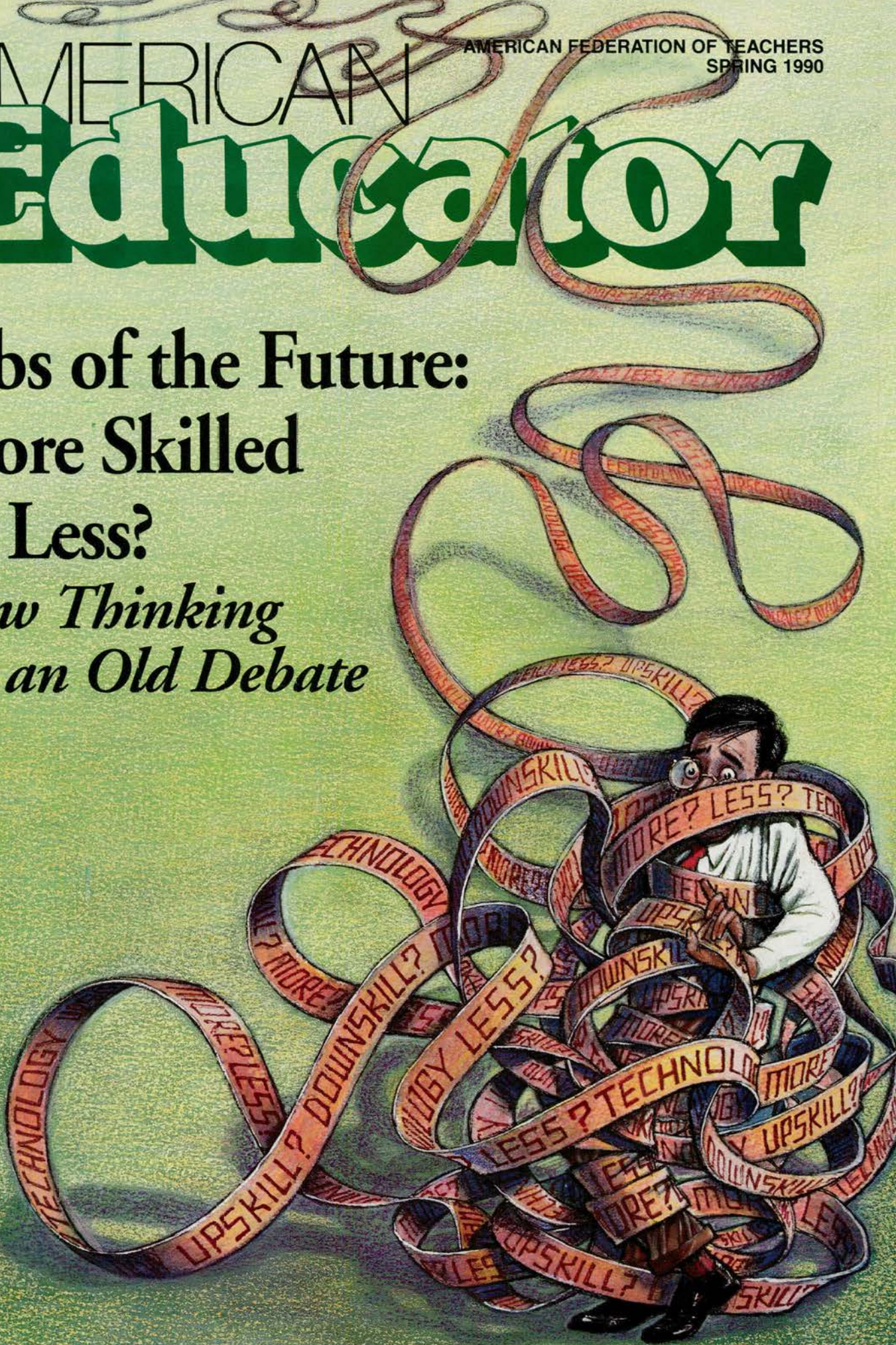


AMERICAN Educator

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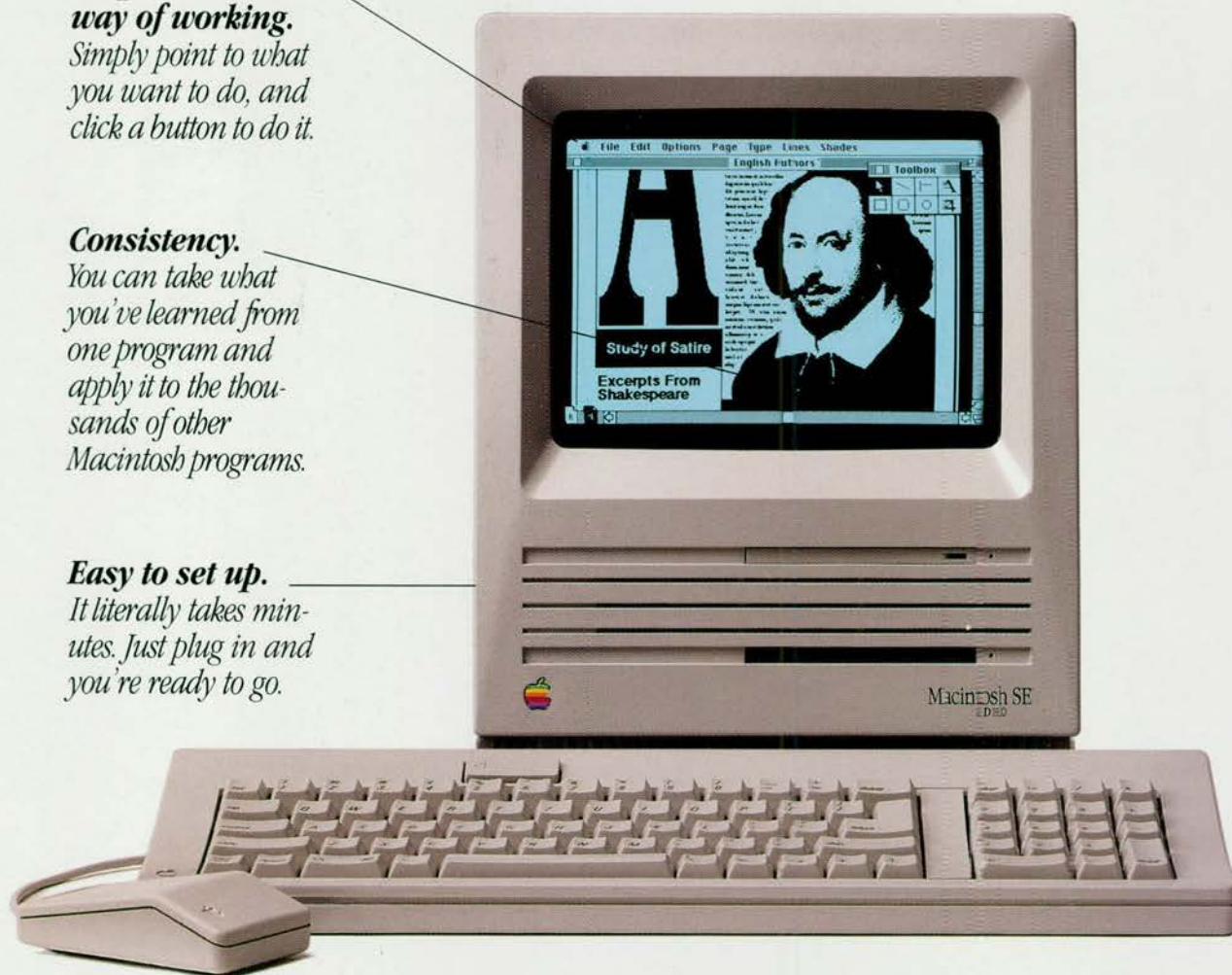
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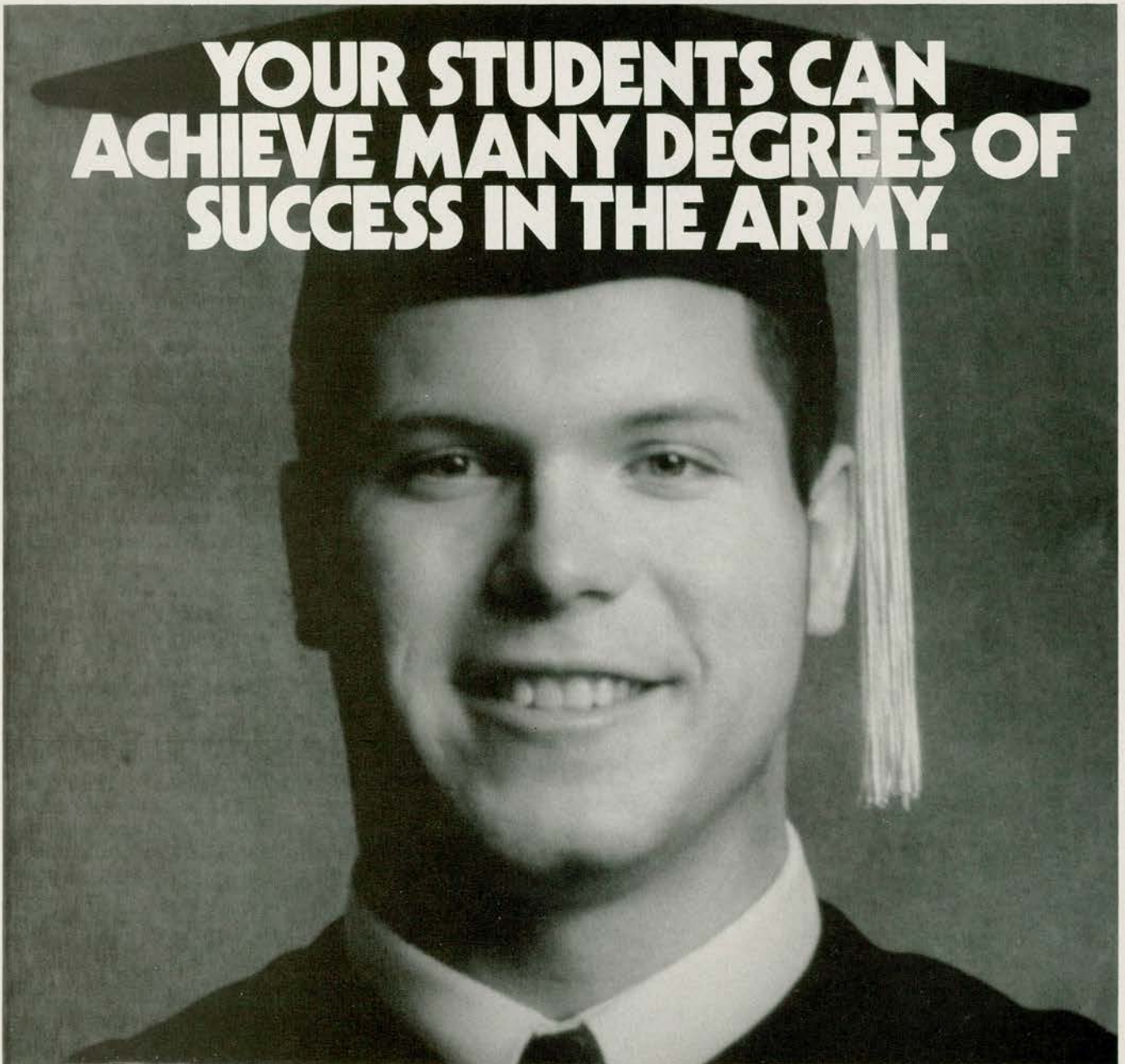
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JOB OF THE FUTURE AND THE SKILLS THEY WILL REQUIRE: NEW THINKING ON AN OLD DEBATE

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Employers might like to use technology to "deskill" work—it is, after all, easier to supervise workers who have no autonomy and whose jobs leave no room for creativity. But, the author argues, new economic forces preclude this strategy. The result: Jobs of the future will require that our students be much more skilled and educated than they have been, not less, as some experts had predicted.

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Manipulatives, technology, and a revamped curriculum that introduces algebra and geometry to elementary students: These are some of the ideas behind successful new programs that seek to make American students more competitive in math.

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35

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Plato in fifth grade? The Odyssey in first? Elementary school teachers around the country are showing that it can be done and that kids love it.

LETTERS

LINKING GRADES TO JOBS

The Arizona Federation of Teachers has launched a program—Partners (in) Educational Preparation (PEP)—that is based on the arguments set forth by James Rosenbaum (“What if Good Jobs Depended on Good Grades?” Winter 1989) and was inspired by AFT president Albert Shanker’s keynote address at the 1989 QuEST Conference.

Businesses participating in our PEP program will require that student applicants submit grade and attendance records when they apply for part-time or entry-level employment. Applicants with superior grade and attendance records will receive hiring priority.

—TERRY L. FORTHUN, PRESIDENT
ARIZONA FEDERATION OF TEACHERS

EXCHANGE ON CHINA

In his article (“China’s Untold Story,” Fall 1989), André Ryerson criticized our materials, among others, as distortions of reality that ignored questions of democracy and repression. If he has misrepresented other materials to the extent that he has ours, your readers would be wise to independently review them before deciding against their use.

For example, Ryerson states that our *American Family in China* “text” conveys an impression that authority is in the hands of the people. To make his case, he cites part of a video dialogue transcript (not a text, as he would have your readers believe) in which an American middle school student states that “Chinese elections are indirect.” But if Ryerson had bothered to go two sentences further in this dialogue, he could have also cited “all candidates who run for office must be approved by the Communist Party.” The student goes on to contrast this to the multiparty system and direct elections of the U.S. and concludes with the statement that “(China’s media) information sources are slanted or

biased toward the practices and policies of the Chinese government. This is called propaganda.” What is Ryerson’s agenda that he would so blatantly subvert the context of our materials to make his point?

Some other significant contexts: 1) the *American Family in China* video is a supplement to *China Connections*’ four-volume set of materials whose clearly stated subcurricular objective is to focus on China’s physical and human geography, not its politics or government; 2) even though the video’s focus is human geography, its young American narrators nevertheless offer perceptive critique and observations of the Chinese government, its policies and the absence of freedom in China; and 3) the video was made well before the events at Tiananmen Square at a time when the Chinese people (and U.S. government) were expressing cautious optimism about incipient democratic and capitalistic reforms under way in China.

Most American teachers, authors, and publishers work hard to present American students with views of our world and its peoples that reflect reality. The authors, publishers, and others implicated by critics such as Ryerson are greatly disserved when publications such as *American Educator* fail to offer their readers a balanced and more complete context and description of materials criticized.

—STEVEN CLARKE, PH.D.
ASSOCIATE PUBLISHER
LEARNING CONNECTIONS INC.

André Ryerson replies:

Steven Clarke argues that I have misrepresented “China Connections” especially the text “Teaching Material and Students Handout Master Sheets for ‘An American Family in China’ Video.” Yet his example scarcely supports his case. The student in the text mentions information sources that are “slanted or biased,” but that is the least of it. What the text fails to note, and what makes Chinese elections meaningless, is that all opposition is suppressed by

an elaborate police state where independent newspapers are illegal and dissenters disappear into prison camps. That is considerably more important than whether elections are direct or indirect.

Nor is the text’s characterization of biased information as “propaganda” quite what it seems, since the term propaganda is benignly defined as “a means of persuasion to convince a person or a group of people to accept or support a particular attitude, opinion, or course of action. One of the most successful campaigns in China has been family planning.” (The materials do not note that China’s family planning campaign has been successful not because of pretty posters but because neighborhood committee members routinely monitor women’s menstrual periods and report pregnant women to the authorities, who then bring to bear enormous coercive power to induce the woman to abort.)

Clarke says, correctly, that his unit is mainly about geography. But virtually every time the materials depart from geography, and there are many such departures, they misrepresent the nature of China’s regime. Negative realities constantly receive a favorable gloss. Two examples: the neighborhood committee (page 10) escapes censure as an instrument of police control and is defined as a “small, local unit of government, elected by residents of each neighborhood.” Instead of noting that the Chinese need government permission to move about their country, the statement “travel is very expensive” (page 22) is offered to explain the rarity of Chinese tourism.

Further rendering absurd Mr. Clarke’s defense of his guide is the refrain that the Chinese government enjoys the trust of the people, an assertion that occurs some four times in this one volume, including this question, which teachers are invited to ask their class: “Explain why the Chinese government has the trust of the Chinese people.”

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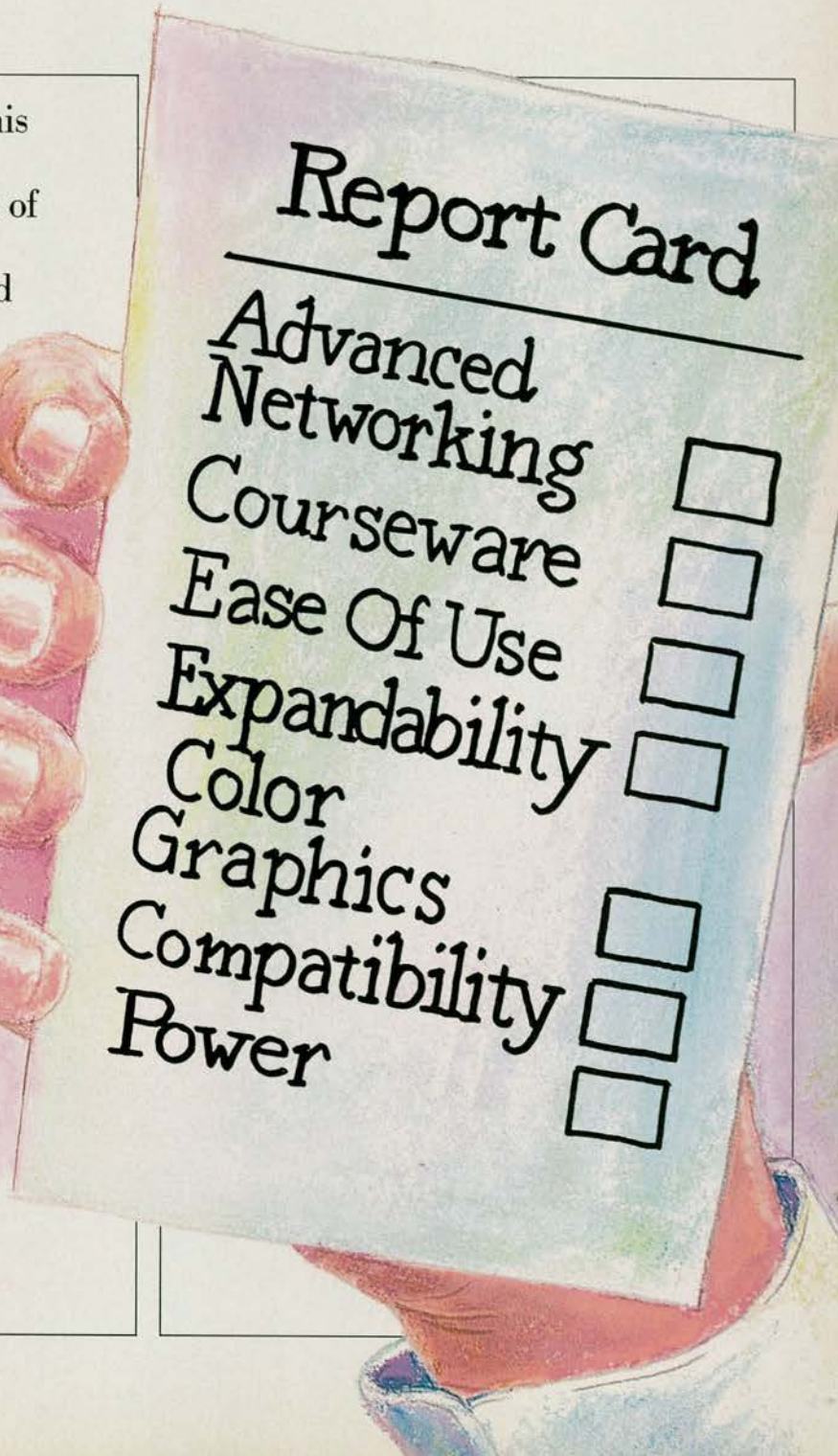
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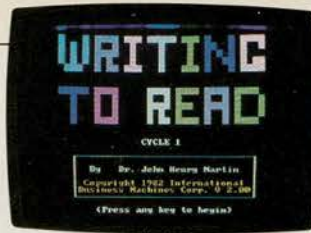
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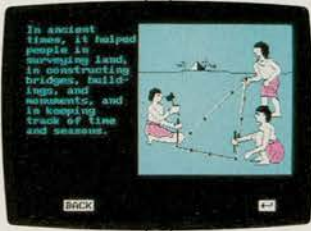
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JOBS OF THE FUTURE AND THE SKILLS THEY WILL REQUIRE

New Thinking on an Old Debate

The new age of high technology and sophisticated automation was supposed to bring about an age of tedious, "deskilled" jobs—workers would be needed for little other than machine tending. It was a grim picture of the future. On the other hand, perhaps teachers could take some solace in knowing that their least-accomplished students could handle the demands of these mind-numbing jobs. After all, how much education does it take to operate the ubiquitous fast-food cash registers with hamburgers and french fries pictured on the keys? But a new generation of research suggests that jobs of the future will require more skill and education, not less. The debate marches forward.

