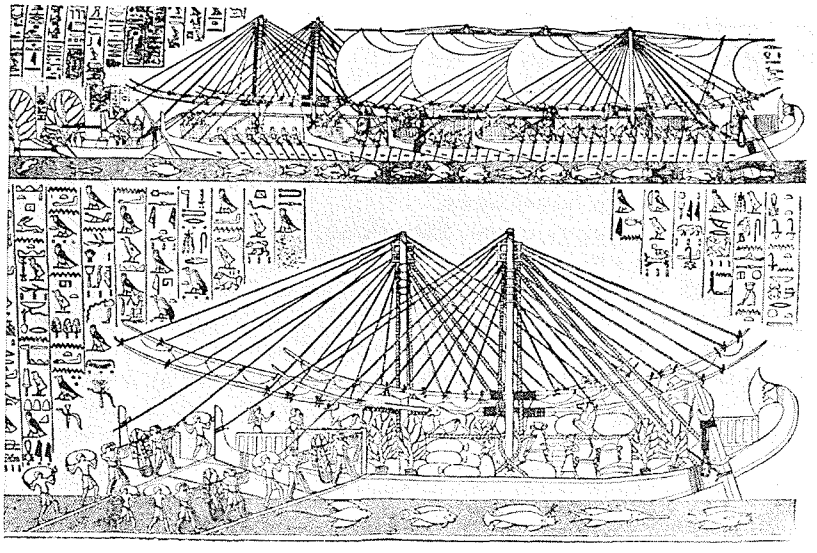
lightened in official photographs.

Huge stone obelisks, deep underground tombs, and large reservoirs (one popularly called the Queen of Sheba's bath) still attest to Axum's ancient glory. When emissaries from Axum visited the Roman emperor Diocletian during the third century A.D., they did so, in the words of the Latin writer Heliodorus, "not as tributaries but [as] friends and allies."

For later generations of Ethiopians, the most important development in Axum's long history—extending from roughly 500 B.C. to A.D. 900—was the fourth-century conversion of its inhabitants from Judaism and paganism to Christianity.

The first evidence of Christianity dates from the reign of the emperor Ezana, who ruled from approximately 325 to 355 A.D. One of his inscriptions, written in Greek, commemorates a campaign against the Nuba (in central Sudan) and attributes his success to the "faith of God and the power of the Father and the Son and the Holy Ghost." The new religion gained ground with the arrival of the so-called Nine Syrian Saints at the end of the fifth century. The holy men founded churches and monasteries throughout northern Ethiopia and translated the Scriptures into Ge'ez.

By the sixth century A.D., Christianity was entrenched in the



Seeking incense and spices, the pharaohs sent fleets to the Land of Punt, described in the ancient Egyptian Book of the Night *as "close to the Land of Outnet and the Eastern Sea."*

northeastern portion of the kingdom and slowly spreading south. The new religion's adaptability eased its popular acceptance. Tied closely to Egypt's Coptic Christian Church, the Ethiopian Orthodox Church also incorporated elements of Judaism and paganism that persist today. The ritual of circumcision takes place on the eighth day after birth—the same as in Judaism. Ethiopian Christians do not eat pork. Widespread still is use of the pagan *lelafa sedeq*, a parchment scroll tied to the body at death in order to guide it on the way to heaven.

An African Rarity

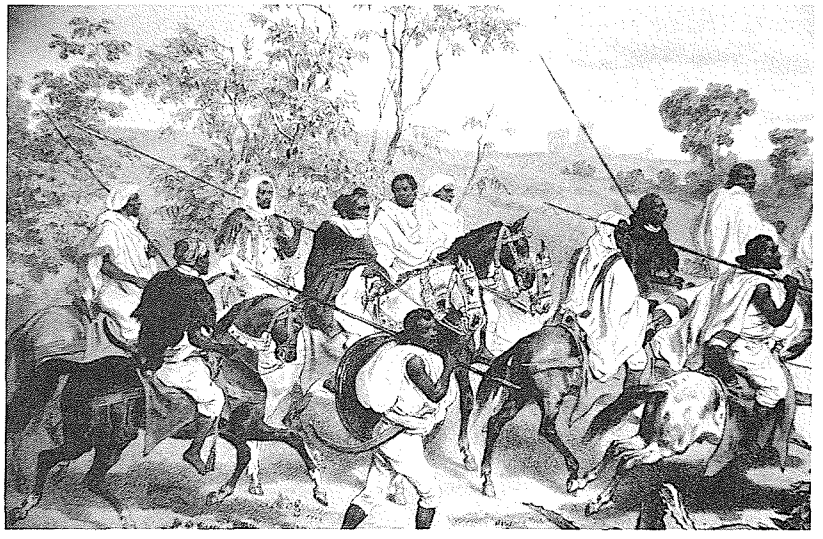
The Orthodox Church came to exert an overwhelming influence on everyday life in Ethiopia. Pilgrimages to sacred springs, lakes, and caves attracted large crowds. Holy days mandating fasts were, and are, strictly observed. Peasants even now refer to days by their corresponding saint's name rather than by their number. The 23rd of each month, for example, is known as Giyorgis, after Saint George, Ethiopia's patron saint.* Monasteries such as the one at Debra Libanos, established during the 13th century, were centers of learning and literacy.

While the titular patriarch of the Ethiopian Orthodox Church was always an Egyptian appointed by the Patriarch of Alexandria (a practice that persisted until 1959), native Ethiopian monastic leaders wielded the real power. Emperors were both sovereigns of the nation and defenders of a faith—a status reflected in one of Haile Selassie's titles: Elect of God. Emperors such as Zara Yakob (1434–68) enforced orthodoxy. During his reign, he not only expanded the empire's boundaries but also reformed the church, putting to death his own sons for flirting with paganism.

The gravest threat to Ethiopian Christianity was Islam, which developed across the Red Sea in Arabia during the seventh century. Early Muslims, persecuted in Arabia, took refuge in Axum. The prophet Mohammed appreciated this hospitality and reputedly cautioned his followers, "Leave the Abyssinians in peace, as long as they do not take the offensive."

But Mohammed's injunction did not stop Arab Muslims from gradually populating the Red Sea coast. They soon overran Egypt, the Sudan, and a large portion of what is now Somalia. Eventually, they would sweep across North Africa and up into

*The Ethiopian calendar has 365 days distributed over 12 months of 30 days each; an additional month with five (or, in a leap year, six) days occurs at the end of each year. Because it is based on the Julian rather than the Gregorian scheme, the Ethiopian calendar is also eight years behind ours.



An 1840 rendition of an Ethiopian raiding party. Bloody battles between rival tribes were common; some 70 years earlier the Englishman James Bruce had recoiled at the "horrid cruelties" practiced by Ethiopian warriors.

Spain. Thus, the Muslims cut off Ethiopia from the European world to the north as well as from the Middle East. "Encompassed on all sides by the enemies of their religion," observed British historian Edward Gibbon in 1781, "the Ethiopians slept near a thousand years, forgetful of the world, by whom they were forgotten."

Axum's days as the capital of ancient Ethiopia ended with its destruction during the 10th century by Judith, Queen of the Falashas, an unassimilated local tribe that adhered to Judaism [see box, p. 108]; but Christianity remained strong in Ethiopia. Missionaries, monks, traders, settlers, and adventurers moved southward from a declining Axum.

Today, the central plateau to which they migrated is the heart of Ethiopia. Much of its people's dominance can be attributed to what the British historian Arnold Toynbee called "the virtual impregnability" of its topography. In the rugged Semien region—the "rooftop of Africa"—rises Ras Dashen, at 14,782 feet, Ethiopia's highest peak. Most of the plateau lies between 6,000 and 10,000 feet. Deep gorges carved by erosion make every *amba*, or mesa, a challenge to ascend, let alone attack.

Axumite Christians gradually expanded into these areas,

mingled with the peoples already there and, over generations, became the Amhara. They and the more northerly Tigreans remain the country's two most important Semitic peoples. Smaller tribes also lived on the plateau, some, like the Falashas, retaining their identity to this day, others mixing with the Amhara and Tigreans.

Life in the central highlands mirrored, in some respects, the feudal pattern of medieval Europe. Most of the high plains and *ambas* had come under the (wooden) plow; the fertile soil supported wheat, barley, and *teff*, an indigenous grain used to make *injera*, the spongy, flat bread eaten by all Ethiopians. The inhabitants of scattered settlements gathered weekly at markets and rural churches to trade, worship, gossip, and drink.

Distinct social classes evolved, from slaves to nobles. Peasants who tilled their own land ranked near the top. Potters, metalsmiths, and tanners ranked near the slaves. The emperor rewarded loyalty with titles and military rank, a practice that resulted in considerable social mobility.

Thus, by the 15th century, society in the central highlands of Ethiopia—unlike that in other regions of black Africa—amounted to far more than a conglomeration of primitive, illiterate tribes. Anchored by a church and an established monarchy and supported by well-developed agricultural communities, Ethiopia had developed a solid cultural and political identity as a nation. While from time to time Ethiopian society incorporated customs from the tribes it absorbed, the integrity of its basic institutions remained. Historian Margery Perham has compared Ethiopia to "a rock-pool high up on the [sea]shore . . . filled at intervals by the tide of influence from the great world."

Newcomers

Events during the 16th century unleashed a wave of foreign influences that severely tested the durability and resilience of Ethiopian civilization. The first convulsion came in 1529, when Ahmad Grañ ("the Left-handed"), emir of Harer, led a Muslim expedition into Ethiopia from Harer in the east. He laid waste to the highlands, forcibly converting Christians and burning churches and monasteries.

Emergency help came from an entirely unexpected source: the Portuguese. Intrigued by reports of a mysterious kingdom in the Near East, supposedly ruled by a Christian king named Prester John, King John II of Portugal had sent an envoy in 1487 to find this mythical land. The envoy, Pedro de Covilham, arrived in Ethiopia in 1493, becoming a trusted adviser to the emperor.

ETHIOPIA'S BLACK JEWS

In 1973, the Sephardi Chief Rabbi of Israel, Ovadia Yossef, declared the Falashas of Ethiopia to be descended from the lost Hebrew tribe of Dan. By acknowledging Ethiopia's 30,000 "black Jews" to be, in fact, real Jews, Yossef ended a century-long debate among rabbinical scholars and opened the door for Falasha immigration to Israel under the 1950 Law of Return, which offers Israeli citizenship to all Jews.

The origins of the Falashas—the name means "exile" in Amharic—are obscure. The Falashas themselves claim descent from the Jewish companions of Emperor Menelik I, reputed son of Solomon and the Queen of Sheba. Scholars trace the Falashas back to the Agau, one of the earliest known tribes in Ethiopia. By their reckoning, Judaism was imported during the first millenium B.C. either by Arabian Jews from across the Red Sea, or by Egyptian Jews traveling south along the Nile.

The Falashas lived autonomously in the Semien Mountains near Lake Tana for almost 1,000 years. A visiting Spaniard noted during the 12th century that they were "not subject to the rule of others, and they have towns and fortresses on the top of mountains." But 400 years later, the Emperor Susenyos conquered the Falashas. Those who were not sold as slaves were denied the right to own land and forced to enter the lowly professions of potter, blacksmith, stonemason, and silversmith.

Help came during the 19th and 20th centuries, from European Jews. In 1924, a French Jew, Jacques Faitlovitch, opened Ethiopia's first Jewish boarding school (in Addis Ababa). But foreign aid could not overcome the long hostility between Falashas and Christians. As late as the 1950s, Christian peasants occasionally beat or killed Falashas, whom they believed turned into hyenas at night and dug up the dead.

Falashas sought aid from Israel after its creation in 1948. An open letter to Jewish organizations from the Falashas asked, "Why should our tribe be considered less than the rest of Jewry?" But the Israelis were loath to pressure Haile Selassie—one of Israel's few African allies—into allowing the Falashas to leave. For his part, the Emperor saw the Falashas as valuable physical evidence of his own descent from Solomon.

After the 1974 revolution, the Derg allowed some Falashas to emigrate (in return for Israeli small arms). But pressure from Ethiopia's Arab allies, notably Libya, soon curbed the exodus. Life in Israel has not been easy for the Falashas, who retain their old customs; women, for example, are confined to special huts during menstruation. Unable to speak Hebrew and unfamiliar with modern ways, many of the 5,000 émigrés are poverty-stricken. While the Falashas in Israel may have escaped the hardships of life in Ethiopia, they have yet to find the Promised Land.

Other Portuguese followed. Unable to stop Grañ's depredations, the Ethiopians turned to Portugal for help. Four hundred Portuguese musketeers proved decisive in gaining a 1543 victory against the Muslim invaders. Thus began Europe's involvement, of sorts, in Ethiopian affairs.

The Arabian Muslims and the Portuguese were not the only newcomers to Ethiopia. Exhausted by the struggle against Grañ, the Amhara-Tigre elite could not check a massive influx of Oromo tribesmen into Ethiopia's heartland. These nomadic cattle herders migrated from the grazing lands of southern Ethiopia and northern Kenya during the 16th century. Some Oromo put down roots and became farmers, embracing Christianity and intermarrying with Amhara. Others resisted assimilation. Their leaders became a major force in regional politics. Today, the Oromo are the largest ethnic group in the Ethiopian population.

The Ambitions of Tewodros II

Reeling from the consequences of the Muslim invasion, the Ethiopian monarchy's power and prestige declined during the 17th and 18th centuries. The peripheral provinces of the empire slipped away. A steady succession of explorers and emissaries from Italy, Britain, Spain, Sweden, and France made their way to Ethiopia, intent on planting their flags. The country seemed destined to dissolve or to become yet another European protectorate. But this did not happen.

