SEVERAL AREAS FORMING ΦBK ASSOCIATIONS

Two Phi Beta Kappa alumni associations—one reconstituted, one new—have recently been added to the group of unchartered associations, bringing that total to 15 (there are 35 chartered associations). The Northeast Florida association was founded in 1938 and chartered in 1939. The group was inactive for some time, but it reconstituted itself in 1991. The Guilford County (North Carolina) association was founded in the early 1980s but only recently applied for official status as an association. It has a sizable membership and an active program in Greater Greensboro.

Members in nine other locations also have expressed interest in forming ΦBK alumni associations: Denver; Pittsburgh; Tampa; Louisville, Kentucky; Fredericksburg, Virginia; Newport, Rhode Island; Fredonia, New York; northeast Missouri; and northwest Indiana.

Alumni associations are formed by groups of Phi Beta Kappa graduates who join together to support the cultural and intellectual goals of the Society in their communities. In past years there have been associations from London to Manila, but no overseas groups are currently active.

Anyone interested in obtaining information about current association programs or procedures for forming new associations may contact the Society’s national headquarters at 1811 Q Street, N.W., Washington, DC 20009. The autumn issue of The Key Reporter will list addresses for the secretaries of all active associations and will report on association activities nationwide.

HOUSTON ALUMNI ASSOCIATION AWARDS 61 ΦBK SCHOLARSHIPS

At a banquet held at Rice University on May 5, the 600-member association of the Greater Houston metropolitan area awarded a $1,500 scholarship to one outstanding senior from each of the city’s 61 high schools. The more than $100,000 that was raised to support the effort came entirely from local resources and was contributed or solicited by members of Phi Beta Kappa in the city. They promise to do the same again next year.

The Houston association has been granting scholarships to superior high school students since 1974. The effort began with six awards of $250 each. With generous assistance from the city’s businesses and foundations, the program has grown to such an extent that this year’s scholarship presentation ceremonies attracted local television coverage.

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Pictured at the Houston association’s banquet in May are (from left) Aubrey M. Farb, association president; Simeon T. Lake IV, who was named the most outstanding of the 61 scholarship recipients; Dr. Denton A. Cooley, recipient of the distinguished ΦBK alumnus award; and W.J. Bowen, who was honored for his outstanding contribution to education.

YALE INSTRUCTOR WINS ’92-’93 SIBLEY AWARD

Barbara Elisabeth Ingeborg Knauff, a 1988 Phi Beta Kappa graduate of Wellesley College, has been awarded the Sibley Fellowship of $10,000 for the 1992-93 academic year. A graduate student and instructor in the French department at Yale University, she will use her award to study multilingualism in French imaginary voyages of the late 17th and the 18th centuries. Knauff is the 44th winner of the award, which was established with funds bequeathed to Phi Beta Kappa in the will of Isabelle Stone.

In 1993 the Sibley Fellowship will be offered for studies in Greek language, literature, history, or archaeology. Candidates must be unmarried women between 25 and 35 years of age who hold the doctorate or have fulfilled all the requirements for the doctorate except the dissertation. They must be planning to devote full-time work to research dur-

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THE STORM BREAKING UPON THE UNIVERSITY:
THE UNIVERSITY IN CRISIS

BY JAROSLAV PELIKAN

WHAT JOHN HENRY NEWMAN identified as "the turning point of his life" was his election to a fellowship at Oriel College in 1822, which was "at that time the object of ambition of all rising men in Oxford." It was therefore with an abiding sense of devotion to Oriel that 30 years later he would describe its role in the crisis of Oxford: "As their collegiate reform synchronized with that reform of the Academical body, in which they bore a principal part, it was not unnatural that, when the storm broke upon the University from the North, their Alma Mater, whom they loved, should have found her first defenders within the walls of that small College, which had first put itself into a condition to be her champion" (I vii.3). The "storm breaking upon the University from the North" was the utilitarian attack on the traditional Oxford curriculum, to which Newman responded with his insistence that knowledge is an end in itself.