* * *

DURING THE post-World War II era, rising educational levels and advances in automation suggested that the evolving economy would require ever-increasing skills. The growth of productive technologies inevitably would displace workers from direct involvement in the production process, freeing them for higher-order activities. In his influential book, *The Coming of the Post-Industrial Society*, published in 1973, Daniel

Bell argued that

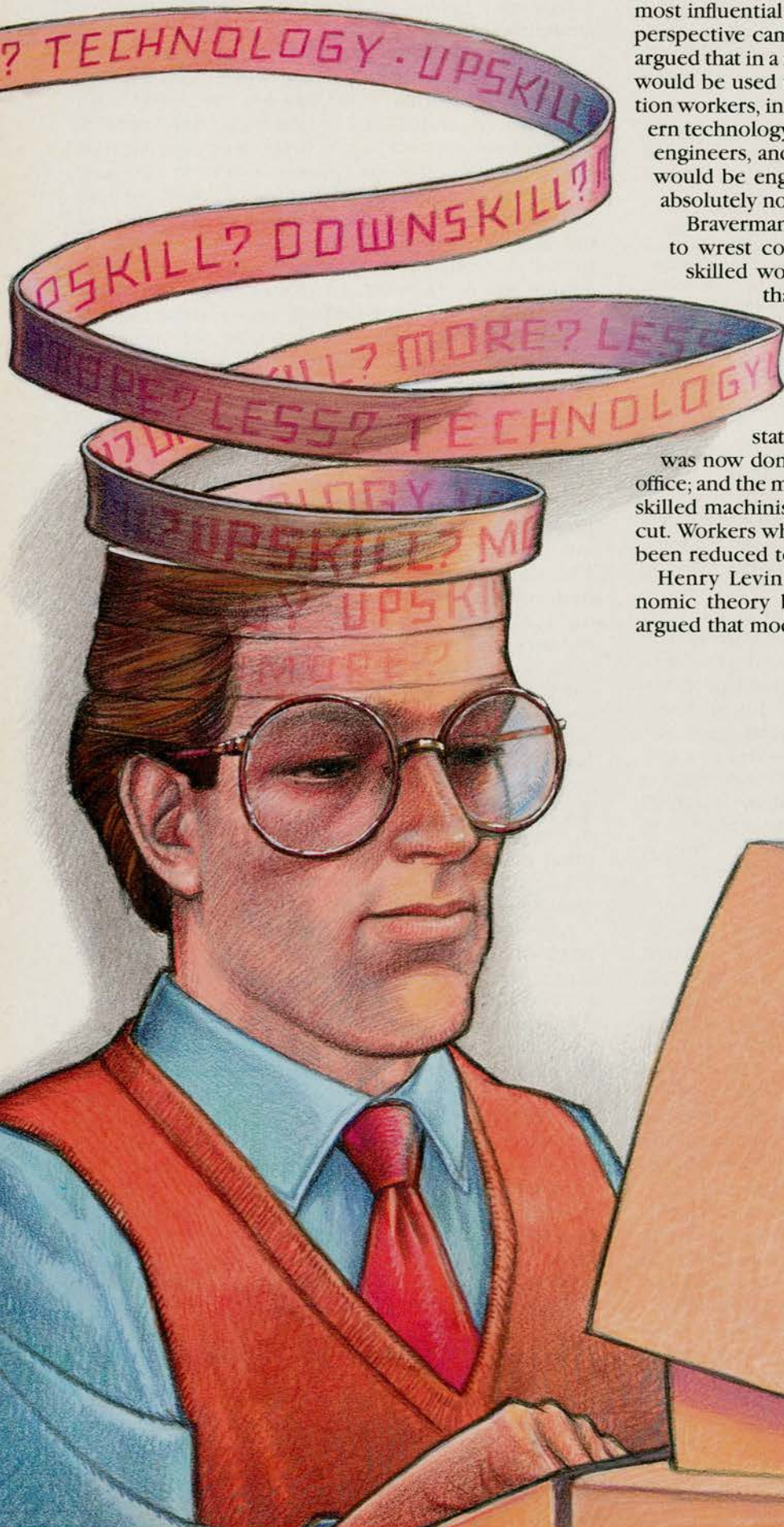
in the Scientific City of the future, there are already foreshadowed three classes: The creative elite of scientists and the top professional administrator . . . ; the middle class of engineers and the professoriate; the proletariat of technicians, junior faculty, and teaching assistants (Bell 1973, 214-15).

Bell's class structure left no room for manual and unskilled labor.

But Bell's book came just as the quarter-century of

Thomas Bailey is associate research scholar at the Conservation of Human Resources Project at Columbia University. This article is based on "Changes in the Nature and Structure of Work: Implications for Skill Requirements and Skill Formation," a paper prepared by Bailey for the National Center, on Education and Employment, based at Teachers College, Columbia University and the National Center for Research on Vocational Education at the University of California/Berkeley.

ILLUSTRATED BY DAN SHERBO



buoyant American growth and optimism was coming to an end. Correspondingly, skepticism about the effect of technological change began to grow. The sharpest and most influential attack on the modernist, postindustrial perspective came from Harry Braverman (1974), who argued that in a modern capitalist economy, technology would be used to reduce the skills needed by production workers, in both manufacturing and services. Modern technology might require highly skilled managers, engineers, and planners, but the production workers would be engaged in simple routine tasks and have absolutely no say in what they did or how they did it.

Braverman argued that capitalists used technology to wrest control of the production process from skilled workers and used technology to achieve that control. In a detailed description of machinists' jobs, he argued that the introduction of numerically controlled machine tools robbed these quintessential blue-collar craftsmen, well paid and highly skilled, of skill, status, and control. All of the mental work was now done by engineers and programmers in an office; and the microelectronic controls, rather than the skilled machinist's hands, guided the material as it was cut. Workers who were once high-status craftsmen had been reduced to mere machine loaders.

Henry Levin (1987) used more mainstream economic theory but came to a similar conclusion. He argued that modern production processes require that

workers operate interdependently. But that makes individual productivity extremely difficult to measure. When individual productivity cannot be measured, the worker has an incentive to shirk. According to Levin,

Henry Levin (1987) used more mainstream economic theory but came to a similar conclusion. He argued that modern production processes require that workers operate interdependently. But that makes individual productivity extremely difficult to measure. When individual productivity cannot be measured, the worker has an incentive to shirk. According to Levin,

the solution to the problem requires a form of organization for the firm in which information on worker effort can be readily obtained and disciplinary action readily taken. Such an organization requires routinization and simplification of worker tasks and hierarchy. The routinization and simplification of worker tasks enables supervisors to more easily judge the effort of workers in a common endeavor (Levin 1987, 199).

That is to say, modern management of complex production processes requires simplification and managerial control of the lower-level tasks.

An earlier theory of "deskilling" was put forward by Harvard Business School professor James Bright (1958). In his "life-cycle" theory of technology, Bright argued that advanced skills were initially required when a new technology was first introduced, but that once a technology matured, the skills needed to work, operate, and maintain it fell.

During the last half of the 1970s and in the early 1980s, Braverman's argument spawned a proliferation of case studies on how technology was affecting the labor process. Studies of clerical work, computer programming, printing, and machine manufacturing all found evidence of deskilling. And in the popular mind, the evidence of deskilling was seen in every visit to a fast-food restaurant. In many outlets, standard cash registers with numbered buttons were replaced by machines with pictures of hamburgers and french fries printed on the keys. Fast-food restaurants, it seemed, could employ workers who could not read or recognize numbers.

BUT A NEW generation of research is now challenging the deskilling thesis. The earlier studies proved to have two problems: First, many of these studies date from the '70s, before profound changes in the economic environment forced some firms that successfully deskilled in the 1970s to alter their human resources strategy. Second, the scope of many earlier studies was too constricted to capture the broader ways in which technology, and technology in combination with other forces, was changing the shape and complexity of work. These earlier studies tended to judge "up"- and "downskilling" narrowly, according to the direct effects a piece of technology would have on the skills needed to perform a particular set of worker tasks. According to this narrow view, the tasks of a secretary were simplified and deskilled when, to take a hypothetical example, calculators or computer "spell check" were introduced—these tools having diminished the secretary's need for basic math and spelling skills. But this view leaves unnoticed the fact that, for many secretaries, the effect of these technologies was to free them from much time-consuming basic arithmetic, proofreading, and retyp-

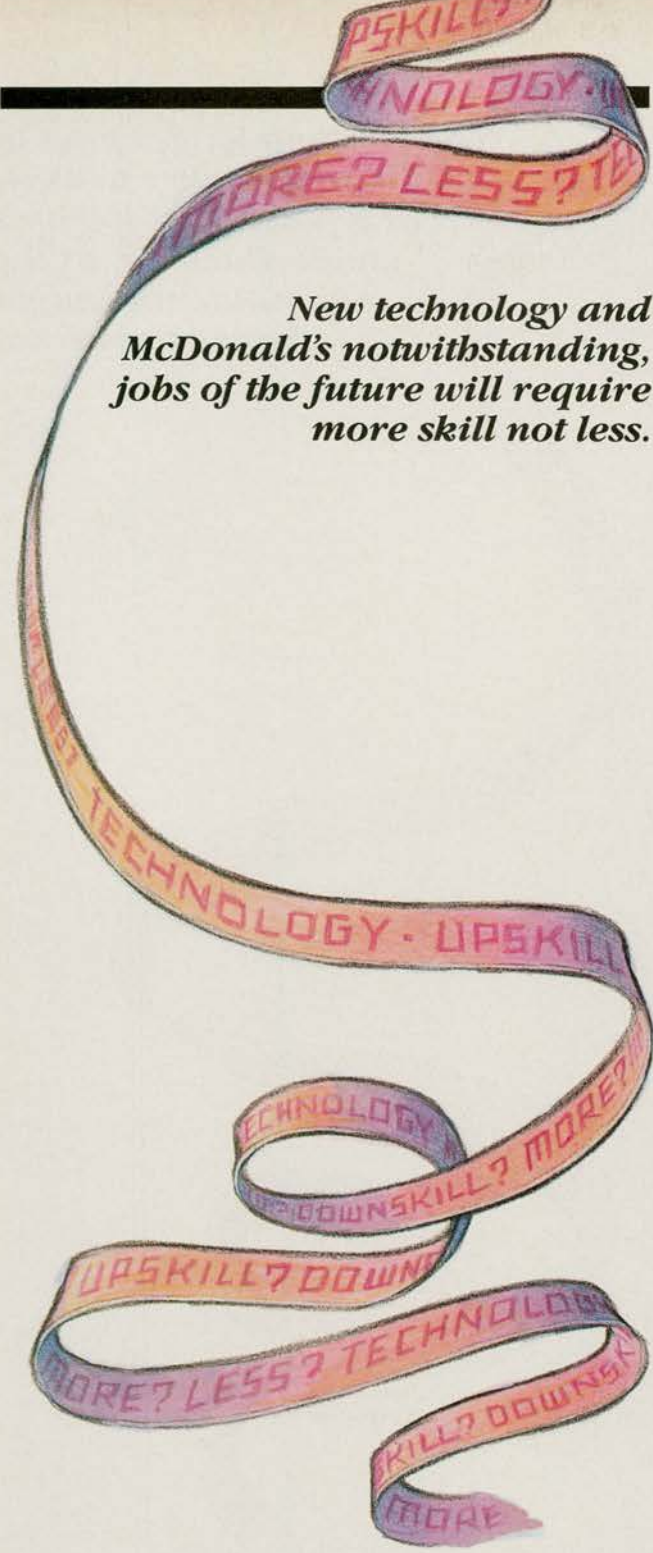
ing, thus enabling them to take on other higher-skill functions (drafting letters, coordinating projects, etc.). This narrow view of changing job skills has become increasingly misleading in the new economic environment.

To correct the distortion that results from this narrow view, Thierry Noyelle (Bailey 1989; Bailey 1988; Bertrand and Noyelle 1988; and Noyelle 1989) and I have closely studied jobs in four industries—apparel, textile, banking, and business services (accounting, management consultants, systems design, etc.). We have sought to develop a very full picture of how these jobs, and therefore the skills needed for them, will change in the future. Our studies, and those of others engaged in similar research, suggest very strongly that, new technology and McDonald's notwithstanding, jobs of the future will require more skill not less—and that this will be true in the manufacturing sector, the service sector, among workers, and among supervisory personnel.

Our research has convinced us that the simple model that sees technological change as an exogenous force with well-defined implications for required skills is invalid. A good deal of other broader research corroborates our conclusion. Shoshana Zuboff's studies (1988) of a paper mill, a bank, and telecommunication companies contain several detailed examples of how similar information systems can be applied differently in different factories and offices. These differences depend on such issues as the "firm's commitment to participatory management." Our research in the textile and garment industries revealed a wide range of applications of the same technology, even the same machines, with radically different implications for skills and human resource strategies. The answer to the question, "What is the effect of microelectronic technology on work and skills?" is almost always a resounding "it depends."

BUT THIS is an unsatisfactory conclusion. If "it depends," what does it depend on, and can something be said about the current effects and future implications of those underlying determinants? Braverman argued that the fundamental cause of deskilling was not technology but the capitalist drive to control the process of production. Levin argued that the need to supervise shirking workers in a complex production process drove the trend toward the simplification and routinization of work. Bright believed that a piece of technology, once learned by the worker, would be incorporated into the simple routines that characterize low-level work. The argument developed below is that: increased international competition, changes in both consumer demand and industrial structure, and the ability of technology to help firms meet these challenges is largely preventing firms from using technology to reduce skills. Indeed, all of these factors are and will be pushing job skills upwards. Let me discuss each of these factors broadly, then report on how firms are responding to them, and, lastly, consider what the effect of these changes will be on job skills.

I. Increased International Competition: In the last twenty years, markets for the products of each of our four studied industries have shifted from being overwhelmingly domestic to becoming almost com-



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pletely integrated into global markets. In banking, the internationalization of capital markets and of wholesale banking functions for large commercial clients, which began with the rise of Eurodollar markets in the late 1960s, has gone the farthest. In the late 1980s, the market for medium-sized corporate clients in the United States has come under attack from Japanese and European banks, and there is even some evidence for international competition in consumer banking. The breakup of national markets for financial services has been further advanced by foreign purchases of United States banks.

Before 1965, imported apparel and textiles

accounted for less than 10 percent of the domestic textile market. By 1980, the United States imported 4.9 billion square-yard equivalents of textile products (including imported raw fabric and the fabric contained in imported garments and other textile products), which accounted for 17 percent of the market for textiles and textile equivalents in apparel and other products. By 1988, imports accounted for over 35 percent of the market.

This internationalization of markets extends well beyond the industries that we have studied. The share of U. S. Gross National Product (GNP) accounted for by imports and exports rose from 10 percent in 1960 to 22 percent in 1984. Moreover, the concern of domestic producers is not simply that trade has increased, but rather that the balance of trade has shifted against the United States.

As a result of this increased competition, U.S. companies are under increasing pressure to lower costs and increase responsiveness to consumer demand. To cut back on costs and increase quality control, businesses must, among other things, reduce their production of defective goods and cut the levels of high-cost inventories—without diminishing their ability to respond to consumer demand. As we shall see, these needs compel firms to alter their organization and thus the jobs of their workers.

II. Changing Consumer Demand: In 1984, Michael Piore and Charles Sabel (1984) argued that during the postwar era, advanced firms, especially in the United States, had prospered by developing processes to produce low-cost, standardized goods for a mass market. Indeed, production-process innovation in the United States in the twentieth century has been synonymous with capital-intensive mass production. But the profitability of this strategy depends on a strong market for standardized goods and services. As industrial societies matured, consumers increasingly sought greater variety and higher quality, and markets for standardized commodities shrank.

Although there are still many opportunities to produce white underwear or corn flakes, these types of basic commodities account for a diminishing share of the market. In each of the four industries we studied, a few basic goods or services have given way to dozens of items; and completely customized products are increasing in importance. This has required firms to shift from growth based primarily on increased sales of standardized goods or services to attempts to sell more varied and customized products.

For example, in the 1960s, approximately 25 percent of United States households had checking and savings accounts. Through the mid-1970s, consumer banks could focus their marketing efforts simply at bringing in new checking and savings accounts; but by the early 1980s, almost 90 percent of United States households had such accounts. If banks were to continue growing, they had to offer new products. While fifteen years ago consumer banks in the United States offered six basic products, today customers in the most progressive retail banks can choose from over one hundred products, among them certificates of deposits, IRAs, and brokerage accounts.

In the case of business services, the growth of the sector itself is an indication of the trend toward customization and more varied output. Management consultants try to solve the particular problems of individual clients. There are still many routine functions that must be carried out, in accounting, for example. But these are precisely those functions that can be easily eliminated or sharply reduced through the use of computers and accounting software.

Although fashion has always been important at the upper ends of the apparel market, during the last two decades fashion consciousness has now spread to people of a wider range of incomes. In earlier decades, there were two fashion seasons. Now some designers change their lines six times a year, and retailers want to have almost continuous changes in their stock.


The greater segmentation of markets and the faster changing of styles have shrunk the market for large production runs of identical garments. Industry analysts argue that commodity products such as men's underwear and socks that are sold all year account for only about 20 percent of the apparel market and that this share is likely to fall. Moreover, even the most basic commodities now come in many more styles and colors. This, of course, has major implications for the textile, as well as the apparel, industry.

Every textile plant and all but one apparel plant studied for this project had, over the last five years, increased the number of styles and products that they were producing. In many cases, the number of styles was increased or the average production run was cut by a factor of ten. Even a mill producing denim, which has been the epitome of a standardized, basic commodity, had increased the number of styles produced at any one time from two or three to thirty. This development is also reflected in the proliferation of styles and products available in the country's stores.

III. The Accelerating Pace of Change: All the industries that we have studied are undergoing frantic innovation and technological change. This is all the more remarkable since banking, textiles, and apparel had enjoyed periods of stability during the 1950s, 1960s, and early 1970s. But in the last decade, shifting international markets and sources of comparative advantage, fickle customers and clients, and rapid innovations in products and processes make one day's winner the next day's loser.

One result is increased uncertainty about what products will be saleable in the near future. This uncertainty, tied to intensified competition, is forcing firms to place increasing emphasis on reducing the time that it takes to develop, produce, and distribute a product, thus allowing firms to be more responsive to market shifts. Moreover, reducing product cycle time also can save the costs of maintaining large warehouse inventories.

In addition, improved communications and a diffusion of technological information further pressures industry leaders to make use of available technology to change quickly and get out front. For example, Citibank's early innovations in consumer banking allowed it to develop a dominant position in some retail markets. Much has been made of the ability of Japanese firms to develop projects with significantly shorter lead times



It no longer pays to train a worker to work at a particular job or a single machine, as the job or machine might change tomorrow.

than U. S. firms. One survey found that Japanese automobile firms completed design projects in two-thirds the time with one-third the engineering hours of U. S. firms (Clark, Chew, and Fujimoto 1987).

This environment of constant change, as much as the actual characteristics of the new technology, new products, or new trade patterns, often forces fundamental changes in firms' strategies. It no longer pays to train a worker to work at a particular job or a single machine, as the job or machine might change tomorrow. A workplace process designed to produce efficiently or sell large quantities of standard products, whether it be denim, or white shirts, or checking accounts, is not

necessarily the most efficient way to produce quickly smaller quantities of an increasing variety of goods. Traditional approaches geared to a more stable environment no longer work.

How do these several forces—increased competition, consumer demand for variety, and the accelerated pace of change—interact with new technologies? What changes do these interactions provoke in business practices and, therefore, work? To begin answering these questions, let's look first at consumer banking—a service industry that traditionally provided rather standardized goods—and then, more closely, at the apparel industry—a manufacturing industry that traditionally produced a much greater variety of goods—and, incidentally, at the textile industry.

Why Bank Jobs Are Being Upskilled

Until the last decade, the main products offered by consumer banks had been checking and savings accounts. To open an account, a customer would enter the branch and take a seat at the customer service desk. A high school-educated clerk-typist would then take down the customer's name and other information on a preprinted form especially designed for checking and/or savings accounts. The customer would leave, the form would be routinely processed and filed, and the customer would receive his checks in the mail. End of transaction.

But now customers want a greater variety of services, and they want to be counseled about which of these services are appropriate for them. The bank that does not respond to these demands will not survive the industry's intense competition. But can the same clerk-typist be trained to navigate customers through the huge variety of products now offered? Can a new set of preprinted forms be developed every time a new product is offered? Can the bank provide specialized training to its staff about each new product's features as the product is introduced?

In fact, so much change cannot be accommodated without altering the firm's basic structure. What has actually been happening is that banks have been upgrading their platform personnel (those banking employees, other than tellers, who serve retail customers). The tellers behind the windows are now the high school graduates; in many cases, they are just a human alternative to the ubiquitous ATM machines. But the platform personnel—who must be well versed in their company's products, skilled at eliciting relevant information from the customer, and capable of making an intelligent match between product and customer—are likely to have postsecondary education.

The upgrading of the platform personnel, combined with the availability of networked computers, has been accompanied by a reduction in low-skill jobs. The forms that were once prepared by clerk-typists are now prepared by the platform personnel armed with computers. The filing of paper applications has been rendered unnecessary by the same computers, as has the work of the messengers who once carried applications from one work station to another; now the work is transmitted electronically not only from one work station to another, but even from the branch to the central office.

This scenario—the near-elimination of low-skilled jobs and the upgrading of middle-level jobs—is a standard one not only in banking but in the insurance industry and other service industries that require increasingly complex interaction between customer and firm. Note the pattern: Technology made possible the elimination of the lowest-level jobs in the bank. But the same technology also made it possible—and increased competition made it imperative—for the banks to respond to the demands of their customers for a new level of service; and that level of service required the banks to give middle-level employees more responsibility. It may be true, as Harry Braverman said, that employers would like to deskill their employees, but it's even more true that employers want to make a profit. And that desire has prevented banks from using technology to deskill.

These same forces—competition, consumer demand, and the accelerated pace of change—in combination with the availability of technology—are pushing the apparel and textile industries to rethink their “deskilling” strategy. But their path toward upskilling is more twisted and complicated.

The Traditional Garment Shop's Problem

In the last twenty years, the apparel industry has made a concerted effort to develop automated equipment that minimizes the skill needed by workers. In a typically organized garment shop, an operator takes a “bundle” of about thirty garment parts prepared by the worker next to her and performs one very small task—for which, thanks to increased automation, in some cases, her sewing machine is specially customized. For example, she may sew a hem on a wide skirt, attach a pocket of a certain size to denim pants, or join the front panel of a particular cotton shirt to the back. When the operator has performed her task on the thirty pieces, she processes a work ticket to keep track of her work, reties the bundle, and begins work on another.

Although the bundle system promotes individual productivity (workers are normally paid piece rates) and keeps training costs down (for those tasks that can be automated, training time can be cut by as much as 30 to 50 percent—from sixteen to eighteen weeks to ten to fourteen weeks is typical), it requires a tremendous amount of in-process inventory. A man's shirt, for example, requires between forty and sixty operations. To insulate each operator from the effects of machine breakdowns and other problems along the production line, she usually has two bundles, an average of between 1.5 and 8 hours of work, waiting at her station for processing; thus at any given time, there are thousands of garment pieces sitting around the factory floor in bundles. As a result, there is often between fifteen and twenty days of work-in-progress lying on the floors of plants whose garments require no more than twenty minutes of labor.

In textile mills, fibers also move slowly from department to department (opening, carding, spinning, weaving), the pace likewise slowed by the large inventories that buffer each process. The ability of a mill or garment shop to produce quickly a newly ordered product is further hampered because in both workplaces switch-

(Continued on page 40)

DIVERSITY AND DEMOCRACY

Multicultural Education in America

BY DIANE RAVITCH

Particularism: n. 1. Exclusive adherence to or interest in one's own group, party, sect, or nation. 2. A policy of allowing each state in a nation or federation to act independently.

THE HISTORY of American public education contains numerous examples of racial, religious, and ethnic conflict. This is not surprising, since the schools tend to be the most sensitive cultural barometers in society. The curriculum of the schools is often seen by parents, policy makers, and interest groups as a means to shape the minds and values of the next generation. As long as there has been public education in this country, the schools have provided an arena for social conflict in which groups clash over whose values are taught in the schools.