Traditionally, change in Ethiopia has come in bursts, with great men playing a catalytic role. Under Ezana, Axum expanded and embraced Christianity. During the 15th century, Zara Yakob crushed the Muslims and reformed both church and state. Now, beginning in the mid-19th century, three ambitious rulers would follow one upon another, each determined to unite and modernize a fragmented and feudal empire.

The first, Tewodros II, ascended the throne in 1855. Walter Plowden, the British consul at the time, described him as "vigorous in all manly exercises . . . his personal and moral daring are boundless." Such qualities enabled Tewodros to subdue local chieftains and to restore a strong central government. Meanwhile, he sought European help to develop his country's economy and, in the form of guns and gunsmiths, to counter the Muslims on his borders. He even proposed to the Russian tsar Alexander II that Ethiopia and Russia combine forces to liberate Jerusalem.

Ultimately, however, Tewodros's impatience and ambition—and his concern for Ethiopia's cultural integrity—led to his

undoing. In 1862, when European missionaries tried to convert members of the Jewish Falashas, Tewodros ordered the clerics imprisoned. The British consul joined them in jail when he protested. News of the hostages caused an uproar in Britain. Led by Lt. Gen. Sir Robert Napier, an expeditionary force of 64,000 men, 44 elephants, and some 12,000 mules arrived at Tewodros's mountain fortress of Magdala in April 1868. After a disastrous defeat by the British, the emperor released his prisoners. Intent on making an example of the upstart emperor, the British then stormed the citadel; they found Tewodros sprawled on the ground, a gaping wound in the back of his head. Next to his body lay a pistol inscribed to him in happier days by Queen Victoria.

Triumph at Adowa

The British did not stay on. Indeed, disenchanted with the high cost of the expedition, and seeing no economic or strategic opportunities, they took care, as General Napier later put it, to remove "every possible official channel through which we might be involved in [future] complications with that country." Ethiopia remained—unlike Kenya, Uganda, and the Sudan—free of foreign domination.

By the 1890s, Emperor Menelik II—who had been a rival and former prisoner of Tewodros—had realized Tewodros's dream of a united Ethiopian empire. He conquered the Muslim city of Harer and subjugated both the southern Oromo and the inhabitants of the southwestern coffee-growing region of Kefa (whence comes the English word for coffee). The lowland negroid tribes of the far west—long regarded by highlanders as *shankallas*, the Amharic equivalent of "niggers"—were also brought into the fold.

Menelik next had to face foreigners determined to establish themselves in Ethiopia. In 1885, the Italians—newcomers in the Scramble for Africa—occupied the Red Sea port of Massawa and then advanced into Ethiopia's northern highlands, taking possession of a region that they christened Eritrea. Talks between the emperor and the Italians failed. Menelik mobilized his tribesmen, declaring: "Today, you who are strong, give me your strength, and you who are weak, help me by prayer."

In March 1896, superior Ethiopian strength crushed the Italians in the rocky terrain near the village of Adowa. One-third of General Oreste Baratieri's 18,000 Italians perished. With the help of Russian advisers and European arms (including 10,000 Italian rifles) Menelik's forces had achieved a victory that stunned Europe. Adowa Day, March 2, has been celebrated since

by Ethiopians as a national holiday. Menelik then made peace with the Italians, permitting them to keep Eritrea, which for the next half century insulated Ethiopia from the Muslim regions to the north and west.

France, Britain, and Italy now treated Menelik with respect. When the Somali coast bordering Ethiopia was divided among them, Ethiopia received its interior—the Ogaden. (In this division lay the seeds of discord between Ethiopia and modern Somalia, which became independent in 1960.) The Great Powers also sent foreign legations to Menelik's capital of Addis Ababa, founded in 1886. Guided by advisers such as Alfred Ilg, a Swiss engineer who became one of Menelik's most trusted counselors, Menelik built the nation's first public school and introduced smallpox vaccination. In 1905, with the help of European financiers, the state's Bank of Abyssinia opened for business. The Russian Red Cross founded Addis Ababa's first hospital.

Unfortunately, a series of strokes crippled Menelik before he could further his ambitious plans. Lij Iyasu, his grandson, followed him on the throne in 1913. The young man soon became involved in Muslim intrigues. The nobility and clergy accused him of abandoning Christianity and rebelled. In 1916, Menelik's daughter Zauditu became empress. Under her as prince regent was Ras Tafari Makonnen, a young man who had a clear vision for his country.

II

THE REIGN OF HAILE SELASSIE

Ras Tafari Makonnen—who would take the name Haile Selassie ("Power of the Trinity") at his coronation—dominated Ethiopia for 58 years. He was born near the city of Harer, where his father, Menelik's most trusted general, was governor. Tafari studied in Harer under a Jesuit priest, learning both European history and French. His father, who had traveled to Europe in 1889, taught the young Tafari to appreciate the importance of modern technology as well as Western political and social ideals.

The young prince regent's slight physique and lack of charisma invited the scorn of many of his countrymen—at first. But his quiet demeanor masked a keen mind and an iron will. "Do not underestimate . . . Tafari," an unsuccessful rival once observed, "He creeps like a mouse, but he has jaws like a lion."

Tafari's attempts to modernize Ethiopia faced formidable obstacles. The apparatus of the government in Addis Ababa was

rudimentary. What education there was took place primarily in church schools. The country had few roads. Transport was mostly by mule, horse, or camel. Salt bars still served as currency. The throne and the church together owned one-third of the land, and subsistence agriculture allowed the export of only coffee and hides. Slavery thrived in remote parts of the country.

In their African colonies, the European powers variously assumed the "white man's burden" of economic development. Ethiopia had to do it alone. Today, in the age of the World Bank, the International Monetary Fund, and the Food and Agricultural Organization, it is easy to forget the scarcity of capital and expert advice that prevailed in the undeveloped world 50 years ago. Measured with that in mind, Ethiopia's gains under the Lion of Judah were substantial.

To attract aid and to ensure protection, Tafari cultivated strong ties with the outer world. In 1923, after promising to suppress slavery, Ethiopia won admission to the League of Nations. Among other innovations, a chapter of Ethiopian Boy Scouts was begun. American Presbyterian missionaries established a 160-bed hospital at Addis Ababa in 1923. A contingent of Belgians trained and armed the police.

Haile Selassie I, seen shortly after his coronation in 1930.

On a 1924 tour of Europe, the young prince regent struck the London *Times* as a man "of considerable enlightenment." Others were impressed by his large entourage, which included a private traveling zoo with lions. Tafari returned with ideas for change at home; he also dispatched bright young Ethiopians to universities in England, France, and the United States.

But Tafari had to move slowly. Radical change, he knew, would alienate the conservative clergy and rural tribal aristocracy, and could lead to his downfall. "Ethiopia is like Sleeping Beauty," Tafari told a French journalist in 1933. "We must take great care . . . not to overwhelm her with changes."

Mussolini's Revenge

With the death of Empress Zauditu in 1930, Tafari became Emperor Haile Selassie I, riding to his coronation in a carriage that had once belonged to Kaiser Wilhelm I. His coronation illustrated vividly the gulf between the promise and the reality of modernity in his nation. Policemen obligingly donned new uniforms for the ceremony, but they refused to wear shoes. Lepers and beggars were hastily evacuated from Addis Ababa to hide them from the eyes of foreign dignitaries—a practice still followed in revolutionary Ethiopia.

Still, genuine improvements did take place. In 1931, the new emperor gave his countrymen a constitution that established a two-chamber parliament. The emperor retained real power, but the constitution helped to weaken Ethiopia's feudal array of warring tribal chieftains. To establish a civil service, Haile Selassie recruited advisers from Sweden, Switzerland, and the United States—countries with no territorial interests in Ethiopia. (One American, a former U.S. Treasury employee named Everett A. Colson, served as Haile Selassie's chief financial adviser.) A small contingent of Russian refugees from the 1917 revolution helped to staff Ethiopia's fledgling ministries.

The emperor had many other plans. But before he could pursue them, the Italians intervened. Thirty-nine years after Adowa, Benito Mussolini was determined to carve an Italian empire out of Africa. Some 100,000 Italian troops began moving across the Eritrea-Ethiopia border at 5:00 A.M. on October 2, 1935. To oppose Italian tanks, aircraft, and poison gas, Haile Selassie fielded an army of 100,000 men who lacked modern equipment and training. Despite a gallant resistance, the Ethiopians soon gave way before the Italian advance.

Haile Selassie escaped to Djibouti on May 2, 1936. Addis Ababa fell three days later. The League of Nations, by which the emperor

THE OLD TESTAMENT MEETS THE NEW WORLD

"Bonds of close friendship have been established between our two governments, and I express the earnest hope that these bonds will . . . [result] in greater commerce and more frequent intercourse between Abyssinia and the United States." Thus, in 1919, did President Woodrow Wilson greet the first Ethiopian envoys to the United States; they had been dispatched from Africa by Prince Regent Ras Tafari Makonnen, the future Haile Selassie I.

The link between the United States and Ethiopia was slow to develop. Even before Emperor Menelik's 1896 victory over the Italians at Adowa, the French, British, and Russians had been expanding their influence in Ethiopia. Not until 1904, however, were diplomatic ties established between the United States and Ethiopia; business at the U.S. consulate at Addis Ababa was so slow that the post was shut down in 1907. A report by the State Department two years later noted that "the evidences are entirely lacking of any . . . trade opportunities."

The 1919 Ethiopian delegation to the United States came to congratulate President Wilson on the recent Allied victory in World War I—and to solicit U.S. private investment in Ethiopia. Clad in costumes of red velvet embroidered in gold, and wearing jeweled turbans, the envoys presented President Wilson with tusks of ivory, gold boxes, and letters from Prince Regent Ras Tafari and Empress Zauditu.

But racial tensions in the United States—riots had flared in Chicago and Washington, D.C—cast a shadow over the Ethiopians' tour. At one point, the envoys were barred from the National Democratic Club in New York because, as one member put it, "They're black; we'll not have black men eating here."

Proud of their Semitic heritage and their 2,500-year history, the visiting Ethiopians, as Howard University historian Joseph Harris has noted, "were indignant about the label of 'Negro'." For American blacks, however, the Ethiopians' visit was "a rare opportunity . . . to identify with . . . an independent African country." Black newspapers gave extensive coverage to the visitors, who were invited to speak at, among other places, Harlem's Metropolitan Church. The Ethiopians in turn recruited black American physicians, teachers, and technicians to assist in the development of Ethiopia. During the 1935–36 Italo-Ethiopian war, several prominent American blacks—including aviator Herbert Julian, "the Black Eagle of Harlem"—volunteered to fight the Italians.

"Ethiopianism" continued to inspire blacks in America and elsewhere to fight for greater civil rights. And racial prejudice notwithstanding, Haile Selassie saw U.S. friendship as a useful counterweight to European influences and fostered an alliance that endured until his overthrow in 1974.

had set much store, imposed only ineffective sanctions against Italy. As King Victor Emmanuele III was being proclaimed Emperor of Ethiopia, Haile Selassie spoke before the League on June 30, 1936, in Geneva and warned, prophetically, "It is us today. It will be you tomorrow." The emperor's eloquence won him worldwide applause and sympathy, but not much else. The London *Times* summed it up: "For the little good it can do him now, Haile Selassie has and will hold a high place in history."

Helping the Yanks

Ethiopian guerrillas refused to accept Italian rule without a struggle. Mussolini, in turn, authorized brutal reprisals. Marshall Rodolfo Graziani, the viceroy of occupied Ethiopia, avenged a 1937 attempt on his life by executing all Ethiopian high school and university graduates.

Italian rule was bloody but brief. Soon after Italy entered World War II in June 1940, British troops—bolstered by a large contingent of South Africans—struck from the Sudan, Kenya, and British Somaliland (part of present-day Somalia). Five years to the day after the Italian capture of Addis Ababa, Haile Selassie returned to his capital, riding in an Alfa Romeo abandoned by the Italians. "Today," he announced, "is the beginning of a new era in the history of Ethiopia."

Haile Selassie picked up where he had left off. The Italian occupation, grim as it was, had also given Ethiopia a 4,000-mile road network and numerous hospitals, post offices, and public buildings. The emperor forgave Fascist brutalities and asked individual Italian settlers to stay. Many of them did, establishing restaurants, hotels, and successful businesses, including a brewery that produced Melotti, long one of the more popular Ethiopian beers.

The emperor sent a new generation of students abroad and established the University College of Addis Ababa in 1950, with instructors drawn from Britain, Sweden, and the United States. In 1955, a revived constitution defined and expanded the rights of Ethiopians (though without limiting the emperor's real power). To broaden Ethiopia's economic base, Haile Selassie sought help from foreign companies, inviting Trans World Airlines to set up Ethiopian Airlines (EAL) in 1946 and a Dutch firm, HVA-Ethiopia, in 1950 to develop sugar plantations in the Awash River valley. The Fuji Spinning Company of Japan helped to double the output of the Cotton Company of Ethiopia.

Haile Selassie's speech before the League of Nations in 1936 not only brought the emperor world recognition but also helped to ensure postwar assistance from Western Europe, the United

States, and the Soviet Union. Besides providing economic aid, the United States signed a defense-cooperation treaty with Ethiopia in 1953, formalizing the U.S. presence at Kagnew Telecommunications Station in Asmera. During the 1960s, Ethiopia hosted the largest single contingent of U.S. Peace Corps volunteers. West Germany sent textbooks and teachers. The Soviet Union, which had once denounced Haile Selassie as "not the Lion of Judah but the jackal of American imperialism," invited him to Moscow for a visit in 1959 and sent him home with an IL-14 helicopter and a credit line of $100 million.