But there is a storm breaking upon the university again, and this time from north, south, east, and west. A critical reexamination of the idea of the university—not simply of Newman's idea of it, or of someone else's idea of it, but of the idea itself—has become an urgent necessity. When Newman titled the ninth and last of his discourses "Duties of the Church towards Knowledge" (I.x), he was acknowledging, also on the basis of his own often bitter experiences as a man with a foot in each camp, the long record of hostility and mutual recrimination between church and university. It is a record of hostility which, during the century or so since Newman, extremists in both institutions have somehow managed to go on making ever-new contributions. But in one respect at least, the two institutions have much in common: despite dismissals of "the hysterical hyperbole of crisis," both are caught today in the throes of a situation that it is difficult to describe as anything but a crisis, a crisis of confidence that is at the same time a crisis of self-confidence.

Each in its own way, both the university and the church (though the latter even more than the former) are often dismissed by those who claim to speak on behalf of "the real world" as museum pieces from another, simpler era, still good places perhaps for the young to learn something about the past but definitely not the places to look for guidance about the real world and its future—which is why there is more than a touch of irony in A. Bartlett Giamatti's use of the phrase "The Real World of the University" as the subtitle for his 1988 book, A Free and Ordered Space.

University-bashing seems to have become a favorite indoor sport, the modern academic equivalent of the anticlericalism of the 18th century. It has also become a cottage industry, with books bearing such titles as Profsacm: Professors and the Demise of Higher Education, Tenured Radicals: How Politics Has Corrupted Our Higher Education, Killing the Spirit, Illiberal Education, and The Moral Collapse of the University appearing one after another. In the periodical press, too, articles titled "Grieves of Academe" and "Higher Education Feels the Heat" echo the refrain. All have been voicing, often from mutually contradictory intellectual and ideological presuppositions, the widely felt sense of disappointment or outright betrayal among those who have come to feel, as Newman once said about the critics of the church within the university, "sore, suspicious, and resentful" (I.ix.3), but this time against the university itself (though not infrequently against the church as well).

Like the usual reactions of the church to its critics, the response from within the university to such attacks has frequently been less than constructive. Through a deadly combination of internal confusion and external pressure, the university has all too often maneuvered itself into a defense of
the status quo, a carping posture in relation to the cultural and political mainstream, and a bunker mentality that can attribute the widespread support for an attack not, of course, to any basic flaw in the university, but to "the strength of Americans" recall from the disturbing effects of the contemporary academy."

Everyone would agree that the almost daily headlines about the university—controversy over affirmative action, debates about "publish or perish," athletic scandals, "the university-industrial complex" in such areas as biotechnology, and the relation between the university and the community—do raise serious and troubling questions. A modern society is unthinkable without the university. But as Western societies move toward the 21st century (and the third millennium) of the Common Era, the university is in a state of crisis and is in danger of losing credibility.

The subtitle of this article, "The University in Crisis," is intentionally ambiguous, referring simultaneously to this crisis within university walls and to the position of the university in relation to the crises of the age beyond its walls. Obviously the two crises are related, but just as obviously they are by no means identical. As Hannah Arendt once observed in a trenchant comment that would seem to be more accurate today than it was when it was written in 1958, "It is somewhat difficult to take a crisis in education as seriously as it deserves. It is tempting indeed to regard it as a local phenomenon, unconnected with the larger issues of the century."

Historically, the larger issues of at least some centuries have in fact been directly brought on by a crisis in the university, and have in turn gone on to precipitate such a crisis. The Reformation of the 16th century, for example, began in the university, and its chief protagonist was a university professor. Martin Luther was neither speaking as a political figure nor acting chiefly as an ecclesiastical figure, but exercising his responsibilities as an academic figure, when on October 31, 1517, he issued his Ninety-five Theses inviting (or challenging) his colleagues and all others to an academic disputation "about the power of indulgences."

For years before that, he had been working out the main lines of Reformation teaching in the process of preparing and delivering his academic lectures at the University of Wittenberg. "I have never wanted to do this and do not want to do it now," he said in 1530, explaining how he had become a reformer. "I was forced and driven into this position in the first place when I had to become a Doctor of Holy Scripture against my will [in 1512]. Then, as a doctor in a general free university, I began, at the command of pope and emperor, to do what such a doctor is sworn to do, expounding the Scriptures for all the world and teaching everybody. Once in this position, I have had to stay in it, and I cannot give it up or leave it yet with a good conscience."