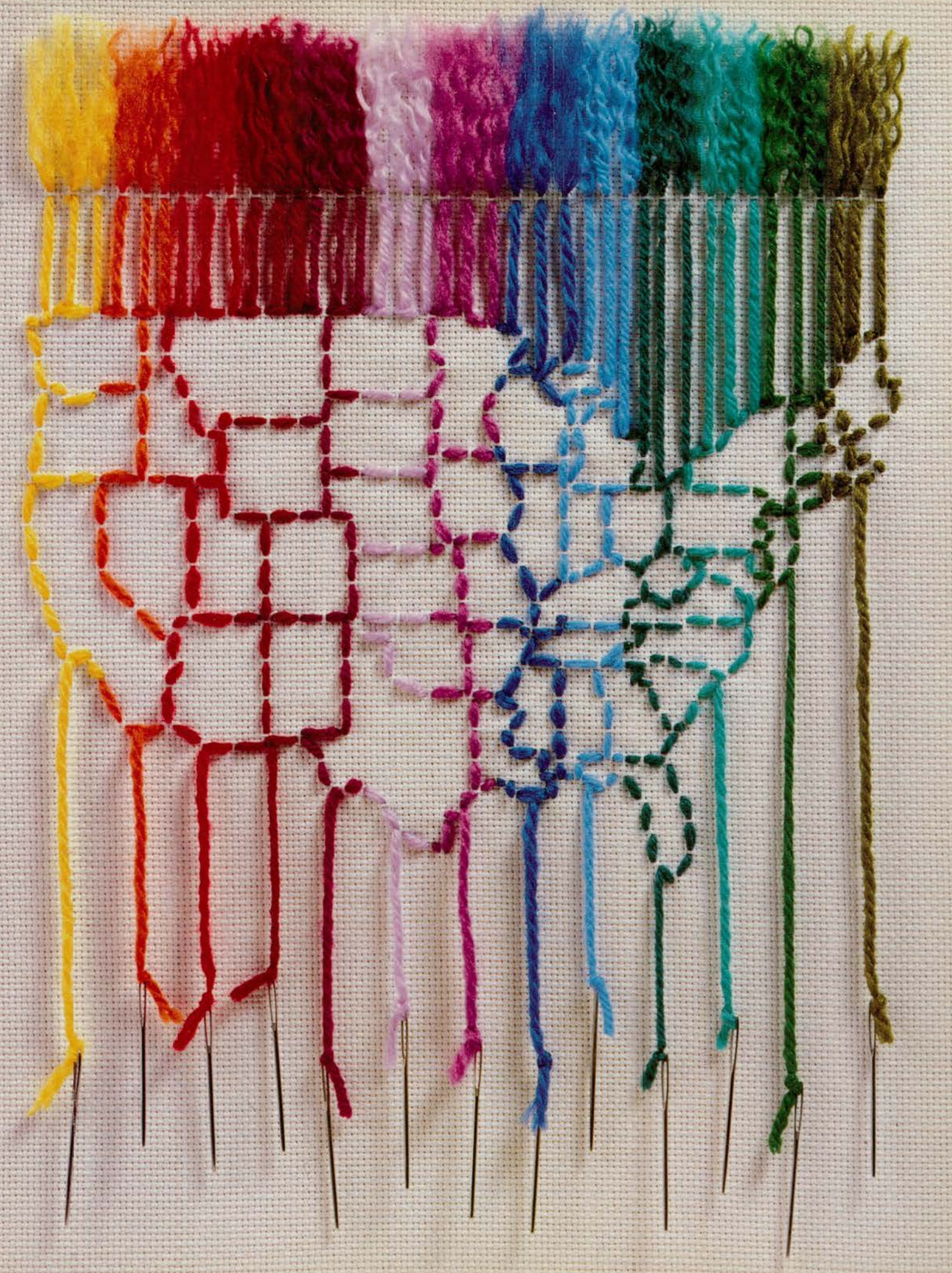
During the nineteenth century, Catholics fought to remove the Protestant influence on textbooks and curricula. Battles over school prayer and over the presence of religious activities in school still divide communities nearly thirty years after the Supreme Court forbade

prayer in the schools. The advance of secularism has prompted fundamentalist Christians to campaign against textbooks and library books that offend their religious views and for science courses that teach creationism on an equal footing with evolution. For the past four decades, the movement to eliminate racial segregation and its lingering effects from the schools has changed the nature of American schools and American society.

Although educators and policy makers must strive to keep the schools free from partisan struggles, the schools inevitably are drawn into controversies that reflect the differences in values among people in a diverse society. Sometimes these controversies have been ultimately beneficial to the schools, for example, by ending racial segregation, by removing biased materials from textbooks, or by creating programs to encourage more girls to study mathematics and science.

But not all controversies have happy outcomes; not all stories have happy endings. Textbooks suffer, as does instruction, when publishers remove literary selections with myths or fables or themes that offend someone, somewhere. Science programs are weakened when teachers are afraid to teach about AIDS or sex education or evolution because some parents object. History instruction is distorted when interest groups exert political pressure on teachers, textbook publishers, and school board members to have the past taught their way.

Diane Ravitch is adjunct professor of history and education at Teachers College, Columbia University; author of "Troubled Crusade: American Education 1945-1980"; and co-writer of the California History-Social Science Framework.



Such political pressures on the schools threaten public education itself, making it difficult to teach history and controversial issues honestly and making other subjects in the curriculum vulnerable to political campaigns.

The decade's coming battle over values will determine how we provide our students with a multicultural education. Such an education is a necessity. The children in our schools come from many different racial and ethnic backgrounds, and some are recent immigrants from Latin America, Africa, Asia, or Europe. This cultural diversity in the classrooms of our nation has created a growing demand for school programs that reduce prejudice and teach children to appreciate others whose race and ethnicity are different from their own. For these reasons, many states, school districts, and even individual schools and classrooms have established various sorts of multicultural programs. Properly conceived, these programs enrich students' understanding of history and contribute to their appreciation of American diversity.

But almost any idea carried to its extreme can become ridiculous or destructive. Such is the turn being taken by certain advocates of multicultural education. Pluralistic multiculturalism is now contending with particularistic multiculturalism. The pluralists, like New York City Mayor David Dinkins, say that we are all parts of this nation's "gorgeous mosaic" of racial and ethnic groups; as citizens of the same society, we are all responsible for one another. By contrast, the particularists neglect the bonds of mutuality that exist among people of different groups and encourage children to seek their primary identity in the cultures and homelands of their ancestors.

* * *

For many years, the public schools attempted to neutralize controversies over race, religion, gender, and ethnicity by ignoring them. The textbooks minimized inter-group problems and social injustices and taught a sanitized version of history. Race and ethnicity were presented as minor elements in the American pageant; slavery was treated as an episode, as was immigration, and women were largely absent. The textbooks concentrated on presidents, wars, and national politics. An occasional "great black" or "great woman" received mention, but the main narrative paid little attention to minority groups and women.

Since the '60s, there has been a great deal of new scholarship about the history of women, blacks, and various ethnic minorities. Much of this has found its way into university-level textbooks. At first, the multicultural content was awkwardly incorporated as little boxes on the side of the main narrative. Then some of the new social historians (like Stephan Thernstrom, Mary Beth Norton, Gary Nash, Winthrop Jordan, and Leon Litwack) themselves wrote textbooks, and the main narrative itself began to reflect a broadened historical understanding of race, ethnicity, gender, and class in the American past.

In recent years, history and literature textbooks for elementary and secondary students have been revised to incorporate this broader perspective of the American past, but in all too many cases, the additions remain

merely add-ons, sidebars to the main story. In elementary and in secondary texts, as in college texts, the story itself must be told as the forging of a new people who are learning to live amicably with others who are different. It is a story in which people of many different backgrounds have joined together to become one nation, all Americans.

Wisely and intelligently designed, what has come to be known as the multicultural curriculum* is a tool with which to broaden and transmit the common culture that we all share. Indeed, the unique feature of the United States is that its common culture has been formed by the interaction of its subsidiary cultures. It is a culture that has been influenced over time by immigrants, American Indians, African slaves, and their descendants. American music, art, literature, language, food, and customs all show the effects of the commingling of diverse cultures in one nation. Paradoxical though it may seem, the United States has a common culture that is multicultural.

This understanding of the pluralistic nature of American culture has taken a long time to forge. It is based on sound scholarship and has led—and is still leading—to major revisions in what children are taught and what they read in school. Making these changes is difficult, raises tempers and controversies, but gives a more interesting and more accurate account of American history. Accomplishing these changes is valuable, too, because there is a useful lesson for the rest of the world in America's relatively successful experience as a pluralistic society. Throughout history, the clash of different cultures, races, ethnic groups, and religions has usually been and is still today the cause of bitter hatred, civil war, and international war. Thus, it is a matter of more than parochial importance that we closely examine and try to understand that part of our national history in which different groups competed, fought, suffered, but ultimately learned to live together in peace and even achieved a sense of common nationhood.

WE ARE a multicultural people, but also a single nation knitted together by a common set of political and moral values. In the education that we provide to our students, how do we reconcile our *pluribus* and our *unum*? How do we ensure that education promotes pluralism, not particularism?

The movie *Glory* is a fine example of pluralistic education at its best. This depiction of the most famous black Civil War regiment demonstrates the courage and determination of the black soldiers; it shows whites who were vicious racists, and whites who gave their lives to the cause of black freedom. Everyone who sees the movie leaves with a greater understanding of the black contribution to the building of America and can identify with the heroism of the Massachusetts 54th.

I offer the California History-Social Science Framework, which I helped to draft, as an example of an excellent full-length multicultural curriculum. The California history-social science curriculum was developed

* The term "multicultural education" can embrace not only changes in the curriculum but also changes in teaching methodology that respond to our multicultural population. This article addresses only questions of curriculum.

***We are a multicultural people,
but also a single nation
knitted together by a
common set of political
and moral values.***



over a two-year period by a framework committee made up of teachers and historians. The framework committee agreed that the new curriculum should center on the study of history, that it must be multicultural, and that it must place a premium on civic education.

With these goals in mind, the framework committee decided that world history must be increased to three required years, providing enough time to examine the civilizations that developed in Africa, the Near East, China, India, and elsewhere; the civilizations of the Mayas, Incas, and Aztecs; the growth of western civilization in Europe; and the problems of the twentieth century world. Teachers of these courses are encouraged to use the literature and art of diverse cultures, their myths, legends, religious literature, poems, novels, biographies, and so on.

In the teaching of American history, racial and ethnic minorities are woven into the central story, not represented as mere footnotes. For example, major attention is paid to slavery in American history; to the abolition movement; to the rise of Jim Crow laws and segregation after the Civil War; and a full unit is devoted to the civil rights movement of the twentieth century. Wherever historically appropriate, the curriculum recognizes the importance of ethnic groups in the building of the nation. Students learn about the Hispanic roots of the Southwest, the cultures of Native American tribes, and Asian and Chicano immigration to California. And the internment of Japanese-Americans during World War II is confronted and honestly treated as a violation of basic human rights.

Multiculturalism is treated as a dynamic aspect of American culture, not as an alternative to it. A major strand of the curriculum is called "National Identity." This is described as follows: "Students must: *Recognize that American society is now and always has been pluralistic and multicultural.* From the first encounter between indigenous peoples and exploring Europeans, the inhabitants of the North American continent have represented a variety of races, religions, languages, and ethnic and cultural groups. With the passage of time, the United States has grown increasingly diverse in its social and cultural composition. Yet, even as our people have become increasingly diverse, there is broad recognition that we are one people. Whatever our origins, we are all Americans."

This strand concludes with the admonition that students should: "*Realize that true patriotism celebrates the moral force of the American idea as a nation that unites as one people the descendants of many cultures, races, religions, and ethnic groups.*" The California history framework explicitly recognizes the positive value of pluralism in American society. Pluralism is presented as a key to understanding and defining the American community—a society and a culture to which we all belong. If there is no overall community, if all we have is a motley collection of racial and ethnic cultures, there will be no sense of the common good. Each group will fight for its own particular interests, and we could easily disintegrate as a nation, becoming instead embroiled in the kinds of ethnic conflicts that often dominate the foreign news each night. Without a sense of community that embraces all of us, we have no means to mobilize on behalf of the social good. There will be, for example, no

reason to support public education. Public education is paid for by tax dollars to educate all children for their own good and for the good of the larger community. If there is no larger community, then each group will want to teach its own children in its own way, and public education will cease to exist.

CONTRAST California's pluralistic approach with the particularism that gained a major forum when, last fall, New York State Commissioner of Education Thomas Sobol released a report called "A Curriculum of Inclusion." The report, the product of a Task Force on Minorities created by Sobol to review the state's curriculum guides for any instance of bias, disparages any common elements in our history, society, and culture.

The task force report denounces New York state's existing curriculum guides for "projecting dominant European-American values" that belittle the contributions of American minorities and nonwestern civilizations and for its "hidden assumptions of white supremacy" and "white nationalism." It claims that "negative characterizations or the absence of positive references have a terribly damaging effect on the psyche of young people of African, Asian, Latin, and Native American descent" and, moreover, that the failure of the curriculum to portray positively non-European cultures has led to the low self-esteem and, therefore, the poor school performance of minority children.

If these charges about New York state's curriculum were true, it would indeed be urgent to revamp the curriculum, as the task force demands. But the charges have little merit. "A Curriculum of Inclusion" is remarkable in that it manages to denounce bias without being able to identify a single instance of it in the curricular guides under review. Instead, the consultants to the task force treat every disagreement they have with the curriculum as if it were proof of racial bias. For example, the African-American consultant [consultants representing each of four ethnic groups made a separate report on which the overall report was based] excoriates the curriculum for its "White Anglo-Saxon [WASP] value system and norms," its "deep-seated pathologies of racial hatred," and its "white nationalism," yet the only example of "bias" he found was that Egypt is studied as part of the Middle East instead of as part of African civilization. As it happens, scholars disagree about whether Egypt should be considered part of Africa or part of the Middle East; choosing one alternative rather than the other is not evidence of bias. The "Latino" consultant criticizes the use of the term "Spanish-American War" instead of "Spanish-Cuban-American War." The Native American consultant complains that tribal languages are classified as "foreign languages."

In the absence of any specific examples of bias, the consultants seize upon the line drawings that illustrate the teachers' guides as proof of rampant racism. The cover of the first-grade social studies booklet portrays three families: a white family with three generations; an Asian couple with two children; and a black father with his son. Here at last the task force could point to blatant bias and racial stereotyping and favoritism toward European Americans. Actually, given the state of ethnic sensitivities, it *is* a stupid drawing, but it is not

representative of the first-grade curriculum, which is insistently multicultural. The global studies courses offered in grades nine and ten are likewise thoroughly multicultural; they give equal time to Africa, Latin America, and Western Europe, as well as four other major world regions. They are not racist or culturally biased in any sense.

What has provoked the task force to such inflammatory language is clearly not racial bias as generally understood. Rather, a full reading of the report suggests that the task force wants the curriculum to accept and teach its claim that European values are themselves "racist" and "oppressive" and responsible for producing "aggressive individuals and nations that were ready to discover, invade, and conquer foreign lands because of greed, racism, and national egoism."

The report, it must be said, is Europhobic. It repeatedly reproaches the state's curriculum for being "Eurocentric," as though this were a matter of racism, rather than the matter-of-fact consequences of European influence and European immigration. Nearly 80 percent of the population of the United States today is of European descent; the political and economic institutions of the United States were deeply influenced by European ideas. Europe's legacy to us is the set of moral and political values that we Americans subsequently refined and reshaped to enable us, in all our diversity, to live together in freedom and peace.

But in the particularist view, such commonly held values are of little concern. What is highlighted are our differences. Particularistic education teaches children to see history as a story of victims and oppressors, and it endorses the principle of collective guilt. In other words, "Your ancestor oppressed my ancestor." This approach encourages a sense of rage and victimization in those who are the presumed descendants of victims and a sense of resentment in those who are the presumed descendants of oppressors. Instead of promoting reconciliation and a sense of shared community, particularism rekindles ancient hatreds in the present; its precepts set group against group. Instead of learning from history about the dangers of prejudging individuals by their color or religion, students learn that it is appropriate to think of others primarily in terms of their group identity.

The New York report divides the American people into five groups: African Americans, Asian Americans, Native Americans, Latinos/Puerto Ricans, and European Americans. In the eyes of the task force, each of these labels represents a group with a specific culture and history. Despite its own statements to the contrary, the report, in effect, divides American society into five separate but equal melting pots.

In reality, none of the five labels used by the task force represents a single culture. If multiculturalism is to have real meaning and value, teachers and students must understand that children who speak the same language or have the same skin color may come from very different cultural backgrounds. The child from Cambodia has a cultural background different from the Japanese or Korean child. So, too, do cultural differences exist between children from Puerto Rico and those from Mexico and among black children from different parts

(Continued on page 46)

The Death and Life of Freedom

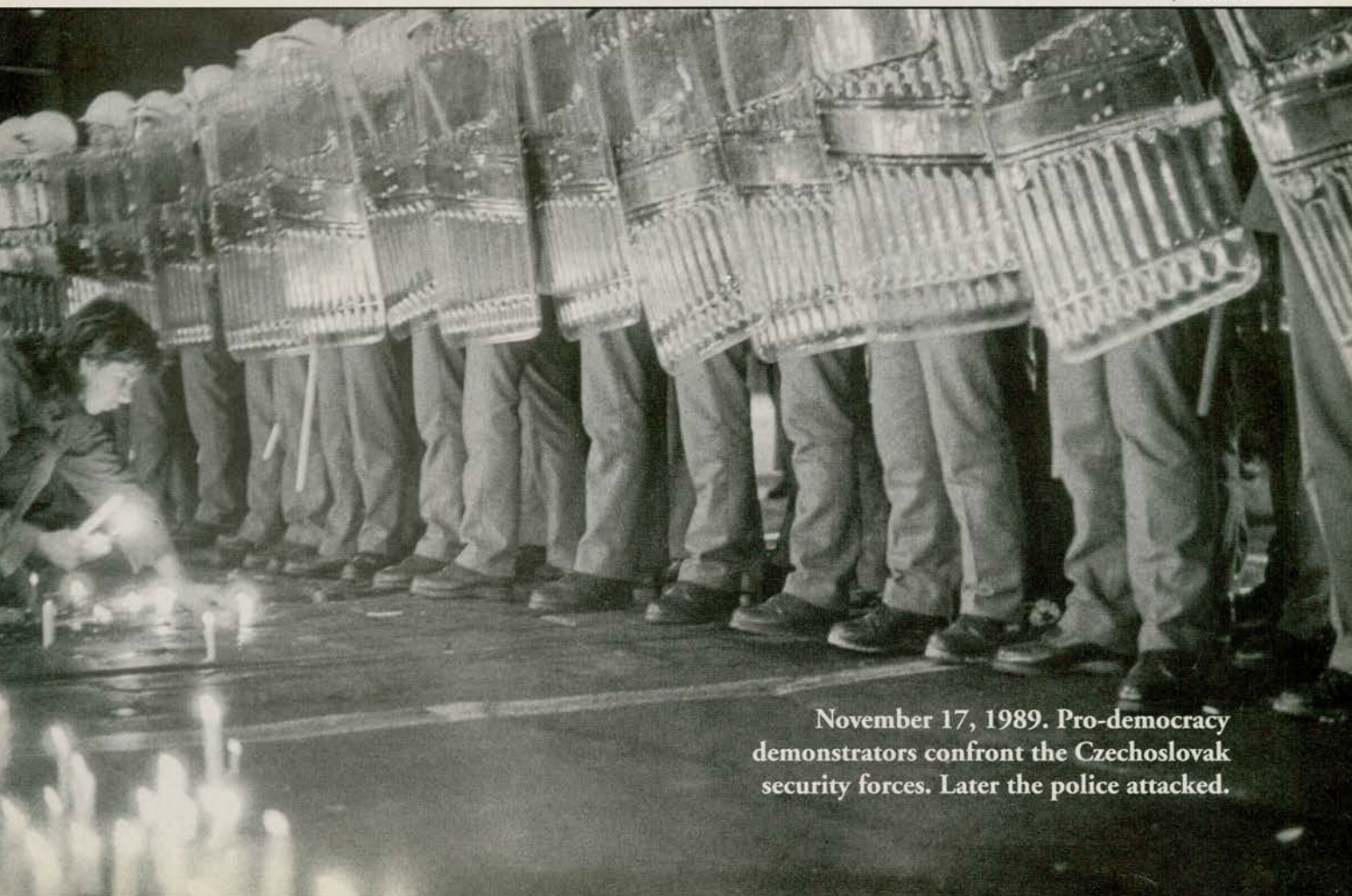
A Collection of Teaching Materials on the Rebirth of Democracy in Czechoslovakia

The events of Eastern Europe have changed the shape of international politics—and they provide teachers an opportunity to connect their history lessons to the present. The events also provide rich material for civic education. The rising up of the Eastern European people after decades of repression reminds us that the desire for freedom is universal; the story of their oppression reminds us of the terrible ways in which states can deny that freedom. These events can help students to better understand and appreciate democracy by confronting them with its alternative; to see concretely the violations the Constitution and Bill of Rights are meant to prevent; to imagine what institutions and personal values are necessary for democratic societies to emerge and flourish.

To assist such teaching, especially at the secondary level, the *American Educator* presents this collection of materials on Czechoslovakia, which will hold free elections in June. The anchor of the materials is a biographical profile of Vaclav Havel, the famed playwright and dissident—the Sakharov of his country—and now Czechoslovakia's president. The biography is by Josef Skvorecky, an exiled Czech novelist and friend of Havel's. Supplementing the profile are documents, literary passages, and photos that build on the events and ideas sketched by Skvorecky, plus a set of teaching activities and additional readings.

AFT's Education for Democracy Project coordinator Burnie Bond prepared the materials from which this teaching section was developed. For a more comprehensive, 36-page set of materials on the Death and Life of Freedom, send \$4 to: Education for Democracy Project, AFT, 555 New Jersey Ave., N.W., Washington, DC 20001.

JAN SILPOCH



November 17, 1989. Pro-democracy demonstrators confront the Czechoslovak security forces. Later the police attacked.

The Hard and Stubborn Life of Vaclav Havel

by Josef Škvorecký

Josef Škvorecký was a member of the Club of Engaged Non-Party Writers founded by Vaclav Havel in 1968. He is the author of *Engineer of Human Souls* and other books (see "Resources") and the winner of the 1980 Neustadt International Prize for Literature. Stripped of his citizenship in 1969, he now teaches at the University of Toronto and runs, with his wife, the Czech language "Sixty-Eight Publishers," which has published several books by Havel and financed the smuggling of these and other "Sixty-Eight" published books into Czechoslovakia.

For the past half-century, the Czechs and the Slovaks, who constitute the two principal peoples of Czechoslovakia, have been living under totalitarian regimes. In March 1939, the country was occupied by the German Nazis whose bloody rule lasted until May 1945. In February 1948, after less than three years of limited democracy, the Communist Party staged a *coup d'état* and changed Czechoslovakia into another variety of totalitarianism. With various ups and downs, the Communist domination survived until 1989 when people, stunned by the police massacre of students on November 17, took to the streets and, in a remarkably bloodless uprising, overturned the Communist regime.



CHRISTOPHER MORRIS/BLACK STAR

Vaclav Havel

Democracy Lost, and Lost Again

New York Times

LATE CITY EDITION
Mostly cloudy and colder today.
Tomorrow generally fair and
continued cold.
Temperature Tuesday—Max. 51; Min. 34

NEW YORK, THURSDAY, MARCH 16, 1939.