Some 5,000 men from Ethiopia's crack Imperial Bodyguard fought alongside United Nations troops in Korea, where the commander of the U.S. Army's Seventh Division praised their "outstanding proficiency and unfaltering dependability in combat." Haile Selassie moved to the forefront of the pan-African movement, hosting a Conference of Independent African States in 1962 and proposing an African Development Bank (founded in 1963). At President John F. Kennedy's funeral, the little emperor marched with the front rank of world leaders.

Still, the 20th century touched only a small fraction of all Ethiopians. For the 90 percent of the citizenry who lived in the countryside, life's goal remained *sarto mablat*—"having worked,

Ethiopian soldiers in 1935. They faced the Italians led by Rodolfo Graziani, whose cruelty earned him the title "Butcher of East Africa."

to eat." Like the urban laborers of Menelik's time, who refused to use wheelbarrows, most highland farmers continued to till the soil with plows pulled by oxen. To this day, as sociologist Donald Levine has noted, the Ethiopian peasant is deeply conservative and "tends to feel that [innovation] is immoral."

Given such attitudes, it is not surprising that for most of his life, Haile Selassie was ahead of his time. During the 1960s, however, the times began to catch up. The educated new classes that the emperor himself had created—students, military officers, intellectuals, workers, the small but growing bourgeoisie—began demanding more extensive political reforms and faster economic development.

Resentful Children

In 1960, such discontent was expressed in an abortive coup. Led by Germame Newaye, a provincial governor educated at Columbia University, troops of the Imperial Bodyguard seized the imperial palace while Haile Selassie was off visiting Brazil. Loyal Army units put down the coup and Germame Newaye committed suicide. Haile Selassie sadly observed that "trees that are planted do not always bear the desired fruit."

As the 1960s went on, the emperor's "trees" grew. In an Africa that acquired the appearance of political freedom overnight, young Ethiopian technocrats with degrees from Oxford, Cambridge, or Harvard were embarrassed by an emperor whose authority derived from Solomonic legend. Many were also frustrated by the fact that, despite the emperor's efforts, Ethiopia remained one of the poorest and least developed countries in the world. Its 1969 income per capita was $60. Only seven percent of the population could read; a mere 10 percent of all eligible children were in school.

Disenchanted with an economy that failed to provide them with prestigious jobs, and susceptible to leftist rhetoric, students at Haile Selassie I University led riots that closed down the school in 1969. Denouncing U.S. "imperialism," they attacked Peace Corps volunteers, causing the withdrawal of most of the American staff that same year. The old emperor was perplexed. He had treated his students like a loving father: Time and time again, he had met with students arrested by the security forces and released them in return for promises of better behavior.

The 1960s brought another headache for Haile Selassie: Eritrea. Ethiopians saw Eritrea as part of their historical empire. But ever since Italy had established it as a colony in 1890, Eritrea and Ethiopia had gone separate ways. Eritrea on the aver-

age enjoyed a superior educational system and faster economic development. After the Italian defeat in World War II, Britain had occupied Eritrea under a mandate of the United Nations, which was charged with disposing of Eritrea "in accordance with the wishes of a majority of the population." In a province with eight major nationalities and several languages and religions, those wishes were difficult to ascertain. So, in 1952, Eritrea was joined to Ethiopia in a federation; 10 years later, it was incorporated fully as Ethiopia's 14th province.

While many Eritreans took jobs in other regions of Ethiopia as teachers, technicians, or businessmen, not all Eritreans were satisfied. Some fled abroad and joined separatist groups such as the Eritrean Liberation Front (ELF), which became active during the 1960s. Financed and trained by China, Cuba, Czechoslovakia, Syria, and Iraq, Eritrean gunmen during the 1960s hijacked EAL jets in Frankfurt and Karachi, and staged raids in the city of Asmera. Haile Selassie's recognition of China in 1971 ended Chinese support for the Eritreans; the strength of the insurgency ebbed. Half of the emperor's army of 45,000 was able to contain the rebellion. Much of the rest was busy patrolling the Somalia-Ethiopia border, where disputes between the two nations over the Ogaden periodically erupted into armed clashes.

These conditions, although serious, did not alarm the government ministers in Addis Ababa or the majority of the rural populace. No new conflicts existed among Ethiopia's many nationalities. Muslims and Christians lived more amicably in Ethiopia than anywhere else in the Horn of Africa. Insurgency notwithstanding, Eritreans still traveled to Addis Ababa to work in government and industry. True, there was an atmosphere of impending change; Haile Selassie was, after all, mortal. But most Ethiopians were optimistic and thought that, with a little time and patience, any change might occur without undue turmoil. They were wrong.

III

EMPIRE IN FERMENT

The year 1973 was not a good one for the 81-year-old King of Kings. A stroke paralyzed his son and successor, Crown Prince Asfa Wossen, casting doubt on the monarchy's durability. In the northern highlands, 500 people were dying each day as a result of famine brought on by a three-year drought. Government attempts to suppress news of the famine led to severe criticism

from Ethiopians both inside and outside the government.

Events outside Ethiopia created more problems. Burdened by Vietnam and Watergate, U.S. influence declined, and with it the prestige of Ethiopia's U.S.-educated elite and of Haile Selassie himself. The outbreak of the Arab-Israeli War led to the December 1973 oil price hike by the Organization of Petroleum Exporting Countries. During February 1974, taxi drivers protesting higher fuel prices were joined by teachers and others demanding better wages in a strike that crippled Addis Ababa.

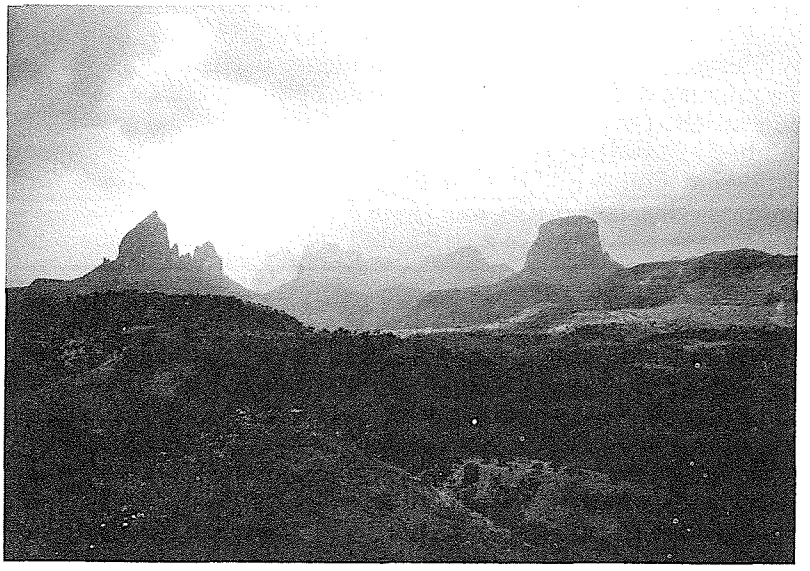
The Lion Dies

Meanwhile, dissatisfaction spread to the military. Troops of the Second Division, weary of low pay, poor living conditions, and stalemate in Eritrea, arrested their officers and took control of Asmera. They sent a 22-point petition to the emperor, complaining, among other things, that "ministers have too many Mercedes automobiles."

The cracks widened. At February's end, Selassie's cabinet resigned in the face of popular pressure. Flushed with success, teachers, enlisted men, students, and municipal workers peppered the new cabinet with demands for higher pay, a new constitution, and land reform. The Ethiopian press joined in: An editorial in the *Ethiopian Herald* called for "a transition [that] is not only a change of names and faces but . . . [also] of concepts."

The country was slipping out of control. Alarmed, the dissidents in the armed forces decided to step in. In April, representatives from all branches of the military formed the Armed Forces Coordinating Committee, or Derg. By midsummer, the Derg had arrested 200 former ministers and other high officials, charging that they had "betrayed" the emperor and were responsible for the disastrous famine. The government was reorganized, but as the Derg swallowed more and more members of Haile Selassie's inner circle, it became apparent that the emperor's days were numbered.

In the early hours of September 12, 1974—New Year's Day in Ethiopia—three representatives from the Derg arrived at the National Palace to take Emperor Haile Selassie to Army headquarters. The emperor retained his customary dignity, momentarily hesitating only when he saw that he was to ride in a blue Volkswagen. "From today," began a Derg statement, "His Imperial Majesty Haile Selassie has been deposed from office." Confined to Menelik's former palace, the King of Kings, Conquering Lion of the Tribe of Judah, Elect of God Haile Selassie I died on August 27, 1975.



The Semien Mountains in northern Ethiopia's Gonder Province. Despite such rugged terrain, some 65 percent of Ethiopia's land is arable.

Ethiopia's ruling Derg is today avowedly Marxist. How it got that way is a matter of debate. Clearly, the Soviet Union had been active in Ethiopia during the 1960s; in 1969, three Soviet "diplomats" were expelled from Ethiopia for passing money and Marxist literature to students. But before the revolution, it would have been impossible to identify any overt pro-Soviet, procommunist, or even prosocialist Ethiopian organization (barring some few groups of students and intellectuals). And thanks to the secrecy of the postrevolutionary Derg—which rarely discloses the number or identity of its members—the sources of its political ideology, and its reasons for adopting it, remain unclear.

What is clear is that the Derg introduced "Ethiopian socialism" soon after the emperor was out of the way. In March 1975, sweeping rural land reform was decreed; 50,000 students were sent to the countryside to "transmit the values of the revolution." In the cities, families could keep one dwelling; all other property reverted to the state. *Kebelles*, neighborhood committees modeled on those in Cuba, administered nationalized property in cities and towns. The Derg also nationalized banks, insurance companies, and most foreign investments.

Before the arrival of "Ethiopian socialism," the revolution had

been remarkably nonviolent. Indeed, in June 1974 Abiy Gobegna, Ethiopia's most popular novelist, had declared, "How proud I am of my country—all this change and no blood." The Derg soon disappointed him. On November 23, 1974, 59 former officials were executed. In the years that followed, the Derg unleashed what it called the Red Terror to crush all opposition. In March 1977, after the radical Marxist Ethiopian People's Revolutionary Party (PRP) accused the Derg of fostering military dictatorship, Derg vice-chairman Atnafu Abate armed the *kebelles*, ordering them to "cleanse the city of these undesirable elements." Some 300 students were killed in one day, a Derg spokesman observing that "being young is no excuse for being reactionary."

But discerning who was radical or reactionary was no easy matter. Nor was it clear who really ran the Derg. A February 1977 shoot-out that ended with the death of Derg chairman General Teferi Banti and eight other Derg members brought Lt. Col. Mengistu to power. Long-rumored to be the man in charge, Mengistu consolidated his position by executing Atnafu in November 1977 for "placing the interests of Ethiopia above the interests of socialism."

As the new chairman, Mengistu had his hands full. Much of the country was in open rebellion against the central government. Somali president Mohammed Siad Barre had decided that Ethiopia was falling apart and was preparing to attack. Ever since the former colonies of British and Italian Somaliland had merged in 1960 to form the Somali Republic, the Somalis had claimed the largely Somali-inhabited Ogaden region (as well as parts of Kenya and Djibouti).

Enter Fidel Castro

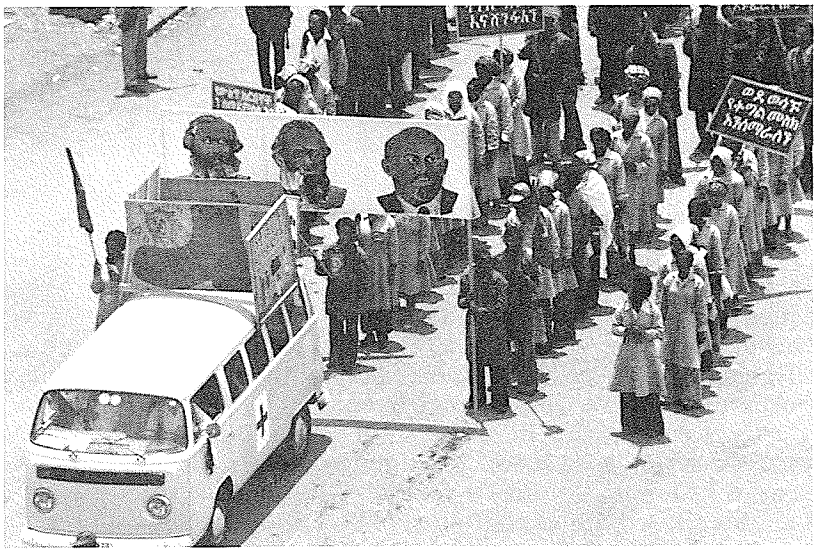
During the 1960s, the Russians had begun arms shipments to the Somalis. A 1974 USSR–Somalia friendship treaty provided Somalia with more T-55 tanks, MiG jets, and some 4,000 Soviet "advisers." By July 1977, when Somali troops—thinly disguised as guerrillas—fanned across the Somalia-Ethiopia border, the Soviet Union had delivered more than $500 million worth of equipment. In contrast, despite the Derg's praise for Moscow-style "socialism," no significant Soviet aid had been sent to Ethiopia. Up until a year after Haile Selassie's death, in fact, the United States continued to be Ethiopia's main source of military hardware.*

*Over a period of 25 years, the United States supplied Ethiopia with $287 million in military aid, including F-5E fighter-bombers. More than 3,000 Ethiopian officers were trained in the United States; among them, ironically, was Mengistu.