Once the Reformation had been set in motion as a consequence of this professorial crisis, moreover, the venue of the Reformation continued in great measure to be the university. The roster of foreign students at Wittenberg during the 16th century—115 students from Poland alone studied there during the crucial decade between 1554 and 1565—reads like a list of reformers-in-the-making from all over Catholic Europe.

The introduction of the Reformation into a new country likewise often began with that country's universities, where the reformation of the church became the basis for fundamental programs of academic reorganization, and vice versa. For those developments in the 16th century, and for many others in many other centuries, for example in the People's Republic of China and then in Central and Eastern Europe during the final two decades of the 20th century, what Hannah Arendt calls "the crisis in education" and what she calls "the larger issues of the century" were locked together in an intimate, problematical connection.

In any age, it is that connection that makes a reexamination of the idea of the university so essential and yet so complicated. At the risk of superficiality, it may be useful here to outline a few of those larger issues of the century. Such an outline is, of course, not how these issues chiefly deserve to be studied, in their own right and in depth. But we do need to look at the ambiguous relation of (staying with Hannah Arendt's helpful formulations) these larger issues to the crisis in education and to the idea of the university.

One critic of the critics of the university has observed that "their rhetoric is consistently apocalyptic," while another has likewise noted that "the genre is quasi-apocalyptic." Yet in a consideration of the larger issues of the century (if not also in a consideration of the crisis in education), it does remain, lamentably, as appropriate as it was when William Blake memorialized them in his art and poetry to visualize them by looking at the Four Horsemen of the Apocalypse, who "were given power to kill [1] with sword and [2] with famine and [3] with pestilence and [4] by wild beasts of the earth" (Revelation 6:8).

**WAR**

The life of the university throughout the 20th century has been dominated by the threat and the reality of War, the First Horseman of the Apocalypse. In one way or another this is true of every institution in every society, but the experience of the university with the realities of war has been marked by special tragedy. Describing this as "a position which few today are ready to put forward publicly or with conviction" because it seems to be "stating an elitist canon," George Steiner has put the issue with his characteristically provocative acuity: "Where it is absolutely honest, the doctrine of a high culture will hold the burning of a great library, the destruction of Galois at twenty-one, or the disappearance of an important [musical] score, to be losses paradoxically but none the less decidedly out of proportion with common deaths, even on a large scale."

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88. Evariste Galois, the young mathematician genius whose name is still associated with "Galois groups," was killed in a duel before his 21st birthday.
The events surrounding the outbreak of World War I provide just one striking instance of many in that tragic history. When the armies of the German Empire invaded Belgium in August 1914, one of their first victims was the University of Louvain, established by a papal charter of December 9, 1425. The burning of the university library cost the world of scholarship 300,000 books and more than 1,000 original manuscripts (including the university's charter from 1425), and it has ever since symbolized the triumph of the irrational over the rational.

The disaster was rendered even more poignant by the reprise of the bombardment of Louvain in May 1940 during World War II, when the university library, which had been rebuilt in 1928, was destroyed once more. But for any university citizen anywhere, what dramatizes the symbolism of the burning of the books and library at the University of Louvain in 1914 still more sharply is the complicity of scholars and university professors in the atrocity, at any rate after the fact. Responding to the worldwide sense of outrage evoked by the news, a group of 93 intellectuals that included some of the most distinguished and erudite representatives of the German university system (among them Adolf von Harnack, the most eminent scholar the history of Christian doctrine has known) permitted themselves to issue a signed statement of moral and political support for the invasion of Belgium, on the unbelievable basis of the alleged threat it had posed to its larger and more powerful neighbor.

Yet any assignment of blame in the story of 1914 is overshadowed by the grinding deprivation to which not only the University of Louvain but the University of Berlin and all its sister institutions in Germany were subjected during and immediately after World War I. At the same time, this record does cast fundamental doubt on any lingering presumption, automatic though it might still seem to some academics, that the university and its scholars may somehow lay special claim to virtue, or that they can definitely be counted upon in the future to defend peace and international morality.