THREE CENTS NEW YORK CITY | FOUR CENTS Elsewhere Street and Village | IN 7th and 8th Postal Zones.

HITLER FOLLOWS HIS TROOPS INTO PRAGUE; CZECHS JEER THE NAZIS; NEW REGIME SET UP; HUNGARIANS RESISTED IN CARPATHO-UKRAINE

Bohemia and Moravia
Likely to Retain Names

FIGHT IN RUTHENIA

Chamberlain Sees Munich Flouted;
Cancels Trade Parleys in Berlin

CZECH AREA SEIZED

By The Associated Press
BERLIN, March 16.—(AP)—
Czech sections of a
Czech-Bosnia ha
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evolutionary
Through President
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for Chamberlain. Adm
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hania and Moravia
be divided. The
"Czechia" had be

VOL. XCVII No. 32,904.

Printed at World-City, Mayor
Postoffice, New York 17, N. Y.

Chancellor's Banner Is
Flying Over Capital's
Historic Citadel

ISTS SHAKEN AT SOLDIERS

CZECH REDS SEIZING POWER, OCCUPY SOME MINISTRIES; SOCIALIST PARTY TAKEN OVER

New York Times
Feb. 25, 1948

GOTTWALD WINNING

His 'Action Committees'
Forcing Creation of
'People's Front'

London and Paris Shocked By Coup in Czechoslovakia

New York Times Feb. 26, 1948

Following World War I, the map of central and Eastern Europe was redrawn, and the independent country of Czechoslovakia, formerly part of Austria-Hungary, was established with a democratic government. In 1938-39, it was occupied and invaded by the Nazis. Following World War II, it was, for a moment, independent and democratic again. But in 1948, a Communist coup made Czechoslovakia the last of the Eastern European countries to fall into the Soviet orbit.



Central Europe before World War I



Central Europe 1987

The ups of those forty years of Marxist oppression were the slightly "liberalized" mid-sixties, and mainly the first nine months of 1968 when Party boss Alexander Dubcek tried to replace the dictatorial system with what he called "socialism with a human face." The downs were the first ten years of the Communist regime when about 350 people were executed for political "crimes"—among them the only woman ever killed by the Czechoslovaks for such imaginary offenses, the Socialist deputy Milada Horakova. Over one hundred thousand "class enemies" were arrested and forced to work in Soviet-owned uranium mines in northwestern Bohemia under conditions of slave labor. Religious orders were banned, and monks and nuns sent to "concentration cloisters." Even eleven members of the ruling party's leadership were hanged in the aftermath of the Slansky trial of 1952.

Dubcek's effort to prevent a repetition of all this was cut short by the military intervention of about a half-million soldiers and five thousand assault vehicles of the Warsaw Pact in 1968. Czechoslovakia, totalitarian to be sure until then, but unoccupied by a foreign army, turned, for all intents and purposes, into a colony of the U.S.S.R., with strong Soviet missile-equipped forces stationed all over the country. The post-Soviet-invasion regime, using a vast network of well-rewarded informers and an army of secret police, made ruthless efforts to put every single citizen under its total control. This aim—from which the characterization of such regimes as "totalitarian" (a term coined by Benito Mussolini) is derived—was almost achieved: almost, but not quite. A group of idealistic men and women, risking jail and often even life, refused to "live with the lie" and unceasingly worked for a restitution of democracy in Czechoslovakia. Without any doubt, the most prominent among these valiant individuals was the playwright and essayist Vaclav Havel.

After the victorious revolution of 1989, he logically became the country's president.

His life was marked by the sys-

tem that divides people—de jure, not just de facto—into first-, second- and third-class citizens. The division is common for all the totalitarian regimes that have cursed our century. In both Communist and Fascist Nazi countries, the members of the ruling party are the privileged first-class citizens. They hold practically all leading posts in politics, in the army and the police, in industry, in schools and in public organizations. All those who do not belong to the ruling party but who unconditionally accept its "leading role," i.e., its unlimited power, who

go unquestioningly about their daily chores, and who never protest against the establishment's crimes and injustices, are second-class citizens. By their obedience, they avoid the worst of living under undemocratic systems, such as arbitrary jail, no chance of social mobility, and discrimination against their children when they apply to institutions of higher learning. They can live in relative peace.

Third-class citizens, more or less constantly harassed by the police, often serving long terms in jail for "political offenses," and sometimes

even expiring on the gallows for such "crimes," are all those who put up resistance. To this group the Nazi regime, which based its ideology on race discrimination, added the Jews and the Gypsies, whom they condemned to total physical extermination. The Communist regime, practicing "class" discrimination, included in this third-class category persons of "bourgeois and capitalist origin" who—unless they managed to join the party and were willing to support its policies—were excluded from white-collar professions, and whose children were not

Stalinism

length... While the trial was under way, meetings were orchestrated all over Czechoslovakia. In factories, schools, and elsewhere, demands for the death penalty were made. Predictably, those demands were granted. [Eleven of the defendants, including former Czechoslovak Communist Party Secretary-General Rudolph Slansky, were sentenced to death and were hanged on the morning of December 3. The other three accused men were sentenced to life imprisonment. These included former Foreign Trade Minister Eugen Loebel.]

Sixteen years later, in mid-1968, Loebel described how his confession had been obtained:

"I had to stand during the examinations, and I was not allowed to sit down in the cell. The interrogations lasted [an] average of sixteen hours a day; there was an interval of two hours [when I was allowed to sleep]. Every ten minutes the warden pounded on the door, and I had to jump to attention and report. 'Detainee number fourteen seventy three reports: strength one detainee, everything in order.' Naturally, the first two or three nights I could not fall asleep again after the first awakening. Later I was so tired that as soon as I lay down after making the report I fell asleep. I was awakened thirty or forty times every night. Sometimes when the loud bangs on the door did not wake me, the warden came into the cell and kicked me. Another instrument was hunger... After two or three weeks my feet were swollen; every inch of my body ached at the slightest touch... The interrogation—three officials alternated—was a never-ending stream of abuse, humiliation, and threats."

Nothing was publicly known then of this and other bestialities that produced the "confessions." On the contrary, at that time, to have participated in the arrangements for this purge was considered a mark of great political merit...

The trials of 1952-54 were merely the visible tips of the Stalinist icebergs that chilled and terrorized Czechoslovakia in the years after the 1948 Communist takeover. Tens of thousands of obscure figures were sent to jail for real or imagined political opposition. All opposition parties were destroyed and replaced by a group of puppet parties retained to give the illusion that the Communists did not have a monopoly on all power. Czechoslovakia's economic and cultural ties with the West were severed, and the Iron Curtain descended. Schools, newspapers, theaters, films, radio, and television were turned into propaganda media on the Soviet model. Libraries were purged, and millions of books with dangerous "bourgeois" ideas were converted to pulp. A network of secret police informers, covering every street and every apartment house, kept the populace under constant, vigilant surveillance. Czechoslovakia was the last of the Eastern European countries to fall under Communist rule, but its masters sought to make up for lost time by the thoroughness, speed, and fidelity with which they reproduced Stalin's patterns.

Prague's 200 Days: The Struggle for Democracy in Czechoslovakia © 1969 Praeger, New York
A history by *New York Times* correspondent Harry Schwartz

In November 1952, fourteen former high-ranking Czechoslovak officials were placed on trial. All the accused pleaded guilty and confessed at



EASTPHOTO

Czechoslovak Communist Party Secretary-General Rudolph Slansky waving to May Day paraders. He was later executed.

admitted to higher education.

Vaclav Havel, christened after Prince Vaclav, the "Good King Wenceslaus" of the old British carol, was born in 1936 into a family of Czech capitalists. Therefore, after 1948, he was treated as a third-class citizen.

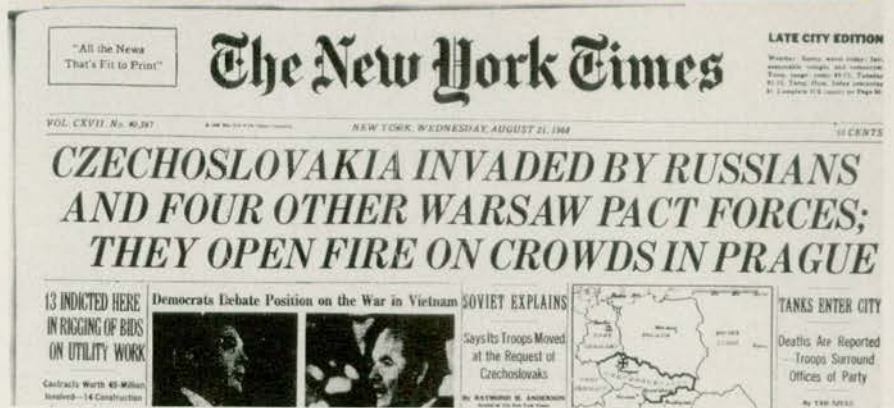
Havel's grandfather was a successful Prague architect who built some of the handsomest end-of-the-century apartment houses along the Moldau River embankment, opposite the Hradchany castle, the traditional seat of Czech kings and presidents. He also erected the Barrandov concert-café, which film buffs can see in the classic Czech film *Ecstasy* by Gustav Machaty, and the legendary Lucerna Palace, a sort of Carnegie Hall of Czechoslovakia. Patriotic anti-Austrian galas were held there before World War I, and after it, the first jazz concerts. Swingbands of the forties made non-Aryan noise to spite the Nazis under its gilded ceiling, and rock'n'roll was reintroduced here after the post-1968 ban, to spite the Communists.

Havel's maternal grandfather was a self-made man: Born into a desperately poor Silesian family, he became eventually a writer, an economist, Czechoslovakia's ambassador to various countries, and, for a short time, minister in the government of Thomas Garrigue Masaryk, the founder and first president of the Czechoslovak Republic.

These intelligent and creative ancestors only complicated Vaclav Havel's life. As a capitalist's son, he was denied education beyond grade eight. He was apprenticed to a carpenter, later worked as a laboratory technician, and eventually attended courses at an evening grammar school where social-class requirements were not as strict as in the daytime compulsory institutions. He then applied repeatedly for admission to the Film Faculty of Prague's Performing Arts Academy (FAMU). He had to start his two years of military service in 1957, from which he was discharged in 1959. Following a new unsuccessful application to FAMU, he was given the job of stage hand in Prague's ABC Theater. After one year at the ABC, Havel joined the experimental Theater on the Ballustrade, first as stage hand, later as literary advisor, and eventually, when in the mid-sixties the policies of the party became more "liberal," as author. All of his plays produced in Czechoslovakia were written for and staged by this unique company. There were only three—*The Garden Party*, *The Memorandum*, and *The Increased Difficulty of Concentration*—for, after the Soviet invasion, all of Havel's works, both pre- and post-1968—were banned. Yet they belong among the most important comedies Czechoslovakia has ever produced and are performed, in translation, all over the world.

On the surface, these examinations of modern life are comedies satirizing various vices engendered by totalitarian bureaucracies: the misuse and misinterpretation of language, subservience, cowardice, the reduction of the human being to a cog in the wheel of impersonal power. But

1968



HILMER PABEL/BLACK STAR

The streets of Prague, August 1968.



JAROSLAV VESTKA

"On this spot a 14-year-old boy died fighting the foreign occupiers."

The representatives of the country had been hauled away like criminals by the Russian army, no one knew where they were, everyone feared for the men's lives, and hatred for the Russians drugged people like alcohol. It was a drunken carnival of hate. Czech towns were decorated with thousands of hand-painted posters bearing ironic texts, epigrams, poems, and cartoons of Brezhnev and his soldiers, jeered at by one and all as a circus of illiterates. But no carnival can go on forever. In the meantime, the Russians had forced the Czech representatives to sign a compromise agreement with Moscow. When Dubcek returned with them to Prague, he gave a speech over the radio. He was so devastated after his six-day detention he could hardly talk; he kept stuttering and gasping for breath, making loud pauses between sentences, pauses lasting nearly thirty seconds.

The compromise saved the country from the worst: the executions and mass deportations to Siberia that had terrified everyone. But one thing was clear: the country would have to bow to the conqueror. For ever and ever, it will stutter, stammer, gasp for air like Alexander Dubcek. The carnival was over. Workday humiliation had begun.

The Unbearable Lightness of Being
A novel by Milan Kundera,
an exiled Czechoslovak writer.

Dissent

Excerpts from the Declaration of Charter '77

Tens of thousands of our citizens are prevented from working in their own fields for the sole reason that they hold views differing from official ones and are discriminated against and harassed in all kinds of ways by the authorities and the public organizations. Deprived as they are of any means to defend themselves, they become victims of a virtual apartheid.

Hundreds of thousands of other citizens are denied that "freedom from fear" mentioned in the preamble of the first covenant, being condemned to live in constant danger of unemployment or other penalties if they voice their own opinions.

... Countless young people are prevented from studying because of their own views or even their parents'. Innumerable citizens live in fear that their own and their children's right to education may be withdrawn if they should ever speak up in accordance with their convictions. Any exercise of the right to "seek, receive, and impart information and ideas of all kinds, regardless of frontiers, either orally, ... in print or in ... art ... is punished by extrajudicial or even judicial sanctions, often in the form of criminal charges as in the recent trial of young musicians.

... Charter 77 is a free, informal, open community of people of different convictions, different faiths, and different professions united by the will to strive, individually and collectively, for the respect of civic and human rights in our own country and throughout the world—rights accorded to all men by ... international covenants ... [and] by the Final Act of the Helsinki conference.

... As signatories, we hereby authorize Professor Dr. Jan Patočka, Vaclav Havel, and Professor Jiri Hajek to act as spokesmen for the Charter.

The Thirty-One Demands

In 1987, a petition listing thirty-one demands for the free functioning of the Catholic Church was circulated and gained over 400,000 signatures. The next year, the Czechoslovak Catholic Church adopted the Thirty-One demands in open defiance of the government.

1. Our fundamental demand is the separation of Church and state, from which would follow that the state would not involve itself in the organization and activity of the Church. The majority of other suggestions stem from this fundamental demand...

2. Let the nomination of new bishops become the internal affair of the Church, with which the state should not interfere.

3. We demand that the state cease interfering in the nomination of parish priests and leave all organizational matters to the Church hierarchy.

4. We demand that the state not interfere with the admission of students to the theological facilities, nor determine enrollment; also, that they not interfere in the selection of instructors...

9. We demand that religious instruction take place outside state schools, on Church property, thereby transferring it to the Church's sphere of influence. Children's applications for religious instruction should be given to the parish office, and the extent of instruction, as well as the placement of children, should be the duty of the local ordained minister in consultation with his spiritual guide...

16. We demand that the copying and distribution of religious texts be regarded as lawful activity and not as a criminal [act] or misdemeanor...

19. We demand that the government cease jamming Czech and Slovak broadcasts of Radio Vatican as well as Sunday mass on Radio Free Europe...

November 17, 1989. Police crossed this "line in the sand," beating and injuring peaceful demonstrators.



RADOVAN BOCEK

underneath they are profound examinations of the alienation of humans in a world that is becoming progressively more mechanistic, dehumanized and depersonalized. Although their principal targets are the systems that brought these malignant tendencies most radically to life—Fascism and Communism—the validity of many of Havel's observations is not restricted to countries where the malignancies are most deeply rooted.

Long before he started writing plays, Havel had become active on the literary scene, always on the side of the suppressed, ignored, and persecuted. When in 1955, after Khrushchev's revelations of Stalin's crimes, the confused Party gave its rebellious young writers their first literary journal, *Kveten* (May), Havel fought for the right of the politically unattached to have a journal of their own. He did that with a logic and daring rarely found in the Communist empire. At a literary conference, for instance, when called on to discuss the state of Czech poetry in 1956—the year of the anti-Soviet uprising in Hungary—he grabbed the opportunity to plead for poets banned and, in several cases, jailed after the Communist putsch of 1948.

Nobody before him had had the courage to as much as mention this well-known fact, and, therefore, Havel's speech shocked the audience into silence. Finally, a rather famous Communist novelist took the microphone and announced her astonishment that Havel was talking about "some forgotten poets while socialism was fighting for its life in the streets of Budapest." Havel, very logically, responded that he "didn't understand how they

could hold an expensive conference on Czech poetry when it was forbidden to talk about Czech poets." Such outspokenness led a prominent member of the Party Secretariat to be overheard saying—prophetically, as we know now—"Havel's going to be a dangerous fel-

low for us.”

Havel took an increasingly more important part in the literary life of the country. He served on the editorial board of another literary journal for young writers, *Tvar* (*The Face*), which eventually was closed down in 1965, like its predecessor *Kveten*, because its editorial policies displeased the establishment. At this time, Havel also started writing essays on film and cultural politics, unmasking, as in his plays, the falsities, pretensions, hypocrisies, lies, misuses of language and of power practiced by the totalitarians. In 1968, the year of Dubcek's attempt at reform, he founded the Club of Engaged Non-Party Writers, advocated the revival of the banned Social Democratic Party, and found—and announced that he had found—listening devices installed by the secret police in his apartment on the embankment of the Moldau.

Then the tanks came.

Havel's story after the advent of the armored chariots is one of unwavering courage and of principled defense of democratic ideals and human dignity. Throughout most of the next two decades, he was under constant police surveillance. The establishment went to such absurd lengths as to have a wooden observation tower erected only a few dozen yards from Havel's country retreat. There, cops were on round-the-clock duty taking pictures of and filming people who dared to visit the banned writer. Identified by these films and photographs, many were later interrogated.

Havel himself was detained many times, repeatedly questioned, and held in jail without charge. In 1977, he was sentenced to fourteen months of imprisonment, later suspended, for having written an Open Letter to the Communist President Gustav Husak. In 1979, he received a four-and-a-half-year sentence for his activities in the dissident Committee for the Defense of the Unjustly Persecuted. He served in a hard labor camp until January 1983 when he almost died of untreated pneumonia. The authorities, scared that the death of

Timeline

- 1918** The nation of Czechoslovakia is proclaimed.
- 1920** A constitution, establishing a democratic government, is ratified.
- 1938** Great Britain and France, in an effort to appease Nazi territorial demands, agree at Munich Conference to cede part of Czechoslovakia to Germany.
- 1939** Germany invades rest of Czechoslovakia.
- 1945** World War II ends. Soviet troops remain in Czechoslovakia until end of year.
- 1948** Communists orchestrate coup and seize control of the country.
- 1952-54** A period of Stalinist repression is inaugurated with political executions.
- 1962-67** A period of gradual liberalization.
- 1968** “Prague Spring.” In January, Alexander Dubcek is named new Party head. A flowering of the art attracts worldwide attention to artists such as playwright Vaclav Havel. Soviets invade on August 21. Dubcek is abducted and forced to sign agreement allowing Soviet troops to remain.
- 1969** Dubcek is replaced by Gustav Husak. Orthodox, Soviet-style rule is reestablished.
- 1977** On January 1, about 500 Czechoslovaks sign Charter 77.
- 1987-88** The 31 Demands for a free Catholic Church gains over 400,000 signatures. Numerous other proclamations are issued and protests held.
- 1989** Beginning in mid-November, ever-larger demonstrations are held, culminating in a 500,000-person rally on November 25.
- Communist Party leader Milos Jakes, the Secretariat, and the Politburo resign on December 24. Dubcek is selected Chairman of the Federal Assembly and Havel, president.
- 1990** Free elections are scheduled for June.



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an internationally famous playwright would be bad publicity, transferred him to a civilian hospital, and in March 1983, released him for home treatment.

But he was arrested again, in January 1989, for taking part in student demonstrations held to commemorate the death of Jan Palach, a student of Charles University in Prague, who in 1969 set himself on fire to protest the Soviet occupation. Havel was sentenced to six months in jail but was released after half his sentence was served when the government succumbed to strong domestic and foreign pressure. Then, on November 17, 1989—exactly fifty years after another Charles University student, Jan Opletal, had been murdered by Nazi police during a demonstration against the German occupation of Czechoslovakia—students armed with flowers were massacred in downtown Prague by karate-trained Red Beret units of the riot police. Many were seriously wounded, some crippled for life. The patience of the population overflowed. Hundreds of thousands took to the streets, and the seemingly invincible power of the Communist police state collapsed in a few days like the proverbial house of cards.

Shortly afterwards, students distributed leaflets with Havel's picture and the slogan: HAVEL TO THE CASTLE!

Soon after that, the life-long defender of the rights of the powerless was elected Czechoslovakia's ninth president.

Incomparably more than anyone else, this short, inconspicuous man contributed to the survival of democratic ideas on the desert of totalitarian, occupied, and subdued Czechoslovakia. He influenced, above all, the students who were the main target of Communist indoctrination. He did so by his personal example of moral integrity, civil courage, and civil disobedience, and by his important post-invasion essays, which circulated among the people in *samizdat* (underground dissident publications, usually disseminated in carbon copies of the original typescript).

In late 1976 he co-founded

Charter 77, a loosely organized, nonviolent dissident group, which challenged the government to respect its own constitution. As is the case with many totalitarian regimes, the Czechoslovak constitution does not differ very much from that of the United States—on paper. In actual fact, of course, the Communist government ignored the rights “guaranteed” by its own laws and violated every single one of them. Since there was no free press in spite of the constitution that “guaranteed” free press—the regime largely got away with such violations—and would get away with them absolutely if it were not for associations like Charter 77. Over the years, this group, in the *samizdat* manner, published dozens of papers, exposing all sorts of political, judicial, and ecological ills, such as racism *vis-a-vis* the Gypsies or the pollution of northwestern Bohemia, the heaviest in Europe. Normally, this is the business of a free press; in its absence, it had to be done by the courageous dissidents of Charter 77. Havel was one of their first spokespersons.

All those years he also wrote plays that, although not produced in his native country, have made his name a household word among theater-goers in all Western countries, including the U.S. His international fame and the many awards and honorary doctorates he received protected him, to a certain degree, against the wrath of the Czechoslovak authorities, which he incurred with the incisive political essays he wrote during the seventies and eighties.

In these essays, he identified fear of the consequences of civic courage as the deciding factor that forces people into seeming consent with the oppressive policies of the establishment. He stressed, in those remarkable philosophical treatises, that the powerlessness of the powerless is an illusion born out of that fear: that, in fact, little acts of everyday courage, to which his great predecessor in the presidential office, Thomas Garrigue Masaryk, had exhorted citizens, would accumulate and eventually lead to a return of democracy.

As the events of November 1989 showed, he was right.

The New Regime



JAROSLAV KREJCI

November 24, 1989.
Vaclav Havel, Alexander Dubcek, and hundreds of thousands of Czechoslovaks. The Communist Party leadership resigned on this day.



GEORGE JANACEK

“Havel to the Castle.”

President Vaclav Havel’s 1990 New Year’s Day Address:

For forty years you have heard on this day from the mouths of my predecessors, in a number of variations, the same thing: how our country is flourishing, how many more millions of tons of steel we have produced, how we believe in our Government and what beautiful prospects are opening ahead of us. I assume you have not named me to this office so that I, too, should lie to you. Our country is not flourishing...