But Congress soon grew reluctant to support the bloody-minded Derg. Citing human-rights abuses, the White House in 1977 suspended ammunition deliveries. In response, Mengistu expelled the 46-member U.S. Military Advisory Assistance Group and closed down the U.S. Information Service office.

The Soviets eagerly exploited the growing estrangement. The chance of a foothold in one of Africa's oldest independent nations—with two ports on the Red Sea coast superior to facilities at Berbera in Somalia—was more enticing than Moscow's stake in Somalia. Facing a threat similar to the one posed by Ahmad Grañ's invasion 450 years before, Mengistu turned to Moscow for help. During November 1977, the Russians began their largest overseas airlift, ferrying more than $1 billion worth of aircraft, tanks, rocket launchers, helicopters, ammunition, vehicles, and other materiel. Fidel Castro sent a total of 17,000 Cuban troops to provide a "defensive shield [for] the Ethiopian revolution." Jilted, the Somalis evicted their Soviet "advisers." By March 1978, the Ethiopians had recaptured the Ogaden, and the battered Somalis had withdrawn. An uneasy truce between the two nations has prevailed ever since.

Meanwhile, the Eritrean insurgents had not been idle. In



Despite the large turnout on annual Revolution Day (September 12) parades in Addis Ababa, communist ideology has yet to attract ordinary Ethiopians, who often joke about the new "bearded trinity" of Lenin, Marx, and Engels.

fact, they met with more success than the Somalis. By early 1978, the insurgents—dominated now by the Marxist Eritrean People's Liberation Front (EPLF)—controlled 90 percent of Eritrea and had Massawa and Asmera under siege.

The Marxist Derg has adamantly refused to negotiate with the Marxist EPLF. And despite periodic infusions of Russian equipment, repeated offensives against the EPLF have failed. One reason: Castro refused to let Cuban troops fight guerrillas whom Cuba had once trained. Skeptical Ethiopians see more sinister motives behind Castro's refusal to help. As long as the situation in Eritrea festers, the Derg will remain dependent on Moscow for military aid. Today, the EPLF still ties down 100,000 of Mengistu's troops.

Confounding Marx

On the surface, Ethiopia in 1984 appears similar to many another Soviet client. Fidel Castro came to celebrate Revolution Day in September 1978; two months later Mengistu went to Moscow to sign a Treaty of Friendship and Cooperation with the Soviet Union. East Germans, Bulgarians, and North Koreans sent specialists to advise the security services, the government press, and the ministry of agriculture. Now, Ethiopia's 30,000 television sets bring viewers programs from Moscow such as "Comrade Andropov's Contribution to World Peace."

But ordinary Ethiopians do their best to make the Soviet contingent in the country, 1,500 strong, feel uncomfortable. The Soviet embassy continually complains that "hooligans" insult its people in the streets and treat them poorly in shops. Mengistu himself has hardly been a supine disciple. He has stubbornly adhered to his own schedule for setting up the Communist Party that the Russians had been demanding since 1978. Only this past September was the party finally established. Bureaucrats and military officers, not peasants or workers, fill its ranks.

A Communist Party, however, does not a communist country make. Examples from Ethiopia's history suggest that ideology imposed from above rarely takes root below. During the 16th century, after the Portuguese saved Ethiopia from the Muslims, Portuguese missionaries came to convert the Ethiopians from their Orthodox Christianity to Catholicism. Success seemed theirs in 1622, when the emperor Susenyos agreed to accept the Roman faith. But the Ethiopian populace balked. The native clergy and members of the imperial family rebelled. In 1632, Susenyos was forced to abdicate in favor of his son, who promptly expelled the Jesuits. Mengistu speaks often of Ethio-

pian history. Has he pondered this lesson?

In order to remain in power, Mengistu, like Haile Selassie before him, must satisfy rising expectations. With a population that is increasing by 2.5 percent every year, becoming more literate, and clamoring for jobs and a higher standard of living, that will not be easy. Well-managed enterprises such as EAL—which recently purchased two Boeing 767s—and the successful Telecommunications Authority demonstrate that Ethiopians have a talent for modern technology. But the war in Eritrea, which is home to one-third of Ethiopia's industrial base, has not helped.

Agriculture, Ethiopia's economic mainstay, is also slipping. The Derg continues to push collectivization schemes that Ethiopian peasants resist. Large state farms produce a scant six percent of the nation's grain but receive 90 percent of all agricultural investment. The current famine has seriously depleted grain reserves. The United States alone is supplying $26.6 million in emergency food aid in 1984.

Ethiopia now runs a current account deficit of almost $700 million. This is double that of five years ago. To make up the shortfall, the Derg has turned to the assets that Ethiopia has in abundance: history and scenery. The Ethiopian Tourist Commission touts trips to "Africa's best-kept secret"—the Bale Mountains National Park, with its giant cedars, exotic birdlife, and the rare mountain nyala antelope. Schools in Addis Ababa now train Ethiopians as guides, waiters, and room clerks. Near the city's Revolution Square, a site has been cleared for a new Sheraton Hotel. And in the city of Gonder, once the imperial capital, the recently opened Goha Hotel looks down from a mountain top upon the seven palaces built for the emperors of the 17th and 18th centuries.

In the end, it is Ethiopia's culture that endures. Marx might wince to discover that church attendance in Ethiopia is higher than it has ever been. But then he would probably be astonished to hear Mengistu claiming to be a Marxist. One must not forget that a genuine revolution occurred in Ethiopia in 1974. Until a small military clique took over, the makers of the revolution aimed only to speed the pace of reform and make Ethiopian society more open and pluralistic. Quite the opposite has happened. But little in Ethiopia's long history suggests that the present unhappy course is irreversible.

BACKGROUND BOOKS

ETHIOPIA

"Ethiopia has been looked upon [by Westerners] as a terribly remote land; a home of pristine piety; a magnificent kingdom; an outpost of savagery; or a bastion of African independence." So writes sociologist Donald N. Levine in his comprehensive **Greater Ethiopia** (Univ. of Chicago, 1974, cloth & paper). Often neglected by foreign analysts, he observes, are the Ethiopians themselves.

There are more than 20 major Ethiopian tribes. Yet, despite the differences among such tribes as the nomadic Danakil, the sedentary Wollamo, the age-ranked Konso, and the patrilineal Somali, Levine explains, they all share similar cultural traits. For example, almost all Ethiopians—whether pagan, Muslim, Jewish, or Coptic Christian—are monotheistic.

Commerce, intermarriage, and warfare brought these tribes into contact with one another, inaugurating ties that have endured through the ages. The farming Amhara, for example, have come to depend on Afar tribesmen for the mining of salt, on Muslims for trade, and on the Falashas for clay pots, leather goods, and silver work. The Dorze—famed for their weaving skill—must procure the *kalacha*, a forehead ornament worn as a symbol of rank, from the Konso.

Some tribes, notably the Amhara and the Tigre, have usually dominated others. An ethnic pecking order persists in Ethiopia even today. In Edmund P. Murray's novel **Kulubi** (Crown, 1973), the tale of an American journalist in Ethiopia, one character explains, "If you see a man with a donkey, you can be sure he's an Oromo. . . . If a man has camels, he's a Danakil; if he's herding cattle, he's a Somali. . . . If he's an Amhara, he has a Volkswagen."

Those interested in the early history of the Amhara and the Tigre should turn to archaeologist Yuri M. Kobishchanov's **Axum** (Pa. State Univ., 1979), the most thorough volume on the subject, and to David Buxton's richly illustrated volume, **The Abyssinians** (Praeger, 1970, cloth; 1972, paper). "Abyssinia," he points out, is a corruption of "Habesha," the South Arabian word for Ethiopia.

The Amhara are known for their subtlety. The title of Donald N. Levine's analysis of Amhara society, **Wax and Gold** (Univ. of Chicago, 1965, cloth; 1972, paper), is also the name of a favorite form of Amhara poetry, in which all expressions have two meanings, the superficial and the real. As Levine notes, "when [an Amhara] talks, his words often carry double-entendres as a matter of course."

By all accounts, there are few pastimes that an Ethiopian, rich or poor, enjoys more than a clever discussion or a lengthy argument. In **The Government of Ethiopia** (Faber & Faber, 1948), a scholarly examination of Ethiopia's political and economic institutions during the early years of Haile Selassie's reign, historian Margery Perham writes that "litigation was a favourite amusement. . . . Parties in civil and even minor criminal disputes would call upon a passerby to decide the issue between them under a tree, and these informal roadside courts might last for hours. . . ."

Despite this penchant for debate, ordinary Ethiopians were not drawn to politics after World War II until

the onset of the revolution that toppled Haile Selassie in 1974. In **Ethiopia: The Modernization of Autocracy** (Cornell, 1970, cloth; 1971, paper), historian Robert L. Hess notes that there was no external threat or colonial regime to stir the nationalist spirit that animated politics in other African nations after 1945.

The emperor encouraged some political participation, but he reserved real power for himself. Political scientist Christopher S. Clapham explains the bizarre workings of **Haile Selassie's Government** (Praeger, 1969) and describes the emperor's prudent strategy of *shum shir*—moving cabinet ministers from post to post to keep them from developing their own constituencies. Loyalty, rather than efficiency, determined imperial favor.

The Byzantine intrigue of Haile Selassie's court is detailed by the Polish

ETHIOPIAN JOURNEYS

In *Orlando Furioso* (1516) the Italian Renaissance poet Ludovico Ariosto describes a visit to Prester John, the mythical ruler of Ethiopia, in whose palace "pearls and gems of passing price / Were sprinkled on the pavements here and there."

Such flights of fancy were commonplace in early European descriptions of Ethiopia, as of the rest of Africa. Eyewitness accounts were often no more accurate. In **Travelers in Ethiopia** (Oxford, 1965, cloth & paper), historian Richard Pankhurst quotes the 16th-century Venetian, Alessandro Zorzi, as saying that the Ethiopians "live to a great age, up to 150 years, [and] they never in old age lose their sight." One of the first reliable accounts of life in Ethiopia is the Englishman James Bruce's eight-volume **Travels to Discover the Source of the Nile** (Robinson, 1790; Horizon, 1964). During his four-year (1769–72) sojourn in Ethiopia, Bruce crisscrossed the country by horse, noting the "singularities which prevailed in this barbarous country."

Most later European travelers tended to paint Ethiopians in primitive colors. In his three-volume **The Highlands of Aethiopia** (Longman, 1844), Major W. Cornwallis Harris, a British envoy, concluded that the Ethiopian Emperor Sahle Selassie was subject to "the insatiable love of plunder inherent in the breast of every savage." Far more amusing but no less malicious is Evelyn Waugh's chronicle of Haile Selassie's 1930 coronation in **When the Going Was Good** (Greenwood, 1934; Little, Brown, 1984, cloth & paper). At one native celebration, Waugh witnessed "guests . . . quite stupefied with food and drink. . . . The chiefs were hoisted onto their mules by their retainers and remained there blinking and smiling. . . . Others, lacking support, rolled contentedly in the dust."

Waugh's account was the last of the great Ethiopian travelogues. Shortly after its publication, Benito Mussolini's attempts to "civilize" Ethiopia through conquest brought the country out of isolation and onto the world stage. To political scientists and anthropologists, Ethiopia was now open for serious study.

journalist Ryszard Kapuscinski in **The Emperor** (Harcourt, 1983, cloth; Vintage, 1984, paper), a compilation of post-1974 interviews with former members of the imperial household.

Every morning, Haile Selassie strolled in his garden, feeding his caged lions and leopards and hearing reports from court informers and spies, each pitted against the others: "Tired, looking as if they hadn't slept, they acted under feverish stress, pursuing their victims. . . . They had no shield but the emperor, and the emperor could undo them all with one wave of his hand."

Even so, the emperor's network failed to avert the 1974 revolution that saw him unseated by a group of noncommissioned officers. The spirit that animated the Ethiopian revolution, at least in its early stages, is best captured in B. M. Sahle Sellassie's novel **Firebrands** (Longman, 1979, cloth & paper). The hero, an idealistic Amhara ex-student, joins a state corporation as an auditor, wanting only to contribute to the progress of his country. Disillusioned by chronic nepotism and corruption, he assaults his boss and is imprisoned. He is finally set free during the civil unrest of February 1974, "when the forces of oppression and those of liberation met in an open clash."

The novel's heady rhetoric obscures the bloody struggles for power that went on between the military rulers of the revolutionary Derg and the civilian opposition. In **The Ethiopian Revolution** (New Left Books, 1982, cloth & paper), political scientists Fred Halliday and Marina Molyneux describe the havoc in revolutionary Ethiopia and note that from 1976 to 1978, some 30,000 civilians were imprisoned and several thousand killed.

Within the Derg itself, disagreement over the best response to the separatist movement in the northern province of Eritrea led to violence. The faction of Derg chairman General Aman Andom, himself an Eritrean, advocated negotiating with the rebels. But Aman Andom died in a shoot-out with the forces of Lt. Col. Mengistu Haile Mariam, the present chairman of the Derg, who has since launched annual (ineffectual) offensives against the Eritreans. Richard Sherman's **Eritrea: The Unfinished Revolution** (Praeger, 1980, cloth & paper) provides a good guide to the origins of that continuing conflict. However, political scientist Haggai Erlich's **The Struggle over Eritrea** (Hoover, 1983, cloth & paper) is the most up-to-date volume.