It is nevertheless difficult to imagine a substitute for the university as the primary staging area for peace through international understanding; to paraphrase Voltaire's familiar bon mot about the existence of God, if the university did not exist, it would be necessary to invent it. The record of the university in that capacity is, moreover, long and distinguished.

In the shadow of the Thirty Years' War, the exiled Moravian bishop and educator John Amos Comenius, for whom the modern Slovak University of Bratislava is named, first set forth the vision of a Collegium Pansophicum, which would bring together scholars of all ages from all countries. Following almost every international conflict since that one, postwar planners have looked to cooperation between universities across national boundaries as a resource for healing the wounds of the past and for helping to prevent war in the future. If the advancement of knowledge through research, the transmission of knowledge through teaching, the preservation of knowledge in scholarly collections, and the diffusion of knowledge through publishing are the four legs of the university table, no one of which can stand for very long unless all are strong, it would follow that in the future even more than in the past they will all have to be represented in strength as components of any program of peace through international education: exchange of scholars and scientists in libraries and laboratories, exchange of students and teachers, and exchange and translation of books and journals.

Such grave threats to the integrity of these programs as the brain drain are an issue not only for governments but for universities. Both at various uni-
iversities and in such international agencies as UNESCO there have been repeated experiences of disillusionment with the practical devices for carrying out that aim. It is not the doomsayer but the realist who declares that the future of the university in all nations—indeed, the future of those nations themselves—will depend in considerable measure on finding structures in the 21st century to realize the ideals of Comenius’s *Collegium Fanosphicum* more fully.

**Famine**

Among the most dramatic though ambiguous outcomes of 20th-century science has been the development of the means to stop the advance of Famine, the Second Horseman of the Apocalypse. That development, popularly called the green revolution, is a fascinating case study in the intellectual and programmatic interactions between the basic research carried on in the faculty of arts and sciences of the university (in this instance, especially, research in plant genetics) and the applied research located within the professional schools of the university (in this instance, schools of agriculture and programs in nutrition). In addition, it is an instructive example of the interaction between university research of any provenance and the research enterprises of private industry, individual governments, and international agencies. The intricate patterns of funding for research within and across these several jurisdictions are also intriguing to study, and they are sorely in need of review and revision.

But the important component also within the industrial, governmental, and international settings of research is the critical position of the university as the fulcrum for all of research. While some of the most decisive and abstract basic research was the result of work done in the laboratories of industry and government, these laboratories remain accountable to their chief executives, and ultimately to shareholders or legislators or taxpayers, who have the right to demand justification for any such basic research in relation to the primary mission of the institution.

It is an oversimplification but not a distortion to point out that in the faculty of arts and sciences of the university, basic research is a primary mission of the institution: knowledge is its own end. Because the green rev-

olution came out of the joint investigations of basic research and applied research and the interaction between them, the ambience of the university as a total and complex entity, in which basic and applied research can interact, will continue to provide the natural opportunity for such joint investigations. Of course, all of this assumes that in the future there will still be some sense in which we may speak about a university at all.

That is by no means a safe assumption. The university has not discharged its intellectual and moral responsibility if, in its heroic achievement of attaining the possibility of putting bread on every table, it ignores the fundamental axiom, which may be biblical in its formulation but is universal in its authority, that man does not live by bread alone. The religions of humanity all have their special versions of that axiom, and both in its teaching and in its research the modern secular university often ignores these at its peril.

But it is in keeping with Newman’s “insisting simply on Natural Theology” (I.iii.10) to insist as well that this is the proper business not only of theologians but of scholars throughout the university, and in a particular way of scholars in the humanities. Now that they have been presented by their colleagues from the biological sciences with a new and unprecedented possibility that simultaneously amounts to a new challenge, those members of the university who study and teach literature, philosophy, history, and the arts will fail in their responsibility if they cannot find some way to break out of the cycle of angst and moral cynicism, to articulate a new sense of celebration in the joy and the tragedy of the human experience, including the human experience of their own traditions.