Everywhere in the world, people were surprised how these malleable, humiliated, cynical citizens of Czechoslovakia, who seemingly believed in nothing, found the tremendous strength within a few weeks to cast off the totalitarian system in an entirely peaceful and dignified manner. We ourselves were surprised at it.

And we ask: Where did young people who had never known another system get their longing for truth, their love of freedom, their political imagination, their civic courage, and civic responsibility? How did their parents, precisely the generation thought to have been lost, join them?...

Perhaps you are asking what kind of republic I am dreaming about. I will answer you: a republic that is independent, free, democratic, a republic with economic prosperity and also social justice, a humane republic that serves man and, for that reason, also has the hope that man will serve it.

New York Times, January 2, 1990

Havel’s greatest adventure is his latest one. But the word is only a metaphor. Rarely, if ever, in modern history was a man better prepared for the historic role of restoring

democracy to his country than this thoughtful playwright who learned what democracy is by decades of bitter, harsh personal experience. After the Battle of Britain, Winston Churchill spoke about the few to

whom, as never before in history, so many owed so much. For a half-century, Czechoslovakia has had no professional politicians, except Communist hacks. Now she is led by a playwright and a group of his

friends who have had no political training, except the school of Communist jails and harassment. To paraphrase Churchill: Never in modern history do so many expect so much from so few.

But then, these few are gradu-

ates of twenty years of dissent. Who and where they are today they do not owe to political intrigue or to the support of mighty organizational machines. They, and their president as a real *primus inter pares*, simply had the guts to stand on the

side of the truth through all those long years when truth—and rightly so—was regarded a dangerous enemy of the totalitarian government. The large multitudes of people have always known the truth, but most denied it, as Peter denied

Christ. But eventually even the cowardly Peter took courage from Jesus' example. Eventually, the large multitudes of people imitated the courage of their future president, and put an end to the rule of the Lie. □

Classroom Discussion Questions

1. Josef Skvorecky says that Vaclav Havel learned what democracy was by "decades of bitter experience." Drawing on your knowledge of this bitter experience, what would you say democracy is? What portions of the U.S. Constitution and Bill of Rights are designed to prevent such "bitter experience" here?

2. Josef Skvorecky describes the Czechoslovak regime as totalitarian because it aims "to put every single citizen under its total control." Based on these readings and other knowledge you may have, what facets of Czechoslovak life were controlled by the government? Is the word "totalitarian" an appropriate one to describe Czechoslovakia under the Communists?

3. How do you explain the success of a bloodless uprising in 1989, in contrast to the failure of attempts to liberalize in 1968? What conditions had changed?

4. How would you answer Havel's question: "Where did young people who had never known another system get their longing for the truth, their love of freedom, their political imagination, their civic courage, and civic responsibility?"

Activities

1. Political scientists note that democratic society is broader than just a democratic government. It requires a democratic civil society: a web of nongovernmental organizations—unions, churches, youth groups, charitable groups, advocacy groups—and a variety of contending voices—a vibrant free press, a flourishing of the arts, free universities. List the various facets of America's civic society. Follow the newspapers and develop a scrapbook documenting the growth or lack thereof of civil society in Eastern European countries.

2. Have small groups of students research the fate of such short-lived democratic regimes as Czechoslovakia after World War II, Poland in the twenties, Weimar Germany in the twenties, the Russian Provisional Government of 1917, the Philippines after World War II, and Nigeria in the early 60s and early 80s. What factors seem to bear most on whether a democratic regime can thrive? Have each student pay special attention to one factor: the nation's political tradition, its political experience, its economic situation, the character of its activist movements, relations among social classes, the role of key individuals, and the depth of civil society. Given this background, what future do you predict for Czechoslovakia?

3. Have small groups of students each choose a leader of another democratic movement from the past or present (Lech Walesa, George Washington, Thomas Jefferson, Mohandas Gandhi, Martin Luther King, Jr., Thomas Masaryk, José Figueres, etc.). Students should share the work of writing a biographical portrait of the

chosen leader and of developing a set of related documents, in order to create a kit of materials similar to that presented here.

4. Review our Bill of Rights, the Declaration of the Rights of Man, and what you know about the demands of Havel and other dissidents. Design a model Bill of Rights for Czechoslovakia's new society.

Additional Readings for Teachers

Ash, Timothy Garton. *The Uses of Adversity: Essays on the Fate of Central Europe*. Random House, 1989.

Gawdiak, Ihor. *Czechoslovakia: A Country Study*. Washington: Library of Congress: Federal Research Division, 1989.

Korbel, Josef. *Twentieth-Century Czechoslovakia*. Columbia, 1977.

Schwartz, Harry. *Prague's 200 Days: The Struggle for Democracy in Czechoslovakia*. New York: Praeger, 1969.

Skilling, H. Gordon. *Czechoslovakia's Interrupted Revolution*. Princeton: Princeton University Press, 1976.

Stankiewicz, Marketa-Goetz. *The Silenced Theatre: Czech Playwrights Without a Stage*. Toronto: University of Toronto Press, 1979.

Vladislav, Jan, ed. *Living in Truth*. Boston: Faber and Faber, 1986.

Periodicals

Cross Currents: A Yearbook of Central European Culture. Ann Arbor: University of Michigan Press. \$15 per issue; University of Michigan Slavic Language Dept., Ann Arbor, MI 48109. (313) 763-4496.

Journal of Democracy. Wash-

ington: National Endowment for Democracy. Quarterly; \$24 per year; P.O. Box 3000, Dept. JD, Denville, NJ 07843.

Uncaptive Minds: A Journal of Information and Opinion on Eastern Europe. New York: Institute for Democracy in Eastern Europe. Bimonthly; \$15 per year; 48 East 21st Street, New York, NY 10010 (212) 677-5801.

Literature

Havel, Vaclav. Plays. *The Memorandum* (1965). The Vanek Plays: *Audience, Private View, and Protest*.

Kundera, Milan. *Laughable Loves, The Book of Laughter and Forgetting, The Unbearable Lightness of Being*.

Skvorecky, Josef. *The Bass Saxophone, The Cowards, The Engineer of Human Souls, The Miracle Game*.

Vaculik, Ludvik. *A Cup of Coffee with My Interrogator: The Prague Chronicles of Ludvik Vaculik*.

The New Czech Writing. George Theiner, ed. Penguin, 1969.



KAREL CUDLIN

ANYONE CAN LEARN MATH

New Programs Show How

BY ROBERT NIELSEN

THE ASSERTION that "all kids can learn math" is probably the most radical idea associated with the education reform movement. It is likely that the majority of mathematics teachers don't believe it. (*Mathematics is different. In math, either a kid's got it or he hasn't.*) Moms and Dads don't believe it. (*Don't feel bad, Mary. I was never any good at math and neither was my mother.*) Kids don't believe it. (*It's the only subject I have trouble with. I've never been any good at it.*) That all kids can learn math implies, of course, that all minorities, all women, all adults—indeed, anyone can learn mathematics. Furthermore, if anyone can learn mathematics, then ability grouping and tracking in school mathematics—arrangements meant to teach more to some, less to others—are obsolete and counterproductive.

Few—in or out of the education community—believe these heresies. The prevailing wisdom holds that only white males with pointed heads and bifocals can learn math. But the truth of the proposition that everyone can learn math is borne out by the success of programs that make use of an exciting, new learning in mathematics—a learning as distinct from that which we were exposed to as children as the information technologies are from those of steam and steel. That everyone can now learn math is perhaps the most important idea in modern education.

Why this nearly universal disbelief that anyone can learn mathematics? The reasons are several. It contradicts our common experience with school mathematics. Each of us knows *someone* who didn't have trouble with math and a host of others who never did get it. All of us have suffered the anxiety of wondering if we would know the sum or product called for by a card "flashed" from across a classroom. We may even remember the urge to "count on our fingers," knowing that this visible evidence of our ignorance was a punishable offense. These classroom images evoke

memories of students arrayed rectilinearly at desks with a teacher "imparting knowledge" at the blackboard from the front of the room. Little has changed.

The Trouble in Mathematics

If anyone can learn math, it is fair to ask why so many don't or won't? The evidence is overwhelming. Only 6 percent of American seventeen-year-olds can solve problems that require several steps—for example, determining simple interest on an \$850 investment. Nearly half of seventeen-year-olds cannot solve mathematics problems normally taught in junior high school. We do a worse job of teaching mathematics than do nearly all the other industrial democracies. Significantly, the gap between American mathematical achievement and that of other countries widens as we test for conceptual understanding along with complex and multi-step problem-solving skills.

Some of these international disparities are the result of cultural differences, some of simply driving the students harder, and others of curricular and methodological innovations. For example, Japanese students outperform us because they are drilled longer and harder on traditional math content. Soviet students, on the other hand, outperform us because they progress through an advanced curriculum based on profound understandings of child development.

In choosing which other countries to take our lessons from, we must exercise caution. As the National Council of Teachers of Mathematics (NCTM) points out, our current mathematics curriculum suffers from both a design flaw and a quality control problem. If we adopt changes that improve quality control only, we will remedy only part of our problem. It would be as if the American automobile industry tried to make itself more competitive by speeding up the old assembly line, running it for a longer time, and adding a bunch of new inspectors rather than using information technologies to restructure basic production methods. Reforming only the quality control aspects of production is simply a cheap way of piling up scrap faster; solving the design

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problem is a way to reduce the amount of scrap all together.

The Japanese achievement is largely the result of correcting the quality control problem; their *average* high school student knows more math than our average gifted and talented student, but when it's time to learn advanced math, large numbers of Japanese students come to American universities.

The Soviet accomplishment—which is to get virtually *every* student through calculus—is primarily due to correcting the design flaw. Instead of teaching arithmetic for nine years, as we do (or for six years as is done in most industrialized countries), the Soviets teach arithmetic, combined with an introduction to intuitive geometry and other mathematical domains (probability, algebra, etc.) in five years. Whereas our students are effectively introduced to and taught geometry in one fell swoop, at a fairly advanced level, usually in tenth grade—an attempt that does not breed success—Soviet students have completed intuitive geometry by grade five, studied semirigorous plane geometry in grades six through eight, and solid geometry (something most of our students barely encounter) in grades nine and ten.

THE NEW Learning in mathematics is a wonderful synthesis of new content and methods that restruc-

WHAT OUR SEVENTEEN-YEAR-OLDS DON'T KNOW

IN 1986, the National Assessment of Educational Progress tested a nationally representative sample of U.S. seventeen-year-olds on their mathematics knowledge. The results showed that only 6.4 percent of these students could perform at what NAEP calls the "350-level." While NAEP does not report exactly what percent of students got what question right, it provides the following as examples of the 350-level questions that stumped all but 6.4 percent of our students:

Christine borrowed \$850 for one year from the Friendly Finance Company. If she paid 12% simple interest on the loan, what was the total amount she repaid?

ANSWER _____

The number of tomato plants (t) is twice the number of pepper plants (p). Which equation best describes the sentence above?

- $t = 2p$
- $2t = p$
- $t = 2 + p$
- $2 + t = p$

Sample questions taken from "The Mathematics Report Card: Are We Measuring Up? Trends and Achievement Based on the 1986 National Assessment," May 1988. National Assessment of Educational Progress.

tures the curriculum in a way that resolves both our design and quality control problems. Much of this New Learning grows out of efforts to meet the demands for a more scientifically literate work force and the realization that this requires dramatic increases in both the quantity and quality of mathematically trained students. The old curriculum was designed to screen through an elite cadre trained in making paper-and-pencil calculations by the methods of drill and rote. Those who made it through could be turned into thinking, creative, mathematical analysts in college. Our quality control problem emerged—that is the scrap began to visibly mount up—the moment we tried to use the same drill-and-kill methods to get *all* students to reach the standard of this elite cadre. In such an environment, some can—the ones that always have—some can't, others won't. The impulse to return to tracking is strong.

In short form, the critique of the American math curriculum is that it consists of nine years of drill in arithmetic, followed by algebra taught as a beginning foreign language in the old way—word lists, memorization, and translation. It is a content sequence that is at once beyond the level of abstraction students are prepared for and rooted in routine mechanical manipulation of symbols disassociated with the real-life problems from which they might arise. For most students, the *coup de grâce* is inflicted with a blunt instrument: proof-driven plane geometry—too abstract, too otherworldly, too difficult for the survivors of the death march from arithmetic to algebra—a course with a reputation so bad that fewer than half of American students even attempt it, and of those who do, most do not learn it.

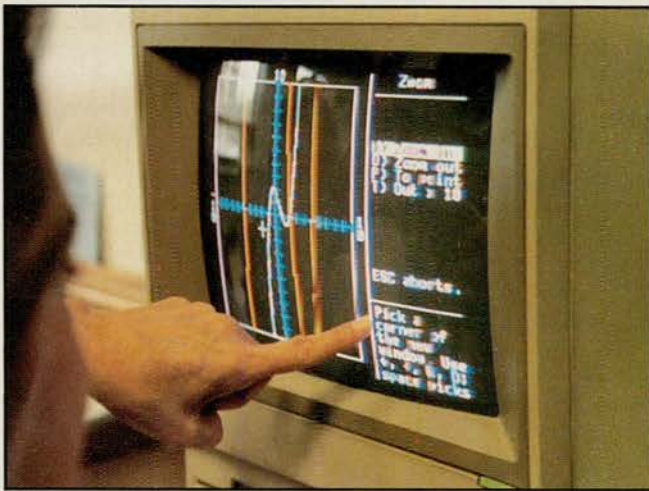
In addition, mathematics education in this country suffers from the beliefs that to be good at math is to be proficient in rapid pencil-and-paper calculations, that to use calculators and computers is cheating, and that most students will never use the mathematics they might learn. By far the most damaging misconception is that mathematics is *strictly* about getting the right answer by knowing the right set of rules—as though mathematics isn't, more importantly, a way of understanding the world.

The New Learning in Mathematics

The confirmation that all kids can learn mathematics lies in the success of a variety of special programs, projects, and interventions designed to increase the output of mathematically and scientifically literate students from our schools. These efforts range from those sharply focused on women and minorities to others aimed at total curricular revision.

There are hundreds of these mathematics reform enterprises. For example, a 1987 Educational Testing Service survey uncovered 163 "intervention programs" in math, science, and computer science for minority and female students in grades four through eight. The profusion of these programs, K-12, over the past three years probably pushes the total number into the thousands. In riffling through these, one is struck that *every* program is successful. Indeed, that virtually everything tried works better than past practice is, in itself, a powerful indictment of the present mathematics curriculum.

The programs fall roughly into two categories: those



USING FUNCTION GRAPHING SOFTWARE

Comparing the graphs of two or more functions requires no more effort than "typing in" the equations and touching the "enter" key. A simple process of "zooming" out or in replaces the once-tedious process of approximating points of intersection. This student is comparing the graphs of two functions obtained by altering parameters.

designed to enable more students to get through the mathematics curriculum as it presently exists, and those designed to teach an evolving new curriculum to all students. Given the snail's pace of school restructuring and reform and the economic imperatives for greater numbers of mathematically skilled high school graduates, it is critically important that both types of programs be vigorously pursued.

The guiding precepts of the New Learning, as revealed through a variety of these reform programs, are:

- memorization as the primary instrument of instruction or learning is wrong;
- learning mathematics is a process of construction—of children building on what they already know—not simply transmission;
- arithmetic can be learned by much younger children and in greatly shortened time frames than traditionally thought;
- intuitive algebraic and geometric concepts should be integrated into the arithmetic curriculum;
- every concept should be presented in a multiplicity of ways;
- examples and problems should be rooted in the real-life experience of students; cooperative learning techniques are especially helpful in learning problem-solving skills; and
- all of these concepts and ideas can be enhanced through the proper use of the information technologies.

The success of these programs is explained by the research on how children learn mathematical concepts being developed in the "Thinking Mathematics" project, an effort co-sponsored by the AFT and the Learning, Research, and Development Center of the University of Pittsburgh. (This project is now developing classroom applications and teacher training techniques to facilitate the use of this new research in the classroom.) Fundamental to this research is the understanding that children do not enter schools empty headed about

mathematics. They, like all of us, confront mathematical situations in their daily lives—it is unavoidable. They will learn new mathematics more readily if it builds upon this base of out-of-school mathematical experience, through the "mathematization of situations." In other words, that classroom mathematics should be developed through its applications, rather than the reverse.

It is especially important to note that there is "no compromising of the basics" in the New Learning. For example, the question is never whether or not children should be taught to multiply two three-digit numbers, but rather the absurdity of using valuable classroom time in drill and re-drill on these and other already learned concepts. What the new programs demonstrate is that traditional mathematics education is inefficient and that the basics *and a whole lot more* can be learned by *all* students with the evolving new curricula.

THE ESSENCE of the emerging school mathematics curriculum is its emphasis on analysis, problem solving, and classroom sociology. The ubiquitous information technologies have much to do with this curricular reconstruction, as the computer/calculator has rendered a great deal of paper-and-pencil calculation obsolete. More importantly, the computer, in all of its applications, generates enormous volumes of data—data that is largely worthless without skilled human beings to impose order on it. Persons trained only as paper-and-pencil calculators are inundated by this ocean of data while skilled mathematical analysts flourish in this new, data-rich environment.

Other than the rediscovery of the importance of teamwork to the worlds of work and learning, there is little new about this reconstructed mathematics curriculum. In fact, many of its components go back to the one-room schoolhouse and are familiar to most mathematics teachers. But rarely have all of these parts been efficiently combined. In essence, the new curriculum is a rearranged, integrated reconstruction of the best mathematics known—in both content and practice. Following are descriptions of three excellent programs that make use of this New Learning.

University of Chicago School Mathematics Project

Of the major curricular revisions in process, the most far reaching and fully developed is the University of Chicago School Mathematics Project, a joint undertaking of the mathematics and education departments of that institution. Developed and operated under the tutelage of Professors Izaak Wirszup and Zalman Usiskin, the project is primarily funded by the Amoco Foundation. UCSMP is a carefully crafted effort, making good use of a new international literature on curricular innovation, drawing especially on the Soviet experience, and always sensitive to the mathematical skills that will be needed in the twenty-first century. UCSMP has developed, field tested, and evaluated new curricular materials and pedagogy from preschool through high school.

A key goal of these materials is to even out the traditional pace of instruction. The elementary curriculum is

designed to introduce students to a wide range of mathematics, including gathering and analyzing data; probability; geometry; algebra; and standard arithmetic. In grades seven and eight, "transitional mathematics" materials are available to ease students into algebra and geometry. Some of the content features of the completed secondary curriculum include the integration of applications throughout; a heavy emphasis on data handling; more advanced work in statistics and probability that builds on earlier study in the area; work with discrete mathematics interspersed; and geometry and algebra taught in all years.

The UCSMP program has been a pioneer in designing and using technology that pushes students to develop their mathematical intuition and their higher-order thinking. Graphing calculators and graphing computer software, for example, are integral to the curriculum. One of the more difficult areas of mathematics instruction has always been the graphing of functions, establishing the relationship between their tangent and perpendiculars at particular points and the effect of parameter changes on the graph. Not only are these problems time consuming, their solution often requires drawing skills that many students lack. Students easily get bogged down in the confusion of plotting points and quickly become lost in the details, never seeing the beauty of the underlying mathematical concepts. The "function graphing software" obviates all of these difficulties. Seated at a computer console, the student types in the equation of the function and the "window" through which the function is going to be observed. At the press of a key, the graph simply appears on the screen. It can be "zoomed" in on, changed through variation of parameters, superimposed on other graphs, and its tangents and perpendiculars drawn.

Now, all of this can be done by a skilled teacher or student through a sequence of carefully drawn figures, but not nearly as efficiently or effectively. It is as if one were expected to make sense of an animated movie cartoon through the actual drawing and observation of the individual frames—it can be done, but not cost effectively, and not with any great enjoyment.

The strongest feature of UCSMP is that it has a complete set of secondary texts with supplementary materials. The books stress readability and are written in colloquial English so as to be less distancing and more accessible to students. Typically, students find the texts "the first math books I've ever been able to understand," and that reading them "makes complicated problems seem simple." Other important features of the UCSMP are its summer institutes (supported by the Ford Foundation) and fall user conferences designed to serve both teachers and administrators in the implementation of the UCSMP curriculum.

Shoecraft's MOVE-IT Mathematics

Most of us are so inured to the idea that mathematics is necessarily a tedious, demanding chore that it is difficult to imagine a classroom in which all kids learn mathematics—or, even more remote, a classroom in which all kids enjoy their mathematics lessons. Yet, even this, and more, is possible. The idea that learning mathematics ought to be enjoyable is one of several principles

in which University of Houston-Victoria Professor Paul Shoecraft grounds his MOVE-IT! (Math Opportunities, Valuable Experiences—Innovative Teaching) program. At the Port O'Connor (Texas) Elementary School, not only are all kids learning math, all of them are nuts about it.

Nicole, a first grader at POC and in her second year of the program, sat on the floor writing the answer to a problem she had just worked out. She gripped her pencil, fist like, her head well ahead of her motor skills.

"What are you doing, Nicole?" I asked.

"Adding fractions," she said, glancing at me briefly but squarely in the eye. And, indeed, there in front of her was a set of problems involving the addition of fractions—some of which would make many a ninth or tenth grader tremble.

"Why, you're too little to add fractions," I teased. She looked at me hard and said, "Am not. I'll show you." And with that, she started to work on $\frac{2}{3} + \frac{1}{6} = \underline{\hspace{2cm}}$. Reaching in the box in front of her, she hunted up two pie-shaped wedges, one labeled $\frac{2}{3}$ and the other $\frac{1}{6}$. She fitted them carefully, then shuffled the pieces in the box around until she found two labeled $\frac{1}{3}$, again fitting them carefully together. She puzzled a moment, then quickly traded in the two $\frac{1}{3}$ s for four $\frac{1}{6}$ s. She placed them together, then counted quickly, pointing to each separate wedge as she did, "One, two, three, four, five. Five-sixths! See?" She looked at me and grinned, picked up her pencil and scrawled a legible, albeit crude, $\frac{5}{6}$ on her paper.

The amazing thing about Professor Shoecraft's program is that once one sees the students doing their math, and liking it, the idea doesn't seem remarkable at all—indeed, one is struck by its ordinariness. The essence of the program is to introduce each mathematical concept in at least three different ways through the use of manipulatives and to replace memorization with three skills: count up, count down, and skip-count. In many schools, manipulatives are used as supplementary materials and grafted onto the old curriculum; in Shoecraft's schools, the manipulatives drive and make possible a new, more advanced curriculum.

In recent tests, POC kindergartners achieved an average grade level of 3.0 on the Woodcock-Johnson test, with the lowest performer reaching the 2.1 grade level. "Special education" first graders achieved at grade level 2.1 on the same standardized test. These are unexpected results. POC is in a poor, rural community where the students have not been known for academic excellence or good high school graduation rates.