Much has happened in the turbulent 10 years since the revolution. In **Ethiopia: Empire in Revolution** (Holmes & Meier, 1978, cloth; 1983, paper), *Washington Post* correspondent David Ottaway and political scientist Marina Ottaway observe that in destroying "an antiquated and oppressive system, the Ethiopian revolution had met its goal." But the Derg's continuing political repression and Ethiopia's dim economic performance suggest that the creation of a free and prosperous society lies far in the future.

EDITOR'S NOTE: *Some of the titles in this essay were suggested by Professor Edmond D. Keller of the Department of Black Studies at the University of California, Santa Barbara.*

CURRENT BOOKS

FELLOWS' CHOICE

Recent titles selected and reviewed by Fellows of the Wilson Center

H. G. WELLS:
Aspects of a Life
by Anthony West
Random House, 1984
405 pp. $22.95

Oscar Wilde, the person most responsible for first getting H. G. Wells into print, once observed that children begin by idolizing their parents, later come to understand them, and rarely, if ever, forgive them. The observation has particular relevance to this book. Anthony West, himself a distinguished writer, is the "natural" son of H. G. Wells and Rebecca West—a union that could be described as one of the most intellectually charged adulteries of the 20th century. West has managed in this book to idolize, then to understand, and then to forgive his father, both for his scandalous life and for his unsettling genius.

A genius Wells most certainly was. He was also one of the more controversial figures in the England of his day. Novelist, prophet, historian, and self-appointed teacher to the world, he wrote more than 200 books during his lifetime (1866–1946), all the while managing to lead a life of virtually uninterrupted and scarcely concealed erotic adventure. Reckoning up the proportion of savant to charlatan in Wells's life or writings is no easy task. But West makes a good, if admittedly biased, job of it.

The book, which falls generically somewhere between biography and memoir, begins not with Wells's birth but with West's, on August 5, 1914, in Norfolk, England. Wells was not present. He was busily engaged in drafting the essay that would give its name to World War I, then just casting its shadow over Europe: "The War That Will End War." West thus quickly establishes one of the book's major themes: the tension between Wells's personal passions and his commitments to the public good.

The book's beginning also serves to emphasize what West believes was his father's foremost literary office—that of explainer and interpreter of ideas to the general public. If West slightly underplays Wells's gifts as a novelist and gives far too short shrift to the great, early science-fiction tales, his emphasis is not completely misplaced. "In light of hindsight," writes West, "it is easy to underestimate my father's skill and effectiveness as a popularizer and propagandist; much of what he was saying in the early '20s has since become commonplace because his advocacy won it widespread acceptance. But he was not thought to be dealing with commonplaces at the time."

Against the conventional critical line—and against the opinions of his mother, Rebecca West—Anthony West maintains that Wells was not merely a talented journalist with novelistic pretensions, nor a melancholic with a radically unstable sexual imagination, but a true visionary, possessed by the desire to save his fellow man from self-destruction. Wells, says West, understood before most of his contemporaries the necessity of a League of Nations in the aftermath of the First World War and argued

strenuously against early Western anti-Soviet policies. He learned, partly under the tutelage of his friend and sometime-lover Margaret Sanger, the importance of feminism to any vision claiming to be humanistic. To the end of his life, he identified himself as a socialist, but his brand of socialism was rather like the Protestantism of another great Englishman, John Milton—a church of one. In most undoctrinaire fashion, he identified America, not Russia, as the country that held the best hope for a humane society. The evils of capitalism, he allowed, could never be as awful as those of Marxist communism.

Wells dies halfway through the book. The second half begins with a detailed account of his father's parents, their cramped working-class life in Bromley, England, and the struggles of young H. G. to enter the literary-intellectual world. This break with straightforward narrative does not jar. Indeed, it helps West contrast the public man, "Wells," who did so many things and influenced so many people, with the private man, "my father," the driven and sometimes confused individual whose internal conflicts make such a compelling story.

The immensely readable business of bringing "Wells" and "my father" together—the business of *Aspects of a Life*—involves some diverting, occasionally nasty, bits of biographical revision and chitchat. Henry James, with whom Wells had a famous feud over the political responsibilities of the novelist, is here presented as an autocratic bully quite different from the pure and selfless artist championed by university departments of English. George Bernard Shaw, who promoted and then undermined Wells's influence in the Fabian Society, fares scarcely better.

As interesting as such tidbits are, the whole of this book exceeds the sum of its parts. Its anecdotal style is as carefully and deceptively contrived as that of a novel such as Laurence Sterne's *Tristram Shandy* (1760). And what it gives us in the end is a three-dimensional portrait of a man and writer who deserves no less.

—Frank McConnell, '78

PARTNERS IN REVOLUTION: The United Irishmen and France
by Marianne Elliott
Yale, 1982
411 pp. $30

Between the Battle of the Boyne in 1690 and the Easter Rising of the Irish Volunteers in 1916, the supremacy of the London government in the British Isles faced only two serious internal military challenges. The first was the Scottish Jacobite Rebellion of 1745; the second, the Irish Rebellion of 1798. Often ignored among the great political upheavals of the late 18th century, the Irish uprising was, as Elliott, a historian at Swansea's University College, demonstrates, very much a part of the wider international movement of reform.

The rank-and-file Irish insurgents of this rebellion were predominantly Catholics and thought of their struggle as being, at least in part, anti-Protestant. Yet, ironically, most of the leaders were Protestants—and

therefore of the ruling or at least of the politically enfranchised castes of 18th-century Ireland. Inspired by the ideals and examples of the French, American, and (17th-century) English revolutions, the leaders, many of them members of the United Irish Society, actively sought the aid of the French in their fight for independence from Britain. For a short time, it appeared as though Ireland might gain autonomy. To the British and their allies then struggling against Napoleon, it seemed frighteningly possible that Ireland would become an ally of France.

Elliott focuses on the activities of the United Irishmen, an organization founded in 1791 in Belfast by Wolfe Tone and other Protestant lawyers, professionals, and merchants. The society's goal at first was parliamentary reform; their means, writes Elliott, "the union of the Irish people." (Tone had himself penned a brilliantly conciliatory essay aimed at unifying Protestants and Catholics against excessive English influence in Ireland.) The Society quickly became a classic revolutionary leadership, more adept at international intrigue in London, Paris, Hamburg, and Philadelphia than at organizing or leading Irish peasants. Its members were not social revolutionaries seeking land reform but political revolutionaries attempting to restore the principles of the "ancient constitution" abandoned by the English rulers. They preferred moderate liberal thinkers, John Locke or Adam Smith, to such radicals as the French socialist François Babeuf.

Elliott traces the rebellion from its roots in the conspiratorial society gatherings during the early 1790s through the ill-organized explosion of 1798. Her devastating documentation of rebel incompetence and occasional brutality is balanced by her picture of the British government's unfortunate dependence on ill-disciplined local Protestant Irish militias. Perhaps 50,000 Catholic Irishmen—most of them noncombattants—were slain during the brutal uprising that followed the rebellion. The last chapters of Elliott's narrative follow the United Irishmen into exile. The tale is one of "frustration, bitterness, internal bickering, and ultimate disenchantment with French promises. . . ."

Subsequent independence movements in Ireland enjoyed little Protestant support. Today, with Eire free, and Northern Ireland torn by sectarian strife, Irish republicanism is no longer a generous, liberal, or international movement. It has become the narrow, murderous, and chauvinistic Provisional Irish Republican Army of Ulster.

—Tom Garvin

NEW TITLES

History

CHANTS DEMOCRATIC: New York City and the Rise of the American Working Class, 1788–1850
by Sean Wilentz
Oxford, 1984
446 pp. $34.95

The "republican consensus," forged during the first decades of America's national life, ostensibly united all citizens in a classless society. Many historians, including Marxists, have downplayed and even denied the importance of class and "class consciousness" in that "republican" era. Wilentz, a Princeton historian, challenges that assumption. His reconstruction of the world of artisanal industries in New York City between 1788 and 1850 reveals that certain key republican ideals, while nominally shared, meant sharply different things to different people. To the working man, "independence" meant personal freedom, the right to chart one's own course. But it also implied an "ethic of mutuality"—which, in economic terms, meant fair wages fairly distributed. Owners and masters, however, took independence to mean the freedom to pursue profit, even when this involved lowering wages. By 1850, a wave of strikes led by militant tailors, printers, carpenters, and other tradesmen, signaled a complete "bifurcation of artisan republicanism." Workers, many now members of labor cooperatives, began insisting that labor was a form of property; therefore, they had the right to determine its price. The development of a working-class consciousness, Wilentz notes, was neither uninterrupted nor complete. Such popular movements as evangelicalism and the mid-19th-century temperance crusade, for example, were able, at least temporarily, to contain and divert worker discontent.

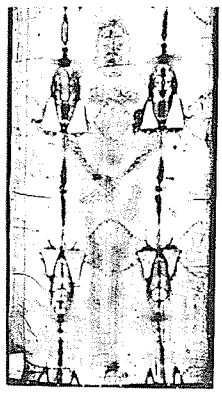
MONTE CASSINO
by David Hapgood
and David Richardson
Congdon & Weed, 1984
269 pp. $17.95

In the year A.D. 529, on a mountain overlooking the town of Cassino and a main route from southern Italy to Rome, Saint Benedict founded what was to become, for a time, the greatest monastery in the Western world. During World War II, on February 15, 1944, several hundred Allied bombers virtually leveled Benedict's abbey. Authors Hapgood and Richardson, drawing on the personal ac-

counts of Allied, German, and Italian participants, have produced a taut, well-paced narrative examining the military reasons and the political machinations behind one of the war's most controversial decisions. Blocked in the valley below Monte Cassino by German troops, Allied commanders began to suspect that the abbey was an observation post for the enemy's artillery. The authors, however, conclude that the Germans "made no military use of the monastery itself," though they did store munitions in caves near the building. The Germans had, in fact, been decent custodians of the abbey, moving most of its priceless treasures to Rome. (Several masterpieces were diverted to Hermann Göring's private collection.) The Allied Fifth Army commander, Mark Clark, unconvinced of the German presence in the monastery itself, tried hard to follow General Dwight D. Eisenhower's directive to spare all monuments except in cases of "military necessity." But battlefield politics forced his hand: Lt. Gen. Bernard Freyberg of New Zealand threatened to withdraw his troops, which had already suffered great losses, unless the monastery were bombed. Ironically, once reduced to rubble, the abbey provided the Germans with an excellent defensive position. After three more months of fruitless fighting, the Allied Army took another route north to Rome.

IN SEARCH OF THE SHROUD OF TURIN: New Light on Its History and Origins
by Robert Drews
Rowman & Allanheld, 1984
133 pp. $17.95

Drews, a Vanderbilt classics scholar, has wrought a minor miracle by charting a plausible middle way in the shroud of Turin controversy. Hailed as Christendom's most cherished relic, the shroud is thought by ardent devotees to be the burial cloth of Jesus. They maintain that it was imprinted at the moment of the Resurrection by a burst of radiant energy and that it continues to bear a faint image of the scourged, crucified, bleeding Christ. Skeptics hold that the object is a forgery dating from the 14th century. Ian Wilson's *The Shroud of Turin* (1979) and Joe Nickell's *Inquest on the Shroud of Turin* (1983) best represent the affirmative and neg-



ative viewpoints. Weighing the opposing arguments in light of late classical and early ecclesiastical history, Drews concludes that the shroud dates from the first or second century of the common era; that it originated among the Gnostics, an early Christian sect that venerated icons (a practice deemed idolatrous by the earliest "orthodox" Christians, as it had been by the Jews); that it was made by human hand instead of by supernatural intervention. By supreme irony, the Gnostics believed only in a spiritual resurrection of Christ; yet, by manufacturing the sole surviving image of Jesus, they provided evidence for what became the orthodox belief in Christ's physical resurrection. Drews convincingly reconstructs the subsequent life of the *forma Christi*, including its "disappearance from history" until its reappearance in France in the 14th century. Along the way, Drews reveals much about dogmatic controversies and sectarian differences within the early Christian church.

Contemporary Affairs

ABORTION AND THE POLITICS OF MOTHERHOOD
by Kristin Luker
Univ. of Calif., 1984
324 pp. $14.95

In the United States today, approximately one in four pregnancies ends in abortion—a percentage that also prevailed during the early 19th century. Yet Americans are far more divided over the question today than they were 180 years ago. Why? Luker, a University of California, San Diego, sociologist, draws on historical records and interviews with contemporary pro- and antiabortion activists to explain how and why attitudes changed. In 1800, performing an abortion during the first trimester was, at worst, a misdemeanor under common law; no state had enacted statutes specifically governing abortions. By 1900, largely as the result of pressure from increasingly professionalized physicians, every state had laws regulating, though not banning, abortion. The doctors' concern was medical, not moral. Today, by contrast, the issue is intricately bound up

with questions of family structure, relations between men and women, and economic opportunity. Indeed, says Luker, the debate between the activists on both sides is "a referendum on the place and meaning of motherhood." Opponents of abortion are usually either women who, by choice, work only in the home, or men who value the traditional economic and social relations of the sexes. The strongest supporters of legalized abortion tend to be middle-class professional women. If married, they (and their husbands) want to plan the births of their children according to career demands. Traditionalist women fear that devaluing the fetus also devalues their chief bond with their spouses. Feminists argue that women's inability to control pregnancy would enable employers to justify limiting occupational and salary options for women. Luker does not offer any solutions. Rather, she helps to clarify for others the assumptions and values of those activists on each side of this rending debate.