One current critic of the university, Parker J. Palmer, has put this issue sharply, if rather one-sidedly: “These are people who go into this business out of some kind of passion. They now find themselves disconnected from the passions that brought them into the academy, disconnected from their students, from their souls, from each other. And the pain level has gotten so high that they are ready to listen to something different.”


But that listening to something different must not be achieved at the cost of scholarly discipline. Only the pains-taking exercise of discipline illumined by imagination, and of imagination channeled by discipline, can lead to the rediscovery of an authentic humanism. Only such a humanism, in turn, will have something to say to those who, having finally found enough to eat, will recognize with shock that even in the midst of their famine they were yearning for a life, not only for a living. Here again, in profound and complex ways, the crisis in humanistic education at the university and the larger issues of the century in society as a whole do meet, but whether for deeper benefit or for even more bitter disappointment is by no means clear.

**Pestilence and Disease**

It seems safe to estimate that the university in the 20th century has devoted more attention to Pestilence and Disease, the Third Horseman of the Apocalypse, than to the other three combined. The reform of medical education, not only in the United States and Canada but in many countries, has usually proceeded on the presupposition that an entire university, rather than merely a hospital or a school of medicine isolated from the university, is its only possible setting. This development has been steadily moving the institutions charged with preparing future physicians toward a deeper commitment to research into the underlying causes of disease rather than solely to instruction in the skills of coping with it once it breaks out. For one disease after another, the outcome has been a steep decline in incidence, together with the invention of new pharmacological, surgical, and above all preventive techniques.

The statistics for deaths from the communicable diseases of childhood dramatically illustrate what has happened, but they are at the same time a dramatic illustration of the problem: a great gulf fixed, which is becoming ever more vast, between those who have access to these miracles of medical discovery and those who do not. Not accidentally, a graph of that contrast would coincide in many distressing ways with a chart of the difference between those members of the general public throughout the world who have had access to the university and those who have not.
THE UNIVERSITY IN CRISIS
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Critics of the university, therefore, accuse it of being a principal bastion of the ruling class, not only in the restrictions on admissions and in selection of books that its students must study, but in the moral and intellectual concerns that fuel its scholarship and teaching, even in so universal a need as health care. Yet it can be argued in reply that if the university sacrifices quality to equality, it can jeopardize most those whom it is purportedly committed to helping.

DEATH

When the writer of the Apocalypse identified the Fourth Horseman, Death mounted on a pale horse, with "wild beasts of the earth," he was reflecting the sense, widespread though not universal in late antiquity and well beyond, that humanity was pitting its superior intellectual capacity and technological skill against the forces of nature. That sense or something like it was at work in the distinction, which Newman quotes approvingly from Aristotle, between the liberal arts and the useful or mechanical arts (I.v.4). It was present also, at least according to the standard interpretations, in the command to Adam and Eve in the Book of Genesis to "have dominion" over the earth and to "subdue it." In his elevation of "the liberal arts" over "the useful or mechanical arts," Newman did not want to be understood as disparaging the latter. "Life could not go on without them," he acknowledged; "we owe our daily welfare to them; their exercise is the duty of the many, and we owe to the many a debt of gratitude for fulfilling that duty" (I.v.6).

What he could not have foreseen in such a statement, despite its "elitist" tone, was the extent to which, in the century and a half that has intervened, it would be specifically the elites in the basic and the applied sciences at the university—thus, by his definition and distinction, chiefly in "liberal arts"—who would provide much of the leadership for such "mechanical arts" and for the technology by which the ancient imperative to subdue the earth would be carried out with a thoroughness far surpassing anything projected in Genesis or Aristotle or the Apocalypse.

During and shortly after Newman's lifetime, the "technische Hochschule" in Germany, the institutes of technology in the United States—Rensselaer Polytechnic Institute in 1824, the Massachusetts Institute of Technology in 1861, Purdue University in 1869, the Georgia Institute of Technology in 1885, the California Institute of Technology in 1891, and the Carnegie Institute of Technology in 1900—and the schools and faculties of engineering established within various universities everywhere were allowing themselves with industry or government or both to "have dominion over the earth and subdue it" through the interaction of basic and applied research. The Manhattan Project at the University of Chicago during World War II, which led to the harnessing of nuclear energy for war and then for peace, stands as a monument to the achievements of such an alliance. The alliance will become even more momentous in the future, with the rapidly increasing involvement both of universities as institutions and of individual professors as entrepreneurs in the development of high-tech industry.