Still, Shoecraft complains that these tests don't reveal how much more the students have really learned. The use of tiles, coins, and balance beams, among other manipulatives, has given these children a strong sense of number, magnitude, place value, equality, area, and variable. More importantly, when these students do their additions, subtractions, multiplications, and divisions, they are not blindly performing operations, they are understanding what they are doing. Nicole knows that "eighteen divided by two equals nine" means that eighteen "things" can be put into "nine piles of two." She also knows that six times four equals four times six equals twenty-four because $4 + 4 + 4 + 4 + 4 + 4 = 24$ and $6 + 6 + 6 + 6 = 24$, or as Nicole put it, "four, eight,



FINDING AREA AND PERIMETER WITH THE GEOBOARD

With the geoboard, students can begin working with area and perimeter in the first grade. To begin, students wrap rubber bands around nail studs in fanciful ways, creating different polygons. To calculate the polygon's area, students count the number of whole and half-squares contained within the rubber bands. To calculate the perimeter of a regular polygon, students count the number of nail-to-nail segments that make up the figure. To calculate the perimeter of an irregular polygon, students first must learn about square roots and the Pythagorean theorem, both of which they learn easily using the geoboard.

twelve, sixteen, twenty, *twenty-four!*"

"Incidentally," Shoecraft volunteered, "I let them count on their fingers." As he said that, I felt my hands automatically go rigid at my side. "Oh?" I grunted suspiciously. Sensing my discomfort, he asked, "Is that a problem for you?" I said, "Well, it's not the way I learned it." Patiently, Shoecraft explained, "You have to ask yourself, what are children trying to do when they use their fingers?" Tentatively I offered, "Trying to figure the answer out?" Smiling at me, he asked, "Do you really have a problem with that?" Looking around that happy classroom, I found I didn't anymore.

As at the University of Chicago, algebra and geometry are integral to POC's elementary school curriculum. Here, students determine the area of irregularly shaped geometric figures using "geoboards" and elastic bands. Algebra is introduced first through the balance beam as a means of establishing the equality of different equations. Students also learn to graph coordinates (in seasonal patterns of pumpkins and ghosts) and construct vertical and horizontal bar graphs.

Shoecraft's program works—and it works for kids from a variety of socioeconomic backgrounds. Both Port O'Connor and neighboring Wharton Independent School District have completely eliminated ability grouping and tracking through Shoecraft's program. The Wharton student population is a mix of Hispanics (30 percent), blacks (30 percent), and whites. The crucial ingredient in the success of MOVE-IT Mathematics is the total commitment to the philosophy that, given a multiplicity of learning approaches, every kid can learn math. If one way doesn't work, then another one is tried.

Uri Treisman's C³ Summer Institute

Targeted at the "bottom 80 percent of students" entering ninth-grade algebra I in the fall, the C-cubed (Content, Competence, Confidence) Summer Institute is the brainchild of University of California-Berkeley mathematics professor Uri Treisman. While the immediate objective is to help students bridge the elementary to high school mathematics gap, it simultaneously involves teachers in the reconstruction of the pre-algebra/

algebra curriculum. The C³ Summer Institutes are run in conjunction with a school's regular summer school program. In the morning sessions, teachers work with students in problem-solving workshops organized around rich curricular material. Afternoons are devoted to teacher seminars, which provide them with opportunities to become familiar with the broader mathematical implications of the new curricular material. In these seminars, groups of four teachers, the same groups that cooperatively teach in a morning classroom, working with a mathematician, are responsible for developing the curricular content of the course. Among the most important features of the C³ Institutes are the "workshop format" of the classrooms and the use of collaborative learning techniques for both students and teachers, together with a total commitment to develop the mathematics out of real applications, data gathering, and problem solving.

The math applications used in C³ are so compelling and full of movement that, at times, one might have trouble distinguishing a C³ classroom from a physics lab. Yet, even this analogy fails because the students are too excited; stopwatches in hand, they are enthusiastically cheering their team's miniature car as it races against others down a long, inclined plane. Plotting the recorded data, students see the real-world significance of the intersection of curves; develop a sense of the connections among data, graphs, and events; and integrate algebraic, geometric, and physical concepts with an intuitive introduction to calculus. Reversing the process, students are given graphs and asked to construct situations that might give rise to particular sets of curves.

In another C³-designed application, students develop the mathematical concepts of increasing and decreasing functions by filling a common chemistry flask and recording the height of water for given volumes—then plotting the data. Again, the process is reversed and students construct possible container shapes and different flask-filling scenarios that might explain given graphs. In both of these examples, the key is the development of mathematical concepts out of the physical

situations, reversing the traditional order in which “applications” are taught, if at all, long after the mathematics has been developed in its most abstract form.

Funded by the National Science Foundation, the project has been successfully piloted in California’s Orange County and Stockton School Districts (1988 and 1989). It was introduced to the San Francisco public schools in summer 1989.

Toward a New Learning

These programs illustrate some of the best ideas in school mathematics reform. Uri Treisman hopes that students will learn that collaborative learning is a good way to learn not only mathematics but other subjects as well. A major goal of Paul Shoecraft is to demonstrate to students that mathematics is fun, and to teachers, that memorization is not the most effective methodology. Fundamental to the work of Zalman Usiskin and Izaak Wirszup is the belief that mathematics is about the real world and that knowledge of modern mathematics is critical to the well-being of anyone living in that world.

In many ways, the school reform experience in mathematics is a metaphor of the whole school reform-restructuring agenda—and it is instructive to look at it that way. For example, the principle that *all kids can learn*, that curricular content ought to be developed and presented from the base of students’ previous knowledge and experience, and that classrooms structured as laboratories and workshops work better are clearly not unique to the study of mathematics. Likewise, the idea that mathematics reform programs include teacher support and development components; teacher and student involvement in the development of curricular content and methods; a technological dimension; collaborative learning techniques and restructured classrooms; the use of summer academies and institutes to achieve objectives; and parental involvement reach far beyond mathematics.

From the host of other reform programs in mathematics there is much to be learned if we are to move from the present stage of small-scale, programmatic

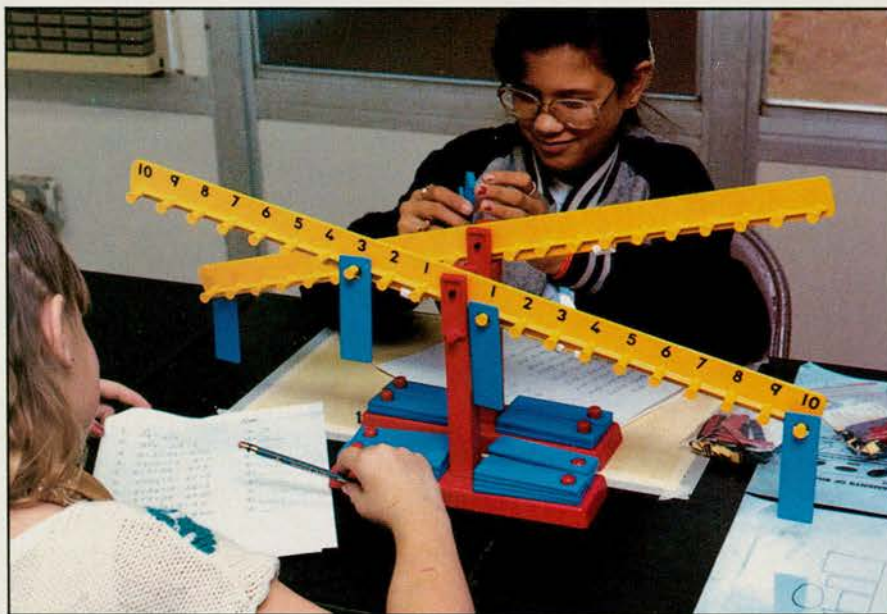
change to large-scale, systemic change. First, reform programs are invariably attached to an individual teacher or two, not to the school. In spite of the multitude of such programs, very few ever become integral parts of the overall school curriculum. The reasons for this failure are many, however several should be flagged. Teacher burnout is high in special programs; there is seldom paid time for program development; external program funding runs out; and there is rarely any program followup or networking among teachers in isolated programs.

Second, there is a good deal of anecdotal evidence that learning-disabled students perform exceptionally well in the new learning environments. One suspects that research will validate this result and that the reason for students’ success lies in the multiplicity of conceptual presentations. Third, there is anecdotal evidence that self-confidence and self-esteem accrue to students who achieve in mathematics and that this accounts for higher student achievement across the board. This result may well be rooted in the belief that mathematics is “hard” and that if students learn this most difficult subject, they begin to believe they can learn anything. Finally, it must be observed that the reconstruction and restructuring of the school mathematics curriculum is among the most important problems in education reform. Without mathematics reform, there can be no science reform—without science reform, no real education reform.

But in this, we are fortunate, because, far from being the intractable problem it often seems, we know a great deal about “the trouble in mathematics” and what can be done to fix it. In no other subject matter area has there been anything like the program development and experimentation or the development of benchmarks on a par with the NCTM’s *Curriculum and Evaluation Standards* that one finds in mathematics. These model programs, along with the NCTM standards, shine as beacons of hope and as plans of action for the entire education reform movement. In mathematics education, there is no longer any excuse for failure. All kids can learn math, and it’s time they begin to do so. □

USING THE BALANCE BEAM TO UNDERSTAND ALGEBRA

With the balance beam, even first graders can begin dealing with variables and algebra. Algebra is, after all, simply a matter of making the two sides of an equation balance. This student at Port O’Connor Elementary School is working on the equation “ $3 + x = 11$.” For equations involving multiplication, students must hang several weights on a single peg. For example, to calculate $10 = 3x + 1$, the student hangs a weight on the 10-peg on one side of the beam and on the 1-peg on the other side. To solve the equation, she then has to figure out on which single peg three weights balance the beam.



CLASSICS ARE FOR KIDS



ILLUSTRATED BY BOBBI TULL

By JOY HAKIM

YOU'VE HEARD the sad news: Our children are culturally illiterate. Well, I'm here to tell a different tale. I plan to take you to a multi-ethnic public school where nine-year-olds are reading important books, writing eloquently, and arguing with sophisticated reason.

And to another school in a crime-besotted city where fifth and sixth graders read Homer, write epic poems, and delve into archaeology, architecture, and etymology. This public school is 92 percent black.

But I am not writing about black and white. I am writing about children experiencing the joy of intellectual discovery. Children too busy to be problems. Children who are receiving a gift no one can take from them.

These children are learning from some of the world's greatest teachers: Homer, Virgil, Ovid, and Plato for

Joy Hakim, a former newspaper editor and teacher, is the author of a soon-to-be-published children's history of the United States.

starters. Some are brilliant children; most are not. They are ordinary kids and, like the rest of us, eager to learn—unless the lessons are patronizing.

“Patronizing” is the word for those tales in the common basal readers we have all come to abhor. “Exciting” is what children say of classic myths and stories of adventure. We used to teach those myths and stories to all our children. They were a part of our common heritage. They gave us cultural roots. Why did we stop teaching them?

It happened in the twenties, for what seemed to be good reasons. We were becoming a technological nation. We thought we needed to study the concrete and practical. So we did something no society has done before: We threw out our heritage. We stopped teaching our children the myths and fairy tales and great writings of our past. It was a sad mistake. We replaced wisdom with facts. But, now, in a small but fast-growing movement, elementary school teachers are returning to classic texts. If what I have seen is typical, the results are astounding.

IN CHICAGO, I listen as Mary Tracy Sigman tells kindergarten children a tale from Egyptian mythology. A substantive tale. A story of an eloquent peasant and a nasty official. A story of the triumph of good over evil, of justice over injustice. The five-year-olds have no problem understanding the issues.

"Does anyone know what a peasant is?" Sigman asks.

"An animal that crawls around the sea," eager C.J. opines.

The teacher—who is herself a student of the classics—leads them to an understanding of the words "eloquent" and "peasant."

"Was it important for the poor farmer to use beautiful words?"

"Yes," says Michael. "The king heard him."

"Does anyone know what justice is?" Sigman asks.

"Justice is fair," says Ulanda.

"Was it easy for the farmer to get justice? Did he give up?"

"No," Eric answers. "He went to court."

The class hears that C.J.'s aunt had her purse stolen. She went to court.

Now, Sigman springs a big question. "Whom do we know who used beautiful words, who spoke out for justice and who never gave up?"

"Martin Luther King!" These five-year-olds make an intellectual leap from ancient Egypt to contemporary America. No big deal. They seem to do this kind of thing all the time.

In Washington, D.C.'s Shepherd Park Elementary School, I ask eleven-year-old Alison Harris why children should study the classics. "It helps us understand humanity," she says. Alison wants to be an archaeologist. I suggest she become a poet—after reading the first two stanzas of her epic.

Sing in me, muse,
And let me tell
Of the warrior
The world knows well:
Achilles.

The most godlike of mortals
The greatest of Greek men,
The best of all warriors,
Who is as famous now as then:
Achilles.

THE CHILDREN at Shepherd Park are predominantly black and middle class. This city school is in a neighborhood of fine homes and clipped lawns. Not so Chicago's Goldblatt Elementary, where 95 percent of the students live at or below the poverty level.

A seminar is in process at Goldblatt. The fourth graders have read an African myth called "The Serpent's Bride." Steven Werlin, a graduate student at Loyola University who has spent two years teaching in rural schools in Alabama, is conducting an inservice training session for new teachers. They are observing this class. In the story, a snake—king of the river—will wed a beautiful girl. The snake has made the girl promise not to fear him.

"Should she have made that promise?" Werlin asks.

"Yes," says Leon, noting that the snake gave her water when she needed it.

"I disagree with Leon," says Dwayne. "I can't never make a promise like that to nobody."

That starts it. There is a chorus of comments from snake-haters and others who see the foolishness of making a promise you can't keep. Some read from the text—as they have been trained to do—to support their ideas. They all—politely—disagree with Leon.

Some of these children carry a heavy ghetto burden: They speak in monosyllables. They don't know what it means to be articulate. And yet here they are—arguing with words—in a way that is spontaneous and passionate, as good conversation is meant to be. They are caught up in the story and don't want to stop.

Leon is thinking. He has heard every word of the argument. He can hold back no longer. "I disagree with myself," he says, an ear-to-ear grin spreading across his face.

A school poster displays these words:

Socrates:

Let us examine this question together, my friend, and if you contradict anything that I say, do so, and I shall be persuaded.

Crito—Plato

Upstairs, the boys and girls in a fifth grade at Goldblatt have read a portion of Plato's *Republic*. I enter near the end of a discussion. They are talking of a man with a ring that makes him invisible. What would a good man do with that ring? What would a bad man do?

Belinda, Devin, and Robert use the words "justice," "virtue," "goodness," and "wisdom." These children have had much experience in seminars. Their teacher, Paula Walker-Nevels, is skilled; it is obvious. Their desks form a big open square, they talk face to face.

I ask a question: Is Plato relevant today? They look at me incredulously. "We need justice today," says Patizza. But what do they really think of Plato, I want to know. "It has sort of hard words."

"You have to read it a couple of times to understand it."

"I read it over and over again. Three or four times." "You have to think about it a lot."

It is clear that they did read and think about Plato a lot.

In Pittsburgh, David Baumbach's students work with an artist-in-residence fashioning 10' long wall hangings to illustrate the folk tales and myths they read. Of the classics, Baumbach says, "It is material that is very easy to teach. Children recognize quality. They love the stories. And they teach good values: Brain usually triumphs over brawn."

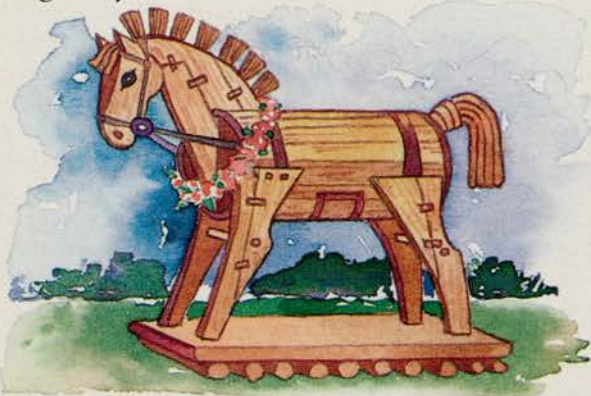
Baumbach helped write a classroom simulation that takes children on an adventure with Aeneas. The simulation was published in "Prima"—the journal of the Elementary Teachers of the Classics, a professional organization to support teachers who wish to teach classical literature and civilization.

Visit any of these classes and you will be struck by the oral reading. It is part of the classical tradition. Homer was sung. The myths were meant to be told. Some teachers do choral readings—they call them "raps." In olden days, before TV, reading aloud used to be a pleasurable, and regular, activity in American homes and schools.

THERE'S SOMETHING else important about this story. Maybe I should have put it at the beginning. Maybe it should have been the main theme. The classics speak to teachers, too. Well, of course, they wouldn't be classics if they didn't. Everyone knows that.

Everyone doesn't know that. Search your heart. What happens when you think of classical literature? Guilt? Classics are those books you know you should read but never seem to find time for. And, besides, if truth be told, aren't they dull?

Ask Bernice K. Jefferis—who teaches fourth grade just outside of Cleveland, Ohio—if the classics are dull. Jefferis applied for a grant a few years ago that allowed her to spend a month, with forty other elementary school teachers, studying Virgil. That grant, she says, “changed my life.”



It proved to her that she could think—really think—which was exactly what it was meant to do.

But let's go back in time, if not quite to Homer, at least to 1982. That was when Joseph F. O'Connor, a Georgetown University professor of Latin and classical literature, wrote a proposal to the National Endowment for the Humanities.

What he proposed was a summer seminar for elementary school teachers. It would be called “The Odyssey Institute.” Teachers would study Homer and classical civilization in a rigorous academic environment.

When he wrote the proposal, O'Connor had two children of his own in elementary school. He saw the need for stronger content in the elementary curriculum. “You can't do better than the classics,” says O'Connor. “The world of the ancients is especially pertinent in our pluralistic society,” O'Connor added. “That Mediterranean culture touched three continents.”

Three hundred and sixty teachers applied to be Odyssey fellows. Sixty were chosen. O'Connor put together a distinguished faculty and worked the fellows hard—like Trojans, in fact. He followed the institute with visits to participants' schools. He wanted to see how the fellows applied their learning. He saw—in a town of a thousand people—three hundred participate in a school-sponsored Greek and Roman festival. In another town he watched Odyssey games—patterned after the Olympics. In a classroom in Delaware, he laughed at a videotaped parody of the *Odyssey* called “The Idiocy.” In a Michigan classroom, children had built a stone-age cave “complete with tools and foods,” miniature dwellings from American ancient cultures, and Egyptian and Greek trading and military vessels. In the state of Washington, a teacher wrote a “big book” edition of stories

from the *Odyssey* for first and second graders to read. Everywhere Joe O'Connor went he felt the impact of the project. “Where an imaginative teacher presented some aspect of classical material, the response of the children was stunning.” It was the response of the teachers, however, that remains with him most vividly.

“It gave them a new concept of themselves. The system sees elementary teachers as the least educated in the academic world. The community says, ‘If they were intellectual, they would have become university professors.’” Their training just reinforces that. They are trained in technique, not content.

“At first many were hesitant and unsure. We gave them substantial intellectual content. What we saw was a surge of confidence. It changed their perception of themselves.”

The Odyssey Institute was followed by the Aeneid Institute, held at Miami University in 1986. (Miami, in Oxford, Ohio, was once home to William McGuffey, of the famous *McGuffey Readers*, books laden with classical stories.) Robert and Michelle Wilhelm—classics professors (who happen to be married to each other)—ran the Aeneid Institute. It, too, combined a faculty of top classicists, carefully chosen elementary school teachers, and tough, graduate-level academic work.

Driving to Oxford for that session, Bernice Jefferis was terrified. “I had recently lost my husband, I didn't think I could do the work, I actually thought about turning back.

“As soon as I got involved in the studies, I felt more alive than I had ever felt before.”

Jefferis brought her enthusiasm—and Virgil—back to her fourth grade at the Coventry School in Cleveland Heights. She soon had several of her fellow teachers equally excited.

Myra Winograd, in an adjacent pod in the open plan school, started teaching Homer to fifth graders. Librarian Susan Charnas began reading Greek myths aloud. “All I can tell you is that many contemporary books stay on the shelves. Children love these stories,” says Charnas.

Tall, soft-voiced Terry McGeary, another fourth-grade teacher at Coventry, attended the Mythology Institute at Miami University the summer of 1989. The institute focused on Ovid's *Metamorphoses* and its retelling of Greek and Roman tales. “I had never read the classics,” says McGeary. “What I got at that summer session was more intellectual and better than anything I had experienced at college. It was much more applicable to teaching than reading methods classes. As far as personal satisfaction, it was much greater. It was the kind of experience I had been searching for but had never found.”

BAUMBACH AND Jefferis served as faculty members at the Mythology Institute. They functioned as master teachers, providing a bridge between the professorial lectures and the practical world of the elementary school classroom. Both Baumbach and Jefferis received the same salary as the professors.

Elizabeth Fashingbauer is master teacher for “The Great Conversation,” a sophisticated fifteen-week college course dealing with the ancient cultures of Mesopotamia, Egypt, and Greece. It was conceived by

members of a consortium that includes Chicago State University, the Northeastern Illinois Center for Inner-City Studies, and the University of Chicago; it is funded by the NEH. I attend a session and hear University of Chicago professor John Brinkman talk of "Gilgamesh," an epic poem that describes a heroic king who lived in the time between Noah and Abraham; a poem that tells the story of a great flood. The author of Gilgamesh was writing of a dimly remembered historic time, as was Homer when he told of Achilles and Odysseus. The *Epic of Gilgamesh* was 1,500 years old when Homer sang his great songs. "These teachers are hearing the world's top authorities in their fields," says William Lowe, Chicago State dean, who helped put this class together.

Gilgamesh is king of Uruk. The walls of the city-state of Uruk are famous. "This is the story of the guy who built the wall. The wall is his immortality," says Brinkman. "The poem was meant to be sung. Literacy was very limited. It's ideal for oral presentation."

Mary Tracy Sigman, kindergarten teacher at Kilmer Elementary, has told her small students the story of Gilgamesh. "I never would have attempted it without this class."

None of these teachers seems able to limit his or her teaching to mythology, or Homer, or Virgil. One thing kind of leads to another, which means they allow the Greek and Roman civilizations to take them in directions they find stimulating. Joe O'Connor doesn't think that is surprising. "Elementary teachers have an affinity for interdisciplinary approaches," he says. "So do classicists."

Linda Buzzard, in Chelsea, Alabama, teaches a unit on geography and urban planning. "We study aqueducts. The children marvel to find them still in place with technology adequate for today. Our students create cities. They even make their own household deities. We talk about phrases like 'All roads lead to Rome' or 'When in Rome do as the Romans.'"

Fifth graders in Scarborough, Maine, study Greek

architecture and the physics of design with Mary Jo Kelley. Describing their reaction to the Parthenon, she said they "developed new ideas about architecture and its role in expressing the personality of a culture." Her students built a scale model of the temple of Athena Nike in Athens.