ENDLESS ENEMIES: The Making of an Unfriendly World
by Jonathan Kwitny
Congdon & Weed, 1984
435 pp. $19.95

Woodrow Wilson hoped to make the world safe for democracy; Kwitny, 13 years a reporter for the *Wall Street Journal*, would like to see it made so for capitalism. But he sees little hope that this will be as long as Washington persists in pressing upon the world not "our system, which encourages free choice, but some convoluted notion of our system which imposes our choice." The single-minded pursuit of military and security goals—above all, the containment of communism—has undercut what he believes should be America's primary goal: the encouragement of free trade. Kwitny cites case after case of misdirection in American foreign policy. In Zaire during the 1960s, for example, the U.S. opposition to "Marxist" leader Patrice Lumumba contributed to the demise of that African state's fledgling free-enterprise system. Since then, under the inept and corrupt leadership of America's supposed "friend," Mobutu Sese Seko, resource-rich Zaire has become an economic disaster area. U.S. foreign-policy

excesses not only hurt other nations, says Kwitny. They tarnish America's international image and frequently drive Third World countries into Moscow's embrace. Not least, the price of maintaining the "big stick"—the arsenal behind our aggressive global posture—now exacts roughly $1,000 a year from each American taxpayer.

Arts & Letters

DREAMS, ILLUSIONS, AND OTHER REALITIES
by Wendy Doniger O'Flaherty
Univ. of Chicago, 1984
361 pp. $25

To Westerners, few things are more confusing than "the Indian view of reality." Really a composite picture emerging from Hindu, Buddhist, and other religious and philosophical traditions, it is a collage of seemingly contradictory propositions about the world and man's place in it. O'Flaherty, a professor of religion at the University of Chicago, is familiar with Western bewilderment before this maze of Indian paradox: "We owe to Plato," she writes, "our belief that it is impossible at one time to hold contradictory opinions about the same thing; many Indian texts, by contrast, would argue that if two ideas clash, both may be true." In stories about the Hindu pantheon, for instance, a god can be both the father and the son of another god: "From Purusa Viraj was born," says the *Rgveda*, "and from Viraj came Purusa." The tales selected and translated by O'Flaherty from classic Indian texts such as the *Vedas*, the *Upanisads*, and particularly the *Yogavasistha* consistently blur, even deny, the distinction between subjective human perceptions (illusions, dreams, instances of déjà vu) and external objective events. The point of these tales, many of which treat dreams within dreams or the theme of the "dreamer dreamt," is surprisingly consistent: that the universe is illusion, or *maya*. That is not to say that the world is unreal, O'Flaherty cautions (correcting a common Western misunderstanding of the word *maya*), but rather "that it is not what it seems to be, that it is something constantly being *made*."

TRIBUTES: Interpreters of Our Cultural Tradition
by E. H. Gombrich
Cornell, 1984
270 pp. $34.95

Gombrich, former director of the University of London's Warburg Institute, is one of the world's foremost art historians. Not surprisingly, these tributes to 12 great Western humanists—from the philosopher Georg W. F. Hegel to the psychoanalyst Sigmund Freud—frequently illuminate Gombrich's own historical and aesthetic preoccupation. He credits Hegel, for instance, with fathering the discipline of art history by recognizing that standards of beauty (and, therefore, styles of art) change according to the "spirit of the age." Gombrich praises Freud's interpretive brilliance, particularly as shown in *The Interpretation of Dreams* (1900) and other studies of the unconscious mind. But most of all, Gombrich respects Freud for the restraint he displayed in writing about works of art such as Michelangelo's *Moses* or Leonardo's *The Virgin and Child with Saint Anne*; Freud consistently refused to explain a work of art by exposing its creator's neuroses—"to say more than he [Freud] thought he could answer for." The Dutch historian, Johan Huizinga, whose *Homo ludens* (1949) and other books explored the importance of the "play element" to the civilized life of a society, epitomized Gombrich's ideal of humanism: the art of showing others, through the study of human works, "what man can be."

A DISCOURSE BY THREE DRUNKARDS ON GOVERNMENT
by Nakae Chomin
translated by Nobuko Tsukui
Weatherhill, 1984
137 pp. $12.50

Difficult decisions faced the Japanese at the end of the 19th century. Just emerging from a feudal past as European powers were busy carving up the rest of Asia, the islanders had to protect their territory and modernize. Nakae Chomin, a prominent intellectual of the Meiji Era (1869–1912), made Japan's dilemma the subject of an imaginary dialogue, published in 1887 and now translated into English by Tsukui, a professor of English literature at George Mason University. Master Nankai, an open-minded chap who likes to mix drink with political discussion, plays host to two men espousing radically different programs for the future of their country. One guest, the Gentleman of Western Learning, echoing his cher-

ished European authors, wants to make Japan "a laboratory for democracy, equality, moral principles, and learning." He would abolish the monarchy and disband the military. Armed only with political freedom and civic virtue, Japan could progress without fearing the Western nations whose best values she would so avidly endorse. The other guest, the Champion of the East, dismisses the Gentleman's ideas as something that "can be written in a book but cannot be practiced." War, he insists, "is an inevitable force in the actual world," and Japan can compete with the West only by military expansion. His counsel: to invade "a great country . . . vast and rich in natural resources"—an obvious allusion to China. Just "empty words," pronounces the host of both viewpoints at the debate's end. But some 40 years after the book's publication, Japan followed the Champion's course. After their defeat in World War II, the Japanese once again turned to Chomin's classic, this time heeding the words of the cautious Gentleman.

Science & Technology

THE BIRTH OF NEUROSIS: Myth, Malady, and the Victorians
by George Frederick Drinka, M.D.
Simon & Schuster, 1984
431 pp. $21.95

In 1733, British physician George Cheyne published *The English Malady*, the first treatise on the role of the nerves in psychological and behavioral disorders. But it was at least a century more before Western physicians attributed abnormal behavior to nervous conditions rather than to such traditional "causes" as an imbalance of humors or mysterious vapors. Drinka, a Portland, Oregon, psychiatrist, shows how cultural and technological developments in 19th-century societies supported, even shaped, the new medical thinking. Exotic personality myths, derived from literature or from the lives of famous individuals, influenced scientists and physicians. The Biblical story of Onan warned of the dangers of masturbation (e.g., impotence and homosexuality), while the notion of the "Noble Savage" emphasized the corrupting power of the city. All such myths, Drinka says, embodied "Victorian fears, prejudices, and

fantasies." And all the symptoms they described came to be associated with neurotic disorders, stemming from "weak and delicate nerves, literally stretched or lax." The new electronic technology reinforced increasingly popular notions of "frayed" or "overcharged" nerves. Some neurologists, including American George Beard (who coined the term "neurasthenic" in the 1880s), used electric current to treat their patients—effecting, in many cases, cures that still defy scientific explanation. With anecdotes, portraits of notable physicians, and histories of famous cases, Drinka shows how a world almost picturesque in its assortment of rarefied nervous maladies was virtually brought to an end by Sigmund Freud. His psychoanalytical theory narrowed the meaning of neurosis, making it "ultimately bound to human sexuality."

ANIMAL THINKING
by Donald R. Griffin
Harvard, 1984
237 pp. $17.50

"No truth appears to me more evident," wrote the philosopher David Hume in 1739, "than that beasts are endow'd with thought and reason as well as men." Evident, perhaps; but Griffin, a Rockefeller University professor, is rare in thinking that there are good *scientific* reasons for agreeing with Hume. For half a century at least, most scientists have endorsed the behaviorist view that animal actions are genetically determined reactions, not products of conscious decisions. Griffin claims that it is genetically "economical" for animals to be capable of thought. He ranges throughout the animal kingdom, analyzing group behavior among lions or communication among ants and pointing out inadequacies of the behaviorist hypothesis. For instance, when a pride of lions hunts, some of them will act as decoy threats, while others will wait in hiding. The genetic material required to "program" such complex decision-making would be much greater than what these animals actually possess. Griffin draws on the most recent research in the field of cognitive science. A key to understanding animal consciousness, he concludes, is to understand consciousness in humans first.

PAPERBOUNDS

MEDICAL THINKING: A Historical Preface. By Lester S. King, M.D. Princeton, 1984. 336 pp. $11.50

Bloodletting, employed as early as 2500 B.C. by Egyptian healers and as late as the 19th century by Western physicians, is frequently cited by medical historians "as a symbol for whatever was bad in earlier medical practice." But one reason for its longevity, argues King, a medical doctor and former editor of the *Journal of the American Medical Association*, is that despite harmful effects and misapplications it often worked, especially on maladies that today would be diagnosed as vascular congestion and high blood pressure. Sound medical thinking, it appears, remains constant, despite leaps in technology and information. Concentrating on the treatment of tuberculosis (formerly called consumption) over four centuries, King distinguishes two main types of physicians: the empiric, who knows from experience which treatments often work, and the scientist, who goes beyond the data *and* prevailing theories to "listen to the 'still small voice' of critical judgment." It is the second group, says King, the Galens and Vesaliuses, that makes real progress in the healing arts.

RECOLLECTIONS OF WITTGENSTEIN. Edited by Rush Rhees. Oxford, 1984. 236 pp. $7.95

In the *Logico-Philosophicus* (1921), Ludwig Wittgenstein (1889–1951), the Vienna-born, Cambridge-educated philosopher, set out to construct a philosophy of language as rigorously logical as any of the "hard" sciences. In his later work, published posthumously in *Philosophical Investigations* (1953), he surprised colleagues, including his former mentor, Bertrand Russell, by seemingly repudiating his earlier position: Meaning, he now argued, was not absolute but, rather, the product of language "games." These recollections by five who knew him (his sister, two pupils, his Russian teacher, and a former colleague) show Wittgenstein to be as flinty, difficult, and fascinating a person as he was scrupulous and unpredictable a thinker. "Give up literary criticism," he once said to the renowned Cambridge don F. R. Leavis, advising him that such work was beneath a first-rate mind. "Such a strong personality could not fit smoothly and easily into every community," wrote his sister (whose house Wittgenstein had designed when he was between jobs). "But what a stimulus one received from every conversation one had with him."

BEYOND A BOUNDARY. By C.L.R. James. Pantheon, 1984. 257 pp. $8.95

"What do they know of cricket who only cricket know?" asks James in what was heralded, shortly after its 1963 publication, as the most important sports book of its time. Even those who know nothing about the game of cricket will profit from this reissue, which conveniently includes an explanation of the game's Byzantine rules. James, a black Trinidadian, a historian, novelist, and teacher, moved to England in 1932 and became a leader of the West Indian nationalist movement as well as cricket correspondent of the *Manchester Guardian*. No surprise, then, that this book explores the sport's connection with society, politics, and even art. James explains how cricket in the colonial West Indies diffused social, and particularly racial, unrest. But he also shows that black players (many of whom he affectionately portrays) found a degree of personal dignity and freedom within the "boundary" that they could not find beyond it.

The Death and Life of Samuel Johnson

Samuel Johnson (1709–84) was in many ways the 18th-century Englishman writ large—gruff but good hearted, independent, honest, deeply traditional and conservative in his values but bold in defending them, full of practical wisdom and good sense. Above all, though, he was a man of letters. Like Edmund Wilson in our time, he did not confine himself to one field of interest or to one literary form but took *all* writing as his province. After long struggles with poverty, including an unsuccessful stint as a schoolmaster near his native Lichfield, Staffordshire, and many years of underpaid journalistic hackwork in London, Johnson made his reputation by compiling, almost single-handedly, the first major English *Dictionary* (1755). He also distinguished himself as a poet, essayist, and novelist, and is still ranked, along with Samuel Taylor Coleridge, as one of England's two greatest literary critics. James Boswell's *Life of Samuel Johnson, LL.D.* (1789) preserved for posterity what many fortunate contemporaries knew firsthand—the brilliance of Dr. Johnson's conversation. Here, on the 200th anniversary of Johnson's death, Lawrence Lipking considers the significance, to those who knew and venerated him, of the great man's passing.

by Lawrence Lipking

December 13, 1784. As Samuel Johnson prepared to die in his London residence at No. 8, Bolt Court, a number of people took an unusual interest in how he would meet his end. "The death of Johnson," according to Arthur Murphy, a contemporary writer and actor, "kept the public mind in agitation beyond all former example."

Several reasons may be offered for this keen and perhaps morbid state of excitement. To begin with, no English author had ever been more of a celebrity. His admirers today call the late 18th century the Age of Johnson, and many of his contemporaries would have agreed

Samuel Johnson at age 60, from the etching by Mrs. Dawson Turner, about 1825, after a painting by Ozias Humphry. Johnson outlived his wife, the former Elizabeth Porter, who died in 1752.

with the woman who used to tell "how the world of literature was perplexed and distressed—as a swarm of bees that have lost their queen—when Dr. Johnson died." While the great man lay dying, Fleet Street snoops prowled around his house, hoping to get their hands on something newsworthy. Meanwhile, a handful of more respectable biographers—among them James Boswell, Sir John Hawkins, and Mrs. Hester Thrale Piozzi—gathered their notes and waited for their time. Johnson's death, like Johnson's life, would soon belong to literature.