Whatever chilling effect Newman's elitist words about the many whose duty it was to carry on the mechanical arts so that the few could pursue the liberal arts may evoke is greatly exceeded by the collective second thoughts throughout the world at the close of the 20th century about the consequences that have been brought on by such a "dominion over the earth." Hardly a day passes without some new disaster to the environment being brought to public attention. Apologists for capitalist private enterprise are embarrassed to admit how rapaciously human greed and the capacity for short-sighted exploitation have ravaged the planet, but socialist critics of free enterprise capitalism are no less acutely embarrassed to learn what ecological atrocities have taken place in the planned economies of Marxist regimes. Anyone who cares simultaneously about the environment and about the university must address the question whether the university has the capacity to meet a crisis that is not only ecological and technological, but ultimately educational and moral.

The appearance at many universities everywhere of courses, programs, departments, and entire schools bearing the title "environmental studies" is evidence that the question has begun to force itself upon the attention of educators. Just how much of this is a genuine wave of the future and how much is mere tinkering will depend at least in part on the readiness of the university community to address the underlying intellectual issues and moral imperatives of having responsibilities for the earth, and to do so with an intensity and ingenuity matching that shown by previous generations in obeying the command to have dominion over the planet. Having once been the enemy, "the wild beasts of the earth" in the Apocalypse have become victims, or fellow victims, and what must now be "subdued" under the imperative of the Book of Genesis are the forces, most of them set into motion by human agents and some of them with the complicity of the university, that threaten the future of the earth—upon which, it must seem supererogatory to point out, the future of the university also hangs.

IGNORANCE

There are just Four Horsemen in the Apocalypse, but if there were a fifth it should probably be ignorance. As Newman's Idea of a University observed on its very first page (I.pr.), knowledge and virtue are not identical, and the expulsion of ignorance by knowledge will not be enough to deal with the spiritual realities and moral challenges of the future. No one has to be literate to be trampled underfoot by any of the Four Horsemen, who often tend to be indifferent to the educational level of their victims. But to find ways of coping with the challenges represented by each of the Four Horsemen will require a triumph of literacy over ignorance. The university, too, will need to ask basic questions and to address such "first principles" (I.vii.4) as the interrelation between knowledge and utility, the problem of the intellectual virtues, and the nature of the university as community.

These first principles, in turn, are in some special way central to the enterprise of going on to define "the business of a University" (I.vii.1) as well as its "duties to society" (I.vii.10). As a result of the crisis of confidence and the crisis of credibility described here, moreover, no university however distinguished can articulate the idea of the university to its own constituency without being obliged to reexamine the idea of the university as such, both within and beyond its own national boundaries.
MANAGING THE WORLD'S FORESTS: LOOKING FOR BALANCE BETWEEN CONSERVATION AND DEVELOPMENT

BY NARENDRA P. SHARMA

Forests are a valuable environmental and economic resource for supporting natural systems and for improving human welfare. Human activities have always modified the forest environment, but in recent years the intensity and scale of forest use have increased significantly. Everyone has benefited when people have treated forests as renewable resources, protected them to preserve biodiversity, or transformed them to support other economic activities on a sustainable basis. Conversely, destructive exploitation of forests has caused serious economic, social, and environmental losses.

In recent years, issues relating to forestry have become more complex, and the status of forests is now a subject of worldwide debate. Scores of publications have raised concerns about the demise of world forests, especially in tropical areas, and people throughout the world are increasingly demanding protection of natural forests. At the same time, there are strong differences of opinion among people, as well as among nations, about how forests should be used and managed to support conservation and development goals.

The world community today faces the challenge of achieving a balance between development and maintenance of natural systems and thereby ensuring the integrity and stability of forest ecosystems. People can reverse the tide of destructive deforestation, stabilize the forests of the world, and increase forest resources.