SOME TEACHERS have found the classics on their own. Josephine Baker, who teaches a fifth-sixth-grade class at Shepherd Park Elementary, began studying mythology "on my own initiative because it was so much fun for me and the children."

She then became a participant in a two-year university-sponsored enrichment project that paired great works of literature: Homer's *Odyssey* with Ralph Ellison's *Invisible Man*, Cervantes' *Don Quixote* with Arthur Miller's *Death of a Salesman*—for starters.

You get going on this learning process and there is no end to it. Baker applied for a professional development grant, from the Cafritz Foundation, and that paid for a trip to Greece and Italy. (Her slides get hauled out regularly.) Next she went to the McAuliffe Foundation for a grant to develop a humanities curriculum for grades four, five, and six. Students in those three grades at Shepherd now delve into the civilizations and stories of the Sumerians, Greeks, Roman, Egyptians, Africans, Incas, and Mayas. All this is done in an across-the-disciplines fashion to include music, history, geography, language, and more.

One of Baker's students, Chris Carroll, a lad of eleven, tells me of a twenty-page report he wrote on the labors of Hercules. I notice a large, detailed poster of his mounted on the wall outside his classroom. Chris was a member of a team that wrote a prize-winning skit about ancient Greek heroes.

"We had a restaurant called Medusa's, where we served snake fries and stoneburgers," he recalled.

Like most of the teachers I visited, Baker uses basal readers only to teach skills. Her room is filled with "real"

TO BEGIN YOUR ODYSSEY

The **Elementary Teachers of Classics**, a 3,500-member group associated with the American Classical League, offers the following:

- a *biannual journal*, "Prima," that includes scholarly articles; instructional materials, including lesson outlines and classroom simulation; book reviews; and audiovisual materials related to the use of classics in the elementary curriculum.

- *Classics Clubs*, through which enrolled teachers receive classroom materials four times a year. Examples: maps outlining the heroic journeys of Aeneas and Odysseus; creative writing projects on specific myths such as Jason, Orpheus, and Achilles; suggestions

for board games such as Myth Concentration; bulletin board materials; construction projects; and suggestions for study corners.

- the *National Mythology Exam*, taken this year by more than 3,500 elementary students. All students get Mythology Ribbons, top-place winners get medals.

- the *Teaching Materials and Resource Center*, from which you can purchase such items as slides of Pompeii, Rome and Athens; collections of learning activities; and twenty-four award-winning Greek mythology posters.

Contact ETC, The American Classical League, Miami University, Oxford, Ohio 45056.

The National Endowment for

the Humanities offers:

- *Masterworks Grants*, for which groups of teachers can apply to fund humanities studies in an area of their own choosing.

- *Summer Institutes* for teachers on such subjects as Virgil or *The Iliad*. Some are specifically geared to elementary teachers.

Write: Division of Education Programs, NEH, Room 302-FT, 1100 Pennsylvania Ave. N.W., Washington, DC 20506 or call 202-786-0377.

Classical Calliope, an ancient history magazine for children aged nine to fifteen, published five times a year. Subscriptions are \$15.95. Write to Cobblestone Publishing, 30 Grove St., Peterborough, New Hampshire 03458. □

books—classics of the ancient and modern worlds. Books paid for by parents, by parent fundraisers, and with foundation money.

There are no basal readers at all at the Marion W. Cross Public School in Norwich, Vermont. "We are an all-literature school," says David H. Millstone.

The shades are drawn in his fifth-grade classroom. Children huddle together on the floor; light comes from candles. A professional storyteller, a guitar on his lap, begins the story of Odysseus . . . "and of his wars and wanderings." For the next six days these boys and girls will hear the *Odyssey* told and sung—as in ancient days. Each storytelling session will be followed by a "debriefing." Millstone will write names and words on the chalkboard. Characters and places will be identified, talked about. While this is going on, a shortened version of the same tale will be told to children in the first grade. Soon a collaboration will begin.

Each first grader will become a storyteller. Each will be paired with a fifth grader. The first-grade child will recite a part of Odysseus's story; the fifth grader will be a scribe. They will have editorial conferences; they will write, and rewrite, until the younger child is pleased with his story and it can be printed neatly, illustrated, and hung. Then the stories will be read aloud and praised.

Meanwhile, the fifth graders are preparing their own versions of the *Odyssey*. They will listen to the tale on tape, read it over and again, and compare translations. And then—and this isn't easy for ten-year-olds—they will become storytellers and go to the first grade and stand up before all those small children and tell the tale themselves.

"The oral approach brings acclaim to some children who don't normally shine," says Millstone.

But doesn't it get a bit boring, hearing that same story again and again? Remember when you were a child, if the story was good, did you want to hear it again? "No, they don't get bored," Millstone answers.

What they do always ask, he says, is if the *Odyssey* is true. And that leads to a whole lot of questions.

Like what is truth? Could myths be society's way of searching for ultimate truths? Just what do we mean by myths? What are some scientific ways of finding out about the past? What is archaeology? What is anthropology? Was there a Troy? How do we know?

David Millstone's students spend about six months on their quest. During that time they delve into books, produce a Greek play, study history and geography, learn a lot about the Greek roots of English words, and do much writing and public speaking.

HOW DO these teachers turn a classroom into a Roman forum or a Greek polis—as some do—teach classic stories, teach some Latin and Greek words, and also satisfy basic curriculum requirements?

"The required curriculum is so dull and easy we can handle it in a daily half-hour session," said one teacher, who describes herself as a professional—"skilled as any surgeon"—and quite capable of making decisions for her classroom. She has devised her own interdisciplinary, classics-oriented curriculum.

Are you having a problem with all this? How do you even begin to teach the classics? Suppose a teacher has

no chance of attending an Odyssey Institute.

Millstone and the other teachers say—because children respond to the stories so avidly—that they are easy to teach. Classic stories and books on ancient cultures can be found in editions suitable for elementary schoolchildren. There is considerable help available for interested teachers, and a fair number of foundations seem eager to fund this kind of activity. Hovering like a good angel over the whole scene is the NEH. That agency continues to encourage college and university programs. It also sponsors Masterworks grants—funds given to groups of teachers who set up their own programs in conjunction with local universities. (In St. Louis, teachers have organized a seminar to study the *Odyssey* with a local college professor.) The Council for Basic Education gives individual grants to teachers who plan study programs.



Goldblatt Elementary and Kilmer Elementary (where Mary Tracy Sigman leads her remarkable kindergarten discussions) are Paideia Schools. The Paideia Institute—headquartered in Chapel Hill, North Carolina—has been a pioneer in the movement to return good books to classrooms. Many Paideia teachers have studied classic texts at St. John's College campuses in Santa Fe and Annapolis.

You may be thinking that this is a good idea at a few select schools but, after all, aren't classical studies elitist? Yes. And that is the very reason the classics need to be taught to all our children. It offers them a chance to join the intellectually elite.

At a conference entitled "Teaching the Ancient World," Sharon Quinn Katz of the NEH addressed the issue. "Our job as American educators is to steal that heritage [the culture of Plato and Cicero] from the world of privilege," said Katz, "and by so doing to rob privilege of one of the sources of its power, which is its collective learning. As classicists and educators, our job is to train students, to the extent of their ability . . . to be citizens in a democracy and also, in mind and spirit, aristocrats."

Mark Morford, a classics professor at the University of Virginia, says, "Studying the classics does good things for people. It improves one's knowledge of English. . . It raises SAT scores. It helps make people upwardly mobile. Besides, it's enjoyable."

Here is what some other experts say:

Katherine Patterson, whose books are considered contemporary classics, writes in *The Spying Heart*:

"Myths and fairy tales deal directly with archetypes, and there is a very real place for them, especially as they help children to map the dark regions of their souls, to face and conquer their inner dragons. We cannot, we must not, deprive children of these powerful images. Without them, not only do art and literature lose their power, but the soul itself stands ravaged and windowless like a vandalized cathedral."

In *The Uses of Enchantment*, psychologist Bruno Bettelheim says: "The idea that learning to read may enable one later to enrich one's life is experienced as an empty promise when the stories the child listens to or is reading at the moment are vacuous."

Joe O'Connor sees classical humanities "not as enrichment for a few but as a basic feature of both the social studies and the language arts curriculum."

"We have come quite a distance," says O'Connor, "from the time when we wondered if perhaps this content area might belong among the elective enrichment subjects, perhaps restricted to special programs for the gifted, to the point where it is clear . . . that it is serviceable and important as a major content area . . . within the elementary program."

And, a final word from yet another expert:


Thomas Jefferson, who knew a thing or two about education, wrote his friend Joseph Priestly in 1800. He was talking about the classical authors.

"I thank on my knees him who directed my early education for having put into my possession this rich source of delight; and I would not exchange it for anything . . ." □

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JOBS OF THE FUTURE

(Continued from page 15)

ing from producing one good to another is time consuming and extremely disruptive to the production process. Production must be halted; the very specialized machines must be modified; and workers must change what they are doing. Creating further disruption, the new product moves from one station to the next at a different pace leaving some workers and some high-priced machinery underutilized, a situation that must be tinkered with and remedied. Thanks to this rigid, slow process, retailers typically must wait many months before clothing orders actually arrive on their racks.

In the past, the fundamental approach to raising productivity in the textile, and especially the apparel, industries was to maximize the output of each individual operator by isolating and then automating each minute stage of the production process. This approach is an effective way to produce large quantities of mass-produced goods for a huge domestic market in which styles changed very slowly.

But what happens when consumer demand for style and variety takes off? What happens when more sophisticated technology in the ordering and inventory processes makes it possible for retail stores to be more attuned to customer demand, updating their orders on a weekly or even daily basis? What happens when the pressure from international competition so squeezes the profit margin for textiles and apparel that maintaining large, expensive inventories is no longer feasible?

What happens is that retailers are left frequently running out of quick-selling items during the season (a "stockout") and getting stuck, at the end of the season, with large quantities of slower-selling goods that they are forced to mark down. Forced markdowns have increased by 50 percent during the last decade. During the mid-1980s, losses from stockouts amounted to 8 percent of retail sales (Office of Technology Assessment 1987, 26-27). In 1984, the consulting firm Kurt Salmon Associates calculated that "the opportunity cost from excessive markdowns, stockouts and excess inventories amounted to \$25 billion a year, or 23 percent of the total retail value of all apparel sold in the United States at that time" (Harding 1988).

Clearly, the textile and apparel industries must alter their practices. But keep in mind that the same forces that are propelling these two industries to change are affecting other manufacturing industries as well.

The Emerging Strategy in Manufacturing

We have already seen the prototypical response of a mass-production service industry—retail banking—to the changed economic environment. How are manufacturing firms improving their ability to cope with increasing change and uncertainty and to produce a variety of products faster? As in banking, the programmability and communications potential of computers seem to offer the technological basis for flexible, quick-turnaround production. Indeed, attempts to develop flexible and responsive systems all depend heavily on microelectronics.

The Japanese are the leaders in using technology and new industrial organizations to decrease greatly the time it takes to get a product to market. Using "just-in-time" inventory techniques and other short-cycle systems, Toyota cut its domestic sales, manufacturing, and distribution cycle time from four to six weeks in 1982 to eight days in 1987 (Stalk 1988).

Similar strategies are now being implemented in the United States with great fanfare. Since the mid-1980s, as style changes in apparel and textiles have accelerated, leaders in those industries have turned from a virtual obsession with automation to an equally strong preoccupation with reducing the production and delivery times. This new strategy is known in the industry as "Quick Response." Quick Response will theoretically allow retailers to order with shorter lead times and to reorder hot items during the season. The efforts to implement Quick Response are taking place up and down the supply chain (i.e., affecting the textile and retail industries as well as apparel). Sophisticated computerized links among computerized designers, manufacturers, and retailers can cut lead times for garments from many months to six to ten weeks. Quick Response is now considered the industry's greatest weapon (after tariffs and quotas) for fighting import competition (Gunston and Harding 1987).

But the potential of new technology to decrease product cycle time, increase responsiveness to consumer demand, and cut inventory costs can only be realized if firms alter their organizational structure. (The structure of industries must change also, something I don't address in this article.)

Let's return to the apparel example. Faced with a need for quick turnaround on a great variety of products, apparel manufacturers are responding with a new interest in "modular manufacturing," or what is referred to in other industries as the "team concept."

Traditionally, garment shops have been divided into functional departments. For example, all of the pocket setting or buttonhole machines or all of the operators sewing a given seam are all grouped together. Supervisors have had authority over one or perhaps a small number of these functions, and mechanics working in these plants have been exposed only to the machines needed for the department's functions. As we have seen, orders move through one at a time, slowed by substantial in-process inventories.

In contrast, in modules, groups of operators work together to assemble an entire garment. The machines are usually placed in a circle or U-shaped configuration. After each operator completes her task on one garment, that garment goes directly to the next operator. It will now only take most garments a few hours to go through the production line. Plus, modular organization reduces the need for expensive, in-process inventories.

Although the actual sewing tasks carried out by workers in modules do not differ from the tasks performed by bundle workers, the modular system fundamentally changes the nature of the worker's job. Workers must become concerned about the quality and pace of their co-workers' work. If one operator falls behind, then another group member will help her catch up. If one worker is producing defective goods, someone will have to notice and correct her. In well-functioning mod-

ules, bottlenecks in the production process will be corrected by workers on their own, without intervention from the supervisor. Jobs in other industries that use teams have been similarly affected.

The Upskilling Effect on Jobs

In all of our study industries, the effect of modern technology and organizational change has been to reduce the number of the very lowest-level jobs; and, in many cases, to make middle-level jobs more demanding. Some of this shift is a result of the increasing computerization that has led to the elimination of a considerable amount of repetitive, routine, manual processing work. Some of the shift has to do with the increasing need of middle-level employees to relate to customers in increasingly sophisticated ways; and some of it is related to work reorganization.

This shift toward higher-skilled jobs can be seen in the changing occupational structure in our case industries. In the financial service sector in the United States, managers, professionals, and sales workers accounted for 47 percent of employment in 1971 and 52 percent in 1985. In the textile industry, in 1975, there were 4.2 operatives, laborers, and service workers for every craft and technical worker, but by 1985, this ratio had fallen to 3.5 to 1. In apparel, the ratio of repair technicians to operators has grown, although operator positions continue to account for the overwhelming majority of non-managerial jobs in the industry.

But the full extent of upskilling (or downskilling) is not revealed by this occupational data since many of the most important developments are taking place within occupations. In our study industries, we found many circumstances in which more advanced equipment or more modern procedures called for workers with more advanced skills. In textiles and apparel, the increasing need for technical skills is particularly acute among repair and maintenance personnel. (Some analysts have argued that computerized equipment can be easier to repair since it can sometimes diagnose its own problems; but we saw no evidence of this.) We also found that some tasks, especially those performed by machine operators in textile and apparel factories, have been deskilled. In apparel manufacturing, for example, some automatic machines that perform particular tasks, such as pocket setting, allow managers to replace skilled workers with machine tenders.

But a task-by-task analysis of jobs—like those conducted for an earlier generation of case studies—obscures the effects of work reorganization and economic change on employees' skills needs. In these new environments, workers must be able to manage more frequent and more complex interactions with other individuals; perform a greater number of more frequently changed tasks; and otherwise operate in a more uncertain and less well-defined environment.

For example, middle-level banking personnel are taking on a broader array of functions and having to engage in a greater variety of interpersonal transactions. Increasing computerization of banking products is bringing together information once scattered among various employees and departments. As a result, many middle-level jobs traditionally oriented toward "order taking"—filling out forms to initiate the clerical produc-

tion process—increasingly involve “serving”—providing customers with the various pieces of information necessary to offer the customized mix of services that will best answer their needs. Therefore, many of the responsibilities associated with managing the interaction with customers are filtering down from upper-tier to middle-tier personnel. One result of these changes is a shift toward finding better-educated middle-level workers who have a stronger capacity to comprehend both the bank's services and capabilities and the customer's needs, and a shift away from lesser-educated clerks who worked primarily on specialized form-handling tasks.

In both manufacturing and service industries, increased production variety and the pace of product and technological change have made it more difficult, and less efficient, to plan out every contingency that a worker will face. Increased time pressures and the reduction of buffer inventories make it more problematic for employees to refer problems to specialized departments, to await instruction or permission from superiors, or to permit equipment failure. Workers must be able to fill in an increasing number of “blanks” themselves; and to minimize machine downtime, they must learn the basics of machine maintenance and repair. Workers who are thus required to take more initiative need a greater knowledge and a better conceptual understanding of the overall production process in which they are involved, of the products and services that their firms produce, and of the markets that they serve.

Where there is teamwork, workers must be able to perform a greater number of more frequently changed tasks. Sewing machine operators, for example, who once needed to know how to perform a single task, now must be able to perform several and move fluidly from one to another. That is: Precisely what has defined work as simple and low skilled—the rote repetition of a single task—has been fundamentally altered.

Teamwork has major effects on mechanics' jobs as well. Mechanics who once could specialize in a small number of machines now must be able to repair many different machines; and the machines they repair today may be replaced by new ones tomorrow. This requires mechanics to have a much more sophisticated and abstract understanding of machine repair in general, as opposed to simply having the knowledge of how a series of individual machines gets fixed. Moreover, the new machinery is itself more sophisticated. In the past, fixers were normally hired from the ranks of operators. These workers had a “feel” for the machines they had worked with. Typically they also had experience fixing farm equipment. This experience transferred easily to fixing textile machinery; in both types of machinery, what had to be fixed was generally visible. But most new machines have microprocessors and other electronic components. Seeing these machines work gives little sense of what must be done to repair them. As Sue Berryman of the Institute on Education and the Economy has said, “to understand, diagnose, and fix the new machines, technicians have to be able to represent the [structures and processes of these machines] *symbolically* in their heads. To do this they have to be able to follow complicated manuals, diagrams, and updates

provided by the manufacturers. Literacy requirements have accordingly shot up.”

Employees involved in teamwork must also be better able to manage more extensive and complicated interactions with a wider variety of individuals. For example, in an apparel shop with a modular configuration, efficient production requires a high degree of communication and cooperation among workers with different functions and supervisors, a type of activity that is absent in the traditional production process.

Team-oriented production raises the skill needs of supervisors as well as workers. Supervisors will no longer oversee one or two narrow functions (hems and pockets, for example) but production of a whole product. Moreover, once the product is made in a single place, it becomes logical that the customer for that product will be in more direct contact with that product group supervisor. The supervisor will need a fuller understanding of her whole product and how she can meet the needs of her customers; and she will also need a relationship with her suppliers. These relationships between the firm and the outside world were once handled by top personnel in a centralized way. But computers make it possible to diffuse the necessary information about the company and its products to different product supervisors; and the changing nature of demand and competition require it.

MOST TYPICAL of the new work environment is how quickly it, and the jobs and machines and processes within it, will change. The employees of these rapidly changing firms must have a greater ability than their predecessors to work in a more uncertain and nonroutine environment. A well-established body of research associates education with ability to cope with change. Charles Schultz (1975) argued fifteen years ago that education improved a worker's ability to deal with “disequilibria.” Other research shows that industries experiencing faster technological change tend to employ workers with higher levels of educational attainment (Bartel and Lichtenberg 1987).

Moreover, much of the change that is taking place will require workers to participate in formal education. For example, textile and apparel firms increasingly send their current workers, especially their fixers, to the local community college for upgrading. But such upgrading depends on workers having the basic literacy skills necessary to complete the technical training. Workers without these skills will find that their potential for internal promotion is greatly decreased.

If educated workers are better able to respond to change and uncertainty and if uncertainty is growing, then the relative demand for educated workers should also be growing. This, indeed, appears to be taking place. While the difference in earnings between high school and college graduates fell during the early 1970s, it has been growing in the 1980s. In 1979, college graduates with one to five years of experience earned just over 30 percent more than high school graduates with similar experience. The average earnings differential between college and high school graduates at all experience levels was about 50 percent. By 1985, that differential had risen to about 65 percent (Murphy and Welch 1989, 19).

Can We Generalize from these Findings?

Work reforms that devolve greater responsibilities to lower-level employees are growing quickly in the industries that we studied. High-level business services such as consulting and software development have traditionally had a team-oriented organization with interactive and responsive relationships to clients, and these industries are now among the fastest growing in the domestic economy. U.S. firms in banking, textiles, and apparel are increasingly using more decentralization and team-based organizational forms. The U.S. banks in the study had increased branch decision-making authority. To assess the spread of new production techniques in their industry, the American Apparel Manufacturers Association conducted a survey of its members in 1989. In 1985, only 1 percent of the production workers in the firms that responded to the survey were being used in production processes designed to reduce in-process inventory and product cycle times. By 1988, that share had risen to 7 percent, and according to current plans, 20 percent would be used by the early 1990s (AAMA 1989, 3-4). About half of the textile firms we studied had some form of work reorganization that was no more than a few years old. Although there is still a widespread use of traditional production methods and organization, the speed of the change in these conservative industries is stunning.

But can these results be generalized to other industries? To be sure these are important industries. Textiles and apparel employ close to 2 million workers. Between 1970 and the mid-1980s, the share of domestic employment accounted for by business services grew from 4 to 8 percent. During the 1980s, banking and financial services have been the principal engine of growth of many of our largest cities. Nevertheless, case studies are often dismissed as unrepresentative.

With this in mind, our selection of industries was designed to represent a range of industries including both a capital and a labor-intensive manufacturing industry, a service industry that traditionally employs large numbers of lower- and middle-level workers, and one dominated by higher-level professional and managerial personnel. In the manufacturing industries, both progressive and more traditional firms were chosen. In the service industries, the progressive or "leading" firms were chosen. The emphasis on forward-looking firms resulted from our interest in trying to understand the direction in which the industries were moving rather than in getting a static picture of the current situation. Despite the diversity of the study industries, all four have been affected by the same trends and are very much preoccupied with increasing their flexibility and responsiveness to customers; all four have found that to be responsive they must alter the way they organize work. Logic strongly suggests that other industries buffeted by the same forces—microelectronics, the intensification of competition, changes in the nature of demand, and the accelerated pace of technological and market change—would respond in similar ways. And certainly a wide range of manufacturing and service industries have been affected by all of these trends.

Beyond this underlying logic, empirical studies also show the spread of innovations in work organization.

Internal reorganization in the auto and other manufacturing industries has perhaps attracted the most attention. The innovations of leading manufacturing companies such as IBM, Xerox, and Kodak are well known, but changes within the service industries are just as profound. Surveys from the mid-1980s indicate that between 25 and 35 percent of all U.S. firms and over 45 percent of firms employing at least one thousand workers have experimented with quality circles or other forms of employee involvement or participation techniques. A 1982 study by the New York Stock Exchange reported that 44 percent of the responding firms used some form of quality circle. Moreover, three-fourths of these efforts were less than two years old (Alper, Pfau, and Sirota 1985; New York Stock Exchange 1982; Kochan, Cutcher-Gershenfeld, and MacDuffie 1989). Another study found that about 50 percent of unionized manufacturing firms had some type of joint participation scheme, most of which dated from the 1980s (Voos 1987).