Moreover, 18th-century readers tended to be fascinated by death scenes. Many biographers (though Johnson was not one of them) arranged their narratives around the last words of their subjects, hoping to reveal the state of the soul at the moment of its passing. A great man ought to die well. Naturally many of the great or would-be great rehearsed their deaths carefully. The essayist Joseph Addison, for instance, called in a loose-living young nobleman, whom he had been trying to convert, to listen to these words: "I have sent for you, that you may see how a Christian can die." The point was especially sharp because Addison had written a famous tragedy about Cato, whose suicide represents the best that a noble pagan can do. Such stories are not easy to top. Indeed, one might say that an atmosphere had been created that

encouraged competitive dying. Boswell himself kept a scorecard. He was anxious that Johnson should die at least as well as the philosopher David Hume, who in his last hours had cheerfully maintained his utter lack of belief in any afterlife, to Boswell's dismay. (Johnson himself had refused to believe that Hume was being sincere.) An atheist could not be allowed to overmatch a Christian. Hence a good death for Johnson was more than a matter of personal happiness. In the eyes of his followers, it was his public duty.

Yet another reason for curiosity was that the dying man himself had thought so much and spoken so well about death. (The recent *Oxford Book of Death* quotes Johnson more times than any author except Shakespeare). As becomes a pious Christian, Johnson's writings consistently put their hope in divine mercy and stress the usefulness of thinking about mortality: "Nothing confers so much ability to resist the temptations that perpetually surround us, as an habitual consideration of the shortness of life."

But those who knew the man knew the intensity of his fear. Boswell, who shared that terror of death and even exacerbated it in order better to portray Johnson, organized much of his *Life of Johnson* around the suspense of whether the hero could master his fear in the end. The scenes are among the most memorable in literature. Here is Johnson in a Colosseum of the mind, battling his apprehensions like wild beasts; here is Johnson confessing his dread to some kindly, good people: "JOHNSON. 'I am afraid I may be one of those who shall be damned.' (Looking dismally.) DR. ADAMS. 'What do you mean by damned?' JOHNSON (passionately and loudly). 'Sent to hell, Sir, and punished everlastingly!'"

It is not only Boswell's art that lets us perceive this terror. Much less imaginative people saw it too. Thus the popular religious writer Hannah More, only six months before the end, was "grieved to find that his mind is still a prey to melancholy, and that the fear of death operates on him to the destruction of his peace. It is grievous—it is unaccountable!" Johnson's last days would provide this drama with its finishing stroke. Would visions of hell pursue him to the grave, or would he submit in peace?

There is a better, less morbid reason, however, why so many people cared about Johnson's death. To put it simply: He was the expert on life. Johnson's greatness is not quite like that of any other English author. His reputation does not rest on a few masterpieces but on the view of life—the wisdom—that informs almost everything he wrote. John-

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son is not among the greatest English poets, though he wrote some magnificent poems; his standing as a novelist is even lower, though *Rasselas* (1759) is one of the few works of fiction that improve with every re-reading; as a playwright, Johnson merits but passing recognition. Lexicographers admire the achievement of the *Dictionary* but deny that it had much originality or much influence on the language; literary critics acknowledge the power of his judgments but usually cite them in order to disagree. Ever since Boswell, biographers have paid lip service to the principles of "him who excelled all mankind in writing the lives of others" and then have done something completely different. Political theorists seldom read his writings, and politicians and editorial writers quote them out of context. Many scholars think that the essential Johnson is to be found in his periodical essays, especially the 208 numbers of the *Rambler* (1750–52). But far from popularizing the form, he more or less finished it off; and only specialists now know more than a handful of the essays.

Evidently we must look somewhere outside literature for this writer's importance. To many readers, then as now, what mattered most about Johnson was what he had told them about how to live. He was a sage and adviser, a moralist whose mind was free from cant, a great man who cared about the daily problems of common people. That was why they cared about him; and that was why they wondered how he would die.

What was Johnson's wisdom on the subject of death? From one point of view, he had little to say, or, at any rate, little consolation to offer. He never pretended that he was not afraid to die or that he possessed some formula for easing that fear. Christianity might help believers by counseling, for the sake of salvation, the necessity of hope rather than of despair. But Christianity had also promised eternal pain to the wicked, and only the very serene or very deluded would count themselves among the saved. Indeed, "the better a man is, the more afraid he is of death, having a clearer view of infinite purity." Some people might "think they feel in themselves the marks of sanctification"; others might manage an air of resolution by not thinking at all, or by a vanity so strong as to disguise their true feelings. But these were not Johnson's ways. No rational moral creature could look into the future or know what fate had been decreed by God, and on sacred topics that we do not understand we had better be silent. Johnson believed he would have to die without guarantees.

If Johnson's wisdom was inadequate to cope with death, he nevertheless had many acute things to say about the fear of death. The province of the moralist was not the afterlife but life itself, the hold of thoughts of death upon the mind. We live in the shadow of dying. When Boswell asked whether the fear of death were "natural to man," Johnson replied, "So much so, Sir, that the whole of life is but keeping away the thought of it." From this point of view, the idea of death provides a

Johnson and Boswell walking the streets of Edinburgh. Boswell's Scotland was often the target of Johnson's jests: "The noblest prospect which a Scotchman ever sees is the high-road that leads him to England."

key to behavior; it is a universal explanation or perpetual silent commentary on the passing scene.

Johnson was known for talking to himself, sometimes even in company. Friends who came near could often hear him murmuring some line from *Measure for Measure*—"Ay, but to die and go we know not where; / To lie in cold obstruction and to rot . . ." or from *Paradise Lost*—"Who would lose, / Though full of pain, this intellectual being?" or even the Lord's Prayer. We might consider this eccentric. Yet according to Johnson's own analysis, it only brings to the surface an inner monologue in which most of us are engaged, whether or not we know it, most of the time. A good moralist can always pierce through the trappings and hear this voice. Johnson's ears were especially attuned to it.

The consciousness of death, as Johnson sees it, affects life in two closely related ways. First, it has the benefit of reminding us that life is precious and not to be wasted. One of Johnson's most famous remarks concerns the execution of the Reverend William Dodd: "Depend upon it, Sir, when a man knows he is to be hanged in a fortnight, it concentrates his mind wonderfully." But the principle applies as well to the rest of us, who are only under a longer stay of execution.

Johnson tended to concentrate his own mind particularly well at Easter, when the sense of last things and the approaching night stimulated him to undertake ambitious new projects. But all times are suitable for such reflections. To some extent, in fact, the knowledge

that we are to die might be considered the saving grace of humanity; it keeps us, Johnson believed, from being too much enchanted by what is passing. "Whatever withdraws us from the power of our senses, whatever makes the past, the distant, or the future predominate over the present, advances us in the dignity of thinking beings." Hence, the thought of death makes everyone dignified. The shadow it casts on life draws our eyes up in search of something higher. Even the least sensitive person feels a twinge in the presence of death; and the best people never forget it.

On the other hand, as Johnson well knew, the thought of death can also make life seem absurd. From the standpoint of eternity, the little ways we pass our day, the choice of one toy or profession over another, do not seem very important. Some minds may be shocked awake by recalling that they will die; others may sink into lethargy or simply stop listening. Johnson was acutely aware of this problem. One of his earliest publications is a long attack on a short epitaph, the words that the poet John Gay chose for his monument:

> Life is a jest, and all things show it;
> I thought so once, but now I know it.

"Mr. Gay," Johnson comments, "has returned from the regions of death not much improved in his poetry, and very much corrupted in his morals; for he is come back with a lie in his mouth, *Life is a jest.*"

The ferocity of this response shows that a nerve has been touched. Johnson, like other authors, cared a good deal about epitaphs. In an early essay he emphasizes that they are written less for the dead than for the *living*, as a means of persuading them to take life seriously: "As honours are paid to the dead in order to incite others to the imitation of their excellencies, the principal intention of epitaphs is to perpetuate the examples of virtue. . . . Those epitaphs are, therefore, the most perfect which set virtue in the strongest light, and are best adapted to exalt the reader's ideas, and rouse his emulation." By this standard, Gay surely fails. He tempts the reader to smile in Westminster Abbey.

Johnson did not think life a jest. Yet at times he did think it a dream or perhaps a bubble. Such ideas inevitably intrude upon a mind that has brooded on the vanity of human wishes and the fragility of human achievements. Death refutes all pride. Moreover, the insistence on thinking about death less as a state in itself than as a commentary on life, less as the rounding off of a destiny than as the irresistible eruption of the unknown into our affairs, tends to expose the foolishness of the living.

The threat of satire hovers over many of Johnson's accounts of the deaths of illustrious men. It is then that we see most clearly the disparity between their immortal hopes and the human condition, a disparity that can be comical as well as pathetic. The effect seems especially strong in his last great work, the *Lives of the English Poets* (1779–81). Johnson had always regarded authors as subject to delusions of grandeur; before he had published a word he wrote a poem about "The

A JOHNSON SAMPLER

Whig historian Thomas Macaulay judged James Boswell's Life of Samuel Johnson, LL.D. *(1789) "the most interesting biographical work in the world." Herewith, a sampling of what Boswell recorded of Johnson's wit and wisdom:*

On the writing of his Dictionary*:*

"ADAMS. 'But, sir, how can you do this in three years?' JOHNSON. 'Sir, I have no doubt that I can do it in three years.' ADAMS. 'But the French Academy, which consists of 40 members, took 40 years to compile their dictionary.' JOHNSON. 'Sir, thus it is. This is the proportion. Let me see; 40 times 40 is 1600. As three is to 1600 so is the proportion of an Englishman to a Frenchman.'"

On lawyers:

"Much inquiry having been made concerning a gentleman who had quitted a company where Johnson was, and no information being obtained, at last Johnson observed that 'he did not care to speak ill of any man behind his back, but he believed the gentleman was an *attorney*.'"

On corporal punishment:

"There is now less flogging in our great schools than formerly, but then less is learned there; so that what the boys get at one end they lose at the other."

On the company of young people:

"Sir, I love the acquaintance of young people; because, in the first place, I don't like to think myself growing old. In the next place, young acquaintances must last longest, if they do last; and then, sir, young men have more virtue than old men; they have more generous sentiments in every respect. I love the young dogs of this age, they have more wit and humour and knowledge of life than we had, but then the dogs are not so good scholars. . . ."

On little things:

"There is nothing, sir, too little for so little a creature as man. It is by studying little things that we attain the great art of having as little misery and as much happiness as possible."

On the expulsion of religious proselytizers from Oxford:

"JOHNSON. 'Sir, that expulsion was extremely just and proper. What have they to do at a university, who are not willing to be taught, but will presume to teach? Where is religion to be learnt but at a university? Sir, they were examined, and found to be mighty ig-

norant fellows.' BOSWELL. 'But, was it not hard, sir, to expel them, for I am told they were good beings?' JOHNSON. 'I believe they might be good beings; but they were not fit to be in the University of Oxford. A cow is a very good animal in the field; but we turn her out of a garden.'"

On the vanity of a famous actor:

"No wonder, sir, that he is vain; a man who is perpetually flattered in every mode that can be conceived. So many bellows have blown the fire, that one wonders he is not by this time become a cinder."

On a certain female political writer:

"It having been mentioned, I know not with what truth, that a certain female political writer, whose doctrine he disliked, had of late become very fond of dress, sat hours together at her toilet, and even put on rouge:—JOHNSON. 'She is better employed at her toilet, than using her pen. It is better she should be reddening her own cheeks, than blackening other people's characters.'"

On knowledge:

"The foundation (said he) must be laid by reading. General principles must be had from books which, however, must be brought to the test of real life. In conversation you never get a system. What is said upon a subject is to be gathered from a hundred people. The parts of a truth, which a man gets thus, are at such a distance from each other that he never attains to a full view."

On a widower marrying a second time:

"When I censured a gentleman of my acquaintance for marrying a second time, as it shewed a disregard of his first wife, he said, 'Not at all, sir. On the contrary, were he not to marry again, it might be concluded that his first wife had given him a disgust to marriage; but by taking a second wife he pays the highest compliment to the first, by showing that she made him so happy as a married man that he wishes to be so a second time.'"

On friendship:

"To let friendship die away by negligence and silence, is certainly not wise. It is voluntarily to throw away one of the greatest comforts of this weary pilgrimage."

Young Author," "panting for a name," who swiftly "sees the imagin'd laurels spread" but is immediately damned by critics and stops writing, "Glad to be hid, and proud to be forgot."

At the end of his life, this dire prognostication had not improved. While many of his contemporaries recorded or invented instructive last words, Johnson freshened his sense of irony. "The death of great men is not always proportioned to the lustre of their lives. Hannibal, says the Roman poet Juvenal, did not perish by a javelin or a sword; the slaughters of Cannae were revenged by a ring. The death of Alexander Pope was imputed by some of his friends to a silver saucepan, in which it was his delight to heat potted lampreys."

Not many of the English poets die well, as Johnson tells their stories. It is not that he means to be cruel. Rather, the truth requires that they depart like other people, in poverty and disappointment, in slow decline, or while their minds are busy with something else. That is how death happens in real life, as he sees it—often unexpectedly, and seldom according to a neat plot.