The actual impact of this type of reorganization has yet to be determined. In the past, work organization experiments have rarely lasted more than four years (Griffin 1988). But past research on workplace experimentation may not be a good guide to current efforts. First, the surveys underestimate the level of activity, since there are many types of decentralizations and reorganizations that would not necessarily be identified as "teamwork" experiments. Moreover, judging by developments in the apparel and textile industries, data on work organization from the early or mid-1980s are already obsolete. The current interest in workplace reorganization and experimentation is closely associated with strategies to enhance competitiveness, whereas in earlier periods, such as the 1970s, the popular interest was based primarily on a concern for the quality of work life. (Kochan, Cutcher-Gershenfeld, and MacDuffie 1989). The present interest is, therefore, more likely to be sustained.

Further evidence of upskilling is found in national occupational statistics. Between 1976 and 1988, the major occupational groups that had an above-average share of incumbents with at least some postsecondary education grew by 51 percent, while the occupations dominated by workers with lower educational levels grew by only 19 percent. Projections to the year 2000 indicate that the disparity in growth rates between these two groups of occupations will continue. The higher-level group is projected to grow by 19 percent while the lower-level group by only 10 percent.

WHAT, THEN, is left of the deskilling argument? The analysis in this article suggests that the early modernists such as Daniel Bell put too much faith in technology; they believed that technology would eliminate all low-level work. In contrast, Braverman believed that capitalism would require—and Levin believed that modern management would require—that technology be used to increase the amount of low-level work. Their hypotheses captured an important, but a time-bound, truth about industrial strategy. They wrote about an era in which it was extremely profitable for firms to maximize the automation of those production processes that turned out large quantities of standardized goods.

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But greatly stiffened competition, increased consumer demand for variety, and the accelerating pace of both technological and market change are forcing firms to abandon that mass production strategy. James Bright believed that while new technology would have to be introduced by workers of higher skill, eventually the technology would be incorporated into the firm's routines, and lower-level workers could suffice. Bright did not anticipate that both technology and markets would change so swiftly and constantly that his predicted routinization would not be feasible.

The result of these changes in the economy: Instead of an intellectual elite directing fully automated production processes, as Bell predicted, or a corps of high-level managers and technicians marshalling an army of deskilled machine tenders, as Braverman, Levin, and Bright foresaw, the production system has evolved into one that calls for more mental engagement of workers at all levels of the employment hierarchy.

Businesses of the future will require both better-educated employees and managers who know how to organize their workplaces so as to make the most of their human resources. For young people themselves, work of the future will be more interesting and less wearisome than was once predicted. But those without the skills and education to enter this evolving economy will find their economic futures terribly constrained and grim. □

REFERENCES

- Alper, W., B.N. Pfau, and D. Sirota. 1985. *The 1985 National Survey of Employee Attitudes*. New York: *Business Week* and Sirota and Alper Associates.
- American Apparel Manufacturers Association (AAMA). 1989. *Making the Revolution Work: How To Implement Flexible Manufacturing through People*. Washington, DC: Technical Advisory Committee of the Association.
- Bailey, Thomas. 1988. Education and the Transformation of Markets and Technology in the Textile Industry. Technical Paper #2. New York: National Center on Education and Employment, Teachers College, Columbia University, May 1989.
- _____. Technology, Skills, and Education in the Apparel Industry. Technical Paper #7. New York: National Center on Education and Employment, Teachers College, Columbia University.
- Bartel, Ann, and Frank Lichtenberg. 1987. The Comparative Advantage of Educated Workers in Implementing New Technology. *The Review of Economics and Statistics* 69:1-11.

- Berryman, Sue E. 1988. Education and the Economy: A Diagnostic Review and Implications for the Federal Role. New York: Institute on Education and the Economy, Teachers College, Columbia University.
- Bertrand, Olivier, and Thierry Noyelle. 1988. *Human Resources and Corporate Strategy: Technological Change in Banks and Insurance Companies of Five OECD Countries*. Paris: Organization for Economic Cooperation and Development.
- Braverman, Harry. 1974. *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*. New York: Monthly Review Press.
- Bright, James. 1958. Does Automation Raise Skills Requirements? *Harvard Business Review* 36 (July/August):85-98.
- Clark, Kim, Bruce Chew, and Takahiro Fujimoto. 1987. Product Development in the World Auto Industry. *Brookings Papers on Economic Activity* 3:729-71.
- Griffin, Ricky. 1988. The Consequences of Quality Circles in an Industrial Setting: A Longitudinal Assessment. *American Management Journal* 31:338-58.
- Gunston, Rod, and Peter Harding. 1987. Quick Response: U.S. and U.K. Experiences. *Textile Outlook International* (March):43-51.
- Harding, Peter. 1988. The Strategic Role of Technological Innovation in the Textile Industry. Speech presented at the International Forum sponsored by the Antonio Ratti Foundation on "The Textile Sector and the New Technological Era: What Prospects?" Como, Italy, September 23.
- Kochan, Thomas, Joel Cutcher-Gershenfeld, and John Paul MacDuffie. 1989. Employee Participation, Work Redesign and New Technology: Implications for Public Policy in the 1990s. Paper prepared for the U.S. Department of Labor, Commission on Workforce Quality and Efficiency, September.
- Levin, Henry. 1987. Improving Productivity through Education and Technology, in *The Future Impact of Technology on Work and Education*, Gerald Burke, and Russell Rumberger (eds.). New York: The Falmer Press.
- Murphy, Kevin, and Finis Welch. 1989. Wage Premiums for College Graduates: Recent Growth and Possible Explanations. *Educational Researcher* 18(May):17-34.
- New York Stock Exchange. 1982. *People and Productivity, a Challenge to Corporate America*. New York: New York Stock Exchange.
- Noyelle, Thierry. 1989. Skill Needs and Skill Formation in Accounting, Management Consulting and Software. Technical Paper. New York: National Center on Education and Employment, Teachers College, Columbia University, 1989.
- Office of Technology Assessment (OTA). 1987. *The U.S. Textile and Apparel Industries: A Revolution in Progress*. Washington, DC: U.S. Government Printing Office.
- Piore, Michael, and Charles Sable. 1984. *The Second Industrial Divide*. New York: Basic Books.
- Schultz, Charles. 1975. The Value of the Ability to Deal with Disequilibria. *Journal of Economic Literature* 13 (September):827-46.
- Stalk, George. 1988. Time—The Next Source of Competitive Advantage. *Harvard Business Review* (July/August):44-45.
- Voos, Paula. 1987. Managerial Perceptions of the Economic Impact of Labor Relations Programs. *Industrial and Labor Relations Review* 40 (January):195-208.
- Zuboff, Shoshana. 1988. *In the Age of the Smart Machine: The Future of Work and Power*. New York: Basic Books.

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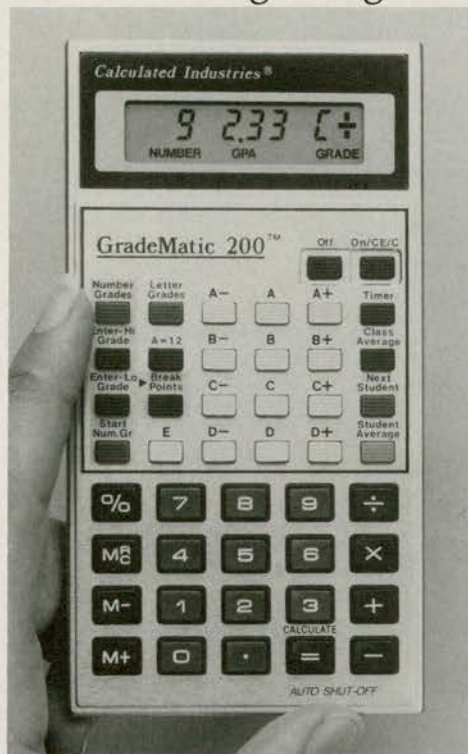
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DIVERSITY AND DEMOCRACY

(Continued from page 20)

of America or the world. But these differences are largely obscured by the five blanket labels that the New York task force adopts.

In the same stereotypical way, the report describes "European Americans" in ways that are culturally inappropriate, indeed in ways that are offensive, insensitive, and biased. All people with a white skin color are referred to as Europeans or "Anglo-Saxons." In the view of the task force, Jews and Germans, Irish and Russians, French and Italians, Bulgarians and Spanish are all members of the same group, all "Anglo-Saxons."

Most of the "Curriculum of Inclusion" is focused on New York state's history and social studies guides. Nonetheless, the report also calls for the multicultural revision of curriculum materials in "environmental education," "general chemistry," "regents' chemistry," "probability in the elementary schools," "ideas for strengthening mathematics skills," and dozens of other subjects. The report gives little indication of what such revisions might mean.

BEHIND THE "Curriculum of Inclusion" lies a pedagogical theory, a conviction that changes in the curriculum will raise the self-esteem of children from racial and ethnic minorities and will lead to improved academic performance. According to the theory, minority children who presently perform poorly will have higher self-esteem and higher performance if their teachers featured the achievements of minority cultures instead of the achievements of Europeans and white Americans.

The problem with this theory is that it confuses the obvious and the dubious. By now, it should be obvious to American teachers that they must make a special effort to promote respect among children of different racial and ethnic backgrounds and to instill self-respect in all children. But it is dubious to assert that programs to bolster racial pride will raise children's self-esteem or their academic performance. For one thing, there is no evidence to support this claim; for another, international assessments have shown that American students have *higher* self-esteem than their counterparts in other countries but do *worse* on academic tests. Genuine self-esteem means self-respect and confidence in one's ability; self-confidence is the product of experience, the reward that comes as a result of working hard to achieve one's goals.

Perhaps the sharpest commentary on the task force's notion that curricular change can build self-esteem has come from Dr. James Comer, who has worked closely with the schools in New Haven, Connecticut. Quoted in the *New York Times*, Dr. Comer said that if you want to build self-esteem "you get parents involved in the school so that students see mutual respect between members of their own group and the mainstream. You arrange exposure to living role models and make sure that students understand why their groups have not been well represented. Rewriting the curriculum in isolation from their own experience is well down the list."

It is also questionable whether teachers of history should be directed to use history as a mechanism for instilling self-esteem and filiofetism (i.e., excessive reverence for one's ancestors). Most people in the field of history believe that the role of the teacher is to teach children to think critically, to see through propaganda and false claims, to weigh evidence, and to reach their own conclusions after considering different points of view. If teachers are expected to use history to build self-esteem by showing children that their ancestors were great and glorious, will they also be expected to hide that part of each group's history that is not heroic and admirable? Will they hesitate to introduce anything critical of any culture for fear of damaging the self-esteem of children in the classroom? What will these constraints do to the teacher's ability to teach critical thinking and to deal honestly with controversial issues?

NEW YORK may be the most famous proponent of particularist multiculturalism, but it is not alone. One can scarcely pick up an educational journal without reading about a school district that is converting to an ethnocentric curriculum in an attempt to promote "self-esteem." A state-funded project in a Sacramento high school is teaching young black males to think like Africans and to develop the "African Mind Model Technique," in order to free themselves of the racism of their own culture. A popular black rap singer, KRS-One, complained in an Op-ed article in the *New York Times* that the schools should be teaching blacks about their cultural heritage, instead of trying to make everyone Americans. "It's like trying to teach a dog to be a cat," he wrote. KRS-One railed about having to learn about Thomas Jefferson and the Civil War, which had nothing to do (he said) with black history.

In one current proposal, a largely Hispanic student population is to learn botany through the study of the agricultural techniques of the Aztecs. Furthermore, "ethnobotanical" classifications of plants are to be substituted for the Eurocentric Linnaean system. (It may seem curious that Hispanic children are deemed to have no cultural affinity with Spain; but to acknowledge the cultural tie would confuse the ideological assault on Eurocentrism.)

At first glance, such proposals appear no different from the celebratory activities associated with Black History Month and Women's History Month, where schoolchildren learn about the achievements of blacks and women. But the point of these celebrations is to demonstrate that neither race nor gender is an obstacle to high achievement. They teach children that everyone, *regardless of their race, religion, gender, ethnicity, or family origin*, can achieve success if they aim high and work hard.

In contrast, the new particularism is unabashedly filiofetistic. It teaches children that their identity is determined by their "cultural genes." That something in their blood or their race memory or their cultural DNA determines who they are and what they may achieve. That they must immerse themselves in their "native" culture in order to understand subject matter that is taught in school. That the culture they live in is not their native culture. That American culture is "Eurocentric," and therefore hostile to anyone whose ancestors are not

If children are taught that their real identity must be found on another continent or in a vanished civilization, they may suffer an intense sense of marginalization.

European. Whether they intend it or not, the message of the particularists implies that children who are members of racial and ethnic minorities are not part of American culture; that they must look elsewhere for their heritage; and that American culture belongs to white Europeans. Since these children live in American society and must find their place in this society, the particularist message may actually damage the self-esteem of minority children by implying that they are not part of the mainstream culture and that their ancestors had little or no part in shaping the common culture. If children are taught that their real identity must be found on another continent or in a vanished civilization, they may suffer an intense sense of marginalization in relation to the culture that they now live in.

ANOTHER CURRENT proposal suggests that Mexican-American and Puerto Rican children should not only learn about the mathematical accomplishments of the Mayas, but should be taught the Mayan mathematical system. Perhaps what this demonstrates best is how a sensible idea—teaching children that the Mayas developed a fascinating and sophisticated civilization—becomes ludicrous when it is carried to the extreme of believing that any children whose families emigrated from Latin America or Puerto Rico must be taught Mayan mathematics if they are to succeed. For one thing, neither Puerto Ricans nor most Mexicans are descendants of Mayas. Yet the idea of teaching Mayan mathematics is supposed to motivate them.

A very different approach to teaching Mexican-American children is depicted in the popular movie *Stand and Deliver*, where the teacher, himself an immigrant from Bolivia, inspires a class of Mexican-American children to learn advanced mathematics. He mentions that the Mayas discovered the concept of zero, but he also demands that they do homework and attend school on Saturdays and during Christmas vacation so that they might pass the advanced-placement test. He teaches his students to work hard and to master the kind of mathematics that they need to succeed in the world as it is today; he does not teach them “Mayan mathematics.”

These proposals to teach “ethnomathematics” come at a time when American mathematics educators are trying to overhaul the present curriculum and practices because of the poor performance of American children on national and international assessments. Mathematics educators are attempting to change the teaching of their subject so that children can see its uses in everyday life. There would seem to be an incipient conflict between those who want to introduce real-life applications of mathematics and those who want to teach the mathe-

matical systems used by ancient cultures. I suspect that most mathematics teachers would enjoy doing a bit of both if there were time or student interest. But any widespread movement to replace modern mathematics with ancient mathematics runs the risk of disaster in a field that is struggling to update existing curricula. If, as seems likely, ancient mathematics is taught mainly to minority children, the gap between their achievement levels and those of middle-class white children seems likely to grow.

Particularism is premised on the spurious notion that cultural traits may be inherited. It implies a dubious, perhaps dangerous, form of cultural predestination. Children are taught that if their ancestors could do it, so can they. But what happens if a child is from a cultural group that made no significant contribution to science or mathematics: Does this mean that children from that background must find a culturally appropriate field in which to strive? How does a teacher find the right cultural buttons for children of mixed cultural heritage? And how in the world will teachers use this technique when the children in their classes, as is usually the case, are drawn from many different cultures? By the time that every culture gets its due, there may be no time left to teach the subject itself.

* * *

Two issues are central to this controversy: First, is American education Eurocentric? And, second, do children need to be immersed in their own particular cultural heritage in order to succeed academically?

As I mentioned earlier, there is good reason for American education to reflect the substantial influence of Europe on the formation of the United States. That influence is a historical fact, reflected in our Constitution as well as our cultural and economic institutions. But this does not mean that the curriculum in American schools is Eurocentric. If anything, American education is centered on American life; it is “Americentric.” Most American students know little about Europe, and even less about the rest of the world. Their minds are rooted solidly in the here and now. Most seem to think that the United States is the world. One of the most difficult and demanding tasks of teachers today is to break through this parochialism and to introduce students to the world beyond our borders. Eurocentrism is not the problem; ignorance is.

Second, the claim that children will do better if they study their ancestors’ achievements sounds dangerously like a panacea that may detract attention from the real needs of students today. Many children from racial and ethnic minorities leave school without graduating and perform poorly in academic classes. Probably they would fare better in school if they had well-educated and well-paid teachers, small classes, good materials, encouragement at home and school, summer academic programs, a quiet study space, and protection from the drugs and crime that ravage their neighborhoods. These are expensive and time-consuming remedies. The lure of particularism is that it offers a less complicated anodyne, one in which the children’s academic needs may be addressed (or ignored) by inflating their racial and cultural pride.

Moreover, the rising tide of particularism encourages the politicization of all curricula in the schools. If educational bureaucrats bend to the political and ideological winds, as is their wont, we can anticipate a generation of struggle over the content of the curriculum. There is already too much receptivity by state and local school board members to fundamentalists, anti-evolutionists, and interest groups who want to censor textbooks, remove library books, and determine what may be taught in history, literature, and science.

Any reconstruction of the curriculum, whatever the subject, must proceed on the best knowledge available to experienced teachers and scholars. At the same time, it is important to teach students about conflicting interpretations and about debates among experts. Every subject field has disagreements among the experts, and the study itself becomes more interesting if students are let in on these disagreements. History is not just a bunch of facts and dates and names that must be regurgitated for tests; it is a field that is alive with controversy.

Students should learn, for example, that scholars disagree about whether Egypt was a black African civilization or a multiracial civilization. Some scholars believe that what is now called "western civilization" can be traced to African origins, via Egypt and Greece. Others believe that contemporary interest in the color of ancient Egyptians reflects our obsession with race. Let students investigate the question; such an inquiry would send many children to books about ancient Egypt as well as to museums with Egyptian collections.

One thing that these investigations will produce is an awareness of the way that cultures influence each other, exchanging ideas, customs, art, and technology. From this they will learn that great civilizations do not exist in isolation; they grow by learning from others. Such an insight might help students understand how American culture has been transformed by the contributions of its many different minorities.

To the extent that children come to understand that history is a study that is constantly revised and reinterpreted, they will realize that historical study has political implications, that it is written by fallible humans like themselves who make conscious choices among facts, that some historical theories are wrong, that what they learn in the textbooks is conditional, and that the historian often works like a detective.

In studying history, students must come to understand that the historical record is not fixed and that it changes as a result of new scholarship and debates among historians. In no event should the history taught in school be determined by political pressures brought to bear on legislators, school boards, textbook publishers, and state education departments. Whatever the subject field, teachers must be free to teach honestly and critically. They must feel free to show different sides of the issues. They must not be turned into ethnic cheerleaders who, for the supposed sake of their students' self-esteem, are pressed to teach spurious history in order to make sure that everyone's ancestors are presented as accomplished and glorious.

Sooner or later, educators must directly refute the widespread filiopietistic belief that children will succeed in school only if they have learned a glorified history of their own race or ethnic group. If history is

taught honestly, it gives no grounds for excessive racial pride. People of every race, at some point in its history, have committed terrible crimes, often against people of the same group. Some whites practiced or condoned slavery; certain whites were responsible for the Holocaust. People of other racial groups have also committed comparable crimes. Remember that white slave traders bought African slaves from Arab slave traders, who bought them from African tribes who had enslaved their captives during wars. Mayan and Aztec peoples practiced human sacrifice and slavery. Before World War I, the Turkish government massacred hundreds of thousands of Armenians. In Africa in the late 1960s, a million or more Ibo people were starved to death by the Nigerian government when they tried to create a secessionist Biafran state. In China, the Maoist government killed millions of Chinese people. Japan slaughtered tens of thousands of Chinese during the infamous "Rape of Nanking" in the 1930s. The Khmer Rouge government of Cambodia slaughtered more than a million of its own people in the 1970s.

NO RACE has a corner on virtue or vice. Each child should learn to value himself or herself as a member of the human race. Self-esteem ultimately must derive from one's own hard work and accomplishments, not from pride in one's skin color, which is an inherited attribute rather than an accomplishment.

Ultimately, the best guarantee of a fair and just society, where people of different cultural backgrounds can live in peace and mutual respect, is the democratic political tradition. It is found in many societies—east and west, north and south—wherever the central values are liberty, equality, and justice. It is the democratic tradition that requires us to respect basic human rights, to listen to dissenters instead of jailing them, to have a multi-party system, a free press, free speech, freedom of religion, freedom of assembly, and free trade unions. In our society, the democratic tradition was shaped by the Enlightenment, Thomas Jefferson, Horace Mann, Abraham Lincoln, Frederick Douglass, Elizabeth Cady Stanton, Susan B. Anthony, Samuel Gompers, John Dewey, Jane Addams, A. Philip Randolph, Franklin Delano Roosevelt, Martin Luther King, Jr., Bayard Rustin, and millions of other people from different backgrounds.

We teach our children about their society for many reasons. We want them to see how it evolved and what it is becoming so that they will be able to understand it, make their way in it, learn its symbols and language, and participate as knowledgeable citizens in the present and the future. All of them will be eligible to vote; all are likely to live and work in a variety of contexts, sometimes with people of their own group, but more often with people from other backgrounds.

What we should be teaching our children is that race hatred is wrong, racial chauvinism is wrong, and racism is wrong. People are people. Cut us and we bleed. If we lose a child, we cry. The human heart is the same in all of us, regardless of skin color or language. It is the job of public education to teach everyone, whatever their ancestry, that we are all Americans and we all reside in the same world. We must all discover what W.H. Auden wrote fifty years ago, as a new world war began: "We must love one another or die." □

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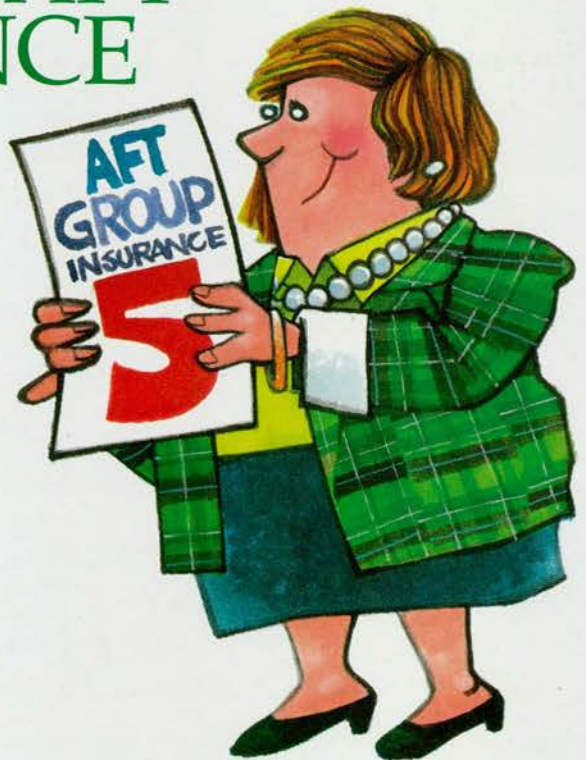
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