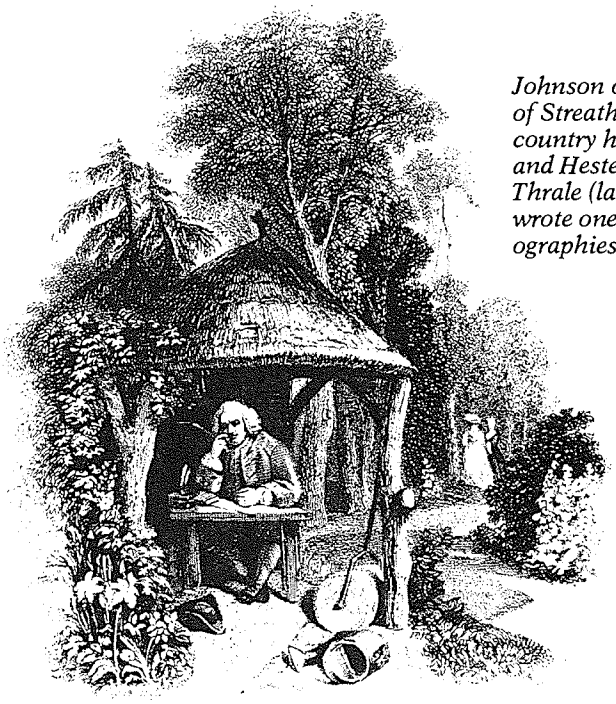
"Who knows if Jove who counts our Score / Will toss us in a morning more?" The lines come from Horace; when Johnson translated them from Latin, he did not know that he had only a month to live. That is part of the point; the poem itself denies that poets can see the future. Most good deaths are shaped retrospectively, just as famous last words depend on not being followed by others. (If Addison had continued to live after his bon mot, he would presumably have been quite embarrassed.) Such stories are products of art. But Johnson, despite his respect for art, prefers to think about life, and all we can know for certain about death consists of its effects upon life and particularly upon the mind, where life is experienced. The rest is wishful thinking. Johnson, more than any other author, founds his career on a war against wishful thinking.

Thus he did not smooth the path to his own death. Johnson's last days and words were not rehearsed, and they lack the finish of a satisfying tale. There would be no deathbed conversions. Some evidence suggests, in fact, that in the last year of his life Johnson may have had a conversion experience like those on which the Evangelicals staked their hopes. If so, it did not make him serene. He was much more interested in prolonging his life than in going quietly to his reward. Nor do we find in Johnson, either in his writings or in his conversation, that tendency to look back on a career as if from the grave, that fascination with one's own obituary, in which so many successful people indulge. Revisiting the stream where he swam as a boy, he notes (in a beautiful Latin poem) not how far he has come but only that the water continues to flow.

How then *did* Johnson die? The answer, as he would have predicted, depends on who is telling the story. Nobody writes the account of his own death scene (though some authors, like Swift, may

enjoy picturing it ahead of time). The moment of death is, after all, an intensely private experience, and what the central character is really thinking must remain his secret. "Inquiries into the heart are not for man," Johnson wrote of poet John Dryden's motives in converting to Catholicism, "We must now leave him to his Judge." Hence the significance of a great man's last act, still more than his biography, will be interpreted by and for the living, according to their own interests. The pressure to make the story come out right weighs especially heavily when the subject, like Johnson, stands for his age and the faith it most cherishes. Survivors demand confirmation of what they believe or what they want to believe. Under the circumstances, Johnson had no choice but to die well.

Nevertheless, the facts support more than one interpretation. Many people attended the great man on his deathbed, and the anecdotes they brought back vary according to what they wanted to hear, what Johnson wanted to tell them, and the expectations of those to whom they reported. Thus Hannah More, who had worried so much about Johnson's despondency, was relieved to learn (at third hand) that he had spent his final hours trying to convert his physician to the one true faith. "My dear doctor," Johnson had said, "there is no salvation



Johnson on the grounds of Streatham Park, the country house of Henry and Hester Thrale. Hester Thrale (later Piozzi) wrote one of the first biographies of Johnson.

but in the sacrifice of the Lamb of God." Miss More draws a pious conclusion: "No action of his life became him like the leaving it. . . . It is delightful to see him set, as it were, his dying seal to the professions of his life, and to the truth of Christianity."

Others found similar morals. As often happens, Johnson's "official" last words were staged. A young lady entered the room to ask his blessing; he turned in bed and said, "God bless you, my dear!" We do not know what train of thought she may have interrupted. In fact these were not Johnson's last words. A short while later, according to one eyewitness account, given some warm milk in a cup, he said something upon its not being properly given into his hand. But no biographer has found it useful to end there.

The fullest story appears in *The Life of Samuel Johnson, LL.D.* Boswell had not been present during the last days of his hero, but he needed some resolution to the brilliant earlier scenes about Johnson's fear of death. There were many documents to choose from. Making a virtue of necessity, the *Life* does not pretend to enter its hero's mind and allows him to go quietly. The deathbed scene is handled with restraint. But two other documents flank it, and they make the difference. The first is a prayer by Johnson, composed eight days before he died: "Support me, by thy Holy Spirit, in the days of weakness, and at the hour of death; and receive me, at my death, to everlasting happiness, for the sake of Jesus Christ. Amen."

The second suggests that the prayer was answered. A letter reports the impressions of a servant who sat with Johnson on his last morning, and said "that no man could appear more collected, more devout, or less terrified at the thoughts of the approaching minute." This "agreeable" account "has given us the satisfaction of thinking that that great man died as he lived, full of resignation, strengthened in faith, and joyful in hope." Q.E.D. Boswell proceeds to the tributes and character sketch. Johnson had died with dignity—a hero to the last, triumphant over himself.

Is there any reason to doubt this comforting story? It is certainly what most readers want and need; and I would not deny that it tells the truth—or at least *a* truth—about Johnson. But another, darker version also rings true. It was told by Johnson's executor and first biographer, Sir John Hawkins, a famously harsh and *unclubable* man, one justly accused of lacking charity. Yet Hawkins did have one advantage in talking about the scene of Johnson's death: Much of the time he was *there*. Like others, he witnessed the end of a Christian, but one who "strictly fulfilled the injunction of the apostle, to work out his salvation with fear and trembling." Hawkins's version is anything but consoling; it quivers with restless passion. The last words, according to him, were "*Iam moriturus*" (I who am about to die), an adaptation of the Roman gladiators' salute to Caesar, as if Johnson were still facing his beasts. But Hawkins concludes with a far more terrible

scene. Bloated with dropsy, Johnson tries to discharge the water by stabbing his legs with scissors until they are covered with blood. He even reproaches his surgeon for not daring to delve far enough. "Deeper, deeper—I will abide the consequence: you are afraid of your reputation, but that is nothing to me." And then Hawkins records one more saying of Johnson, perhaps the most aggressive last words in the canon: "To those about him, he said,—'You all pretend to love me, but you do not love me so well as I myself do.'"

It is not the sort of thing dying people say, by convention; nor does it contain the whole Johnson. Yet a part of Johnson is there: a man of courage; a man who speaks the truth even when we would rather not hear it; and a man who clings to life with such fierceness that all about him pale. These are the last words, I think, that suit Johnson best. Many great men have died better and nobler deaths; many authors have tamed death with better words. But only a few have managed to be so honest. Those are the authors whose work lives on.

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.*

That Old Melody

Reading Robert Bond and David Blank on Venezuela [*WQ*, Autumn 1984] was a lot like hearing a favorite old song: pleasant but frustrating.

It is pleasing to see more attention given to Venezuela, which despite its problems is surely one of Latin America's notable success stories. It is encouraging to be reminded that there are places in the region where democracy is the rule, not the exception. But I was frustrated as well. North American and Venezuelan observers have played the same tune for decades now. Perhaps it is time to strike out in different directions.

The strengths of Venezuelan democracy are well known: no significant ethnic or linguistic splits, intense social change with high and orderly political participation, strong organization, and effective leadership. Also familiar are the mixed effects of resource abundance with continued inefficiency and inequality. These elements make the Venezuela that faces us today.

It is unlikely, however, that the future will hold simply more of the same. In any case, it cannot be well understood by mere extrapolation from the forces that created the democracy we know. The future is rooted in the new economy, social structure, democratic culture, and in the vibrant, open politics that democracy itself has created in Venezuela since 1958.

If we are to understand the dynamics of that future, new phenomena must be addressed. Three seem especially significant: 1) the democratization of culture and society—the content of popular culture, changes in association life; 2) innovation in economic policy—developing and assessing strategies for a healthier, more skilled, more long-lived and capable populace with access to steady, productive jobs; 3) the new leadership generation—whether and how those now coming to power in politics, culture, and economic life will affirm the pacts of civility and compromise so central to Venezuela's democracy.

A final note: Linda S. Robinson's fine survey of background books misses a few titles that deserve wider attention. Anyone seriously interested in the formation of modern Venezuela must read Rómulo Betancourt's *Venezuela's Oil* (Oxford, 1978). And two recent histories are John Lombardi's *Venezuela: The Search for Order, the Dream of Progress* (Oxford, 1982) and Judith Ewell's *Venezuela: A Century of Change* (Stanford, 1984).

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Wry Comparisons

Hugh Trevor-Roper diminishes Scottish tradition and the kilts as imports and recent contrivances ["The Highlander Myth," *WQ*, Summer 1984]. It is wry that he sees 300 years as juvenile, or homespun as false, if it is not homemade from scratch.

Ah, the English! Would the judgment be the same if we asked about the Church of England?

Kilts are to be compared with innocuous English fancies such as cricket and warm beer.

No matter, I claim. Scottish tradition does not rest on fancy pants. We have a panoply of traditions, including the prestigious and the charming, the old and the recent: witness Scottish law, Duns Scotus, the Stone of Scone. We even take Arnold Toynbee's Scottish diaspora as part of our heritage, although this was, in part, created under English auspices after the rebellion of 1745. Clannish tradition this, but this time with a vengeance.

Alex McDonald
Stamford, Connecticut

Princess or Pauper?

I enjoyed Frank McConnell's piece on Wallace Stevens [*WQ*, Summer 1984], but I think he is wrong on one important point: his assertion that "The Emperor of Ice-Cream" is a poem about a wealthy lady. On the following evidence, I have always assumed that she is poor: a cigar roller will prepare food for the wake; wenches will dawdle in ordinary clothes; the boys will bring the floral offerings in last month's newspapers; the dresser in her bedroom is made of deal (a cheap wood), and three of its knobs are missing. She was the kind of woman who embroidered her own sheets.

All of this suggested poverty to me, not wealth. But I was always puzzled by the exotic details, such as a cigar roller. Recently, a poet friend told me of a conversation with Elizabeth Bishop. Like Stevens, a frequent visitor to Key West, Miss Bishop spoke of this poem as Stevens's best Key West poem. Therefore, what seemed exotic (the cigar roller) was an ordinary character in the Key West that Stevens knew. Such ordinariness and the poverty of the characters seem altogether consonant with the meaning of the poem.

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Volunteer Views

I must take issue with the assertion by the reviewer of *My Dear Parents* in the Summer 1984 *Quarterly* that Private Horrocks, "like most of his fellow volunteers" in the Union Army, was indifferent to the Union cause and gave little thought to the issues of slavery and secession. While it is probably true that most Union volunteers were not abolitionists, there is strong evidence that many, perhaps most, volunteers did have a sense of patriotism among their reasons for enlisting.

Any student of the Civil War who goes through large collections of private letters can only come away with the feeling

that, along with a desire for adventure, the attraction of the pay, and other motivations, patriotism loomed large. As for secession, although some Union soldiers, especially draftees, held a "let the South go in peace" attitude, most volunteers saw secession as a law-and-order issue.

Contemporary cynicism about patriotism should not distort our perception of the past. Patriotic motives were very real in 1861.

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Keeping Cool

In "The Cooling of the South" [*WQ*, Summer 1984] Raymond Arsenault concentrates on refrigerative cooling and the eastern South. One might also consider what is nostalgically called the "swamp box." Most early swamp boxes were often no more than a sheet metal box, a pump, a sheet of burlap, and a fan. Air was blown through the water-saturated burlap, and the resultant moist air provided cooling through evaporation. Most efficient in arid areas, this nearly natural kind of cooling was ignored by a generation of engineers while it launched two trends in the economically considerable region from southeastern California to southwestern Texas.

First, evaporative cooling has dominated that region since the 1930s because it is far less costly to provide and maintain than refrigerative cooling. Second, it helped the southern Southwest climb out of the Great Depression sooner than much of the United States because it eliminated the summer slump, equivalent to northern winters.

Evaporative cooling's evolution from ancient prototypes and regional "make-dos" to manufactured machines (by way of local tinkerers and without competitive marketing) is also a heartening do-it-yourself story.

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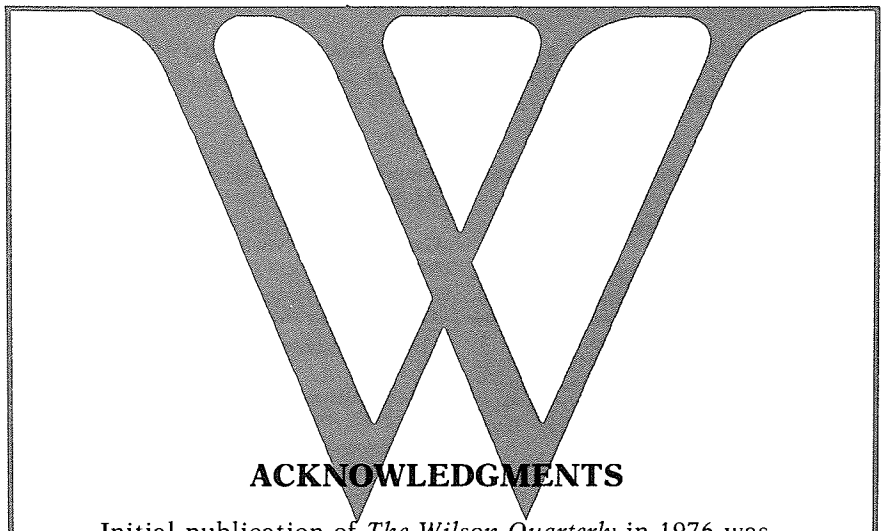

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