The subject of managing the world's forests is examined here in terms of four questions: (1) Why are the forests and trees important? (2) What is the problem? (3) What are the causes of the problem? and (4) How should this problem be addressed?

THE IMPORTANCE OF FORESTS AND TREES

Forests account for almost 30 percent of the earth's total land area. People throughout the world are increasingly recognizing the importance of forests and trees in improving human welfare. Both natural and man-made forests have economic, social, and environmental benefits, and forests play an important role in economic development—providing employment, income, and foreign exchange.

Forests represent capital when converted to desirable forms of shelter and infrastructure; forests also provide land for food production. They contribute to the economy by providing commercial products (sawnwood, veneer logs, and logs for pulp), as well as nonwood products (nuts, fruits, gums, fiber, latex, bush meat, and palms). Forests also provide materials for agricultural, industrial, and medicinal uses. The economic benefits arising from the use of nonwood products on a sustainable basis can be substantial. Forests are also an important source of food, fiber, and energy for indigenous populations and local communities. Nearly half of the world's population, mainly in developing countries, depend to some extent on forests for consumption goods.

Forests are also an integral component of the biosphere, helping to stabilize natural systems. Forests contribute to biological diversity and help maintain air, water, and soil quality. They influence biogeochemical processes, regulate runoff and groundwater, control soil erosion, influence local climate, and reduce downstream sedimentation and flooding. As carbon sinks, forests sequester carbon dioxide from the atmosphere, thus reducing the greenhouse effect. They have aesthetic value and offer recreational opportunities. Forests have "nonuse" or "existence" value as well, because people value forests even when they make no direct use of the resource now. The loss of environmental benefits from depletion of forests can be considerable in economic terms (especially when the effect is irreversible), but these costs are difficult to quantify.

THE PROBLEM

People everywhere are concerned about the rate at which forests are being depleted and the extent of destructive deforestation. In recent decades the pace of deforestation has been increasing because there are strong incentives to exploit forests. Deforestation in the tropics is now estimated at nearly 20 million hectares annually, an area almost equivalent to Britain or Uganda. Many developing countries face acute shortages of fuelwood, fodder, timber, and other forest products. Atmospheric pollution threatens temperate forests in many industrialized countries, while many tropical and temperate areas lack forests altogether.

By the year 2000 the world population will increase by 1 billion, with developing countries accounting for most of the increase. The rise in population and income will increase demand for both market and nonmarket forest goods and services—and that demand will place more pressure on existing forests, particularly in developing countries. Deforestation in the tropics is expected to continue to be significant throughout the 1990s.

Misuse of forests has significant social, economic, and environmental costs with local, national, and global implications. Depletion of forests has resulted in loss of biodiversity, possible global climate change, degradation of watersheds, and desertification. In many countries, forest-dwellers have been displaced and cultural diversity threatened. Reduced fuelwood supplies have significantly influenced how women and children (the primary fuelwood gatherers) spend their time. Deforestation, together with land degradation, exacerbates the problem of poverty in rural areas. Besides having adverse environmental

By distorting the true cost or price of forest resources, perverse public policies have encouraged short-term exploitation of forests.

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and social consequences, wasteful deforestation generates economic losses, including the permanent depletion of a renewable resource, loss of genetic diversity, and reduction of agricultural productivity.

CAUSES OF THE PROBLEM

Economic activities, such as agriculture, cattle ranching, fuelwood gathering, commercial logging, and infrastructure development, are perceived as direct causes of deforestation. But these causal factors are driven by economic, social, and political forces in a broader context of political economy. These forces manifest themselves through market and policy failures, population pressures, and poverty. The relative importance of these direct and underlying causes of deforestation varies significantly among countries.

Social factors (e.g., culture, values, traditional practices, and property rights) influence people’s interaction with forests, their access to forests, and their valuation of forests. Economic factors (e.g., the market, incentives, and trade) influence the production of forest goods and services, the role of the forest sector in the national economy, and the distribution of income resulting from forest activities. Political factors (e.g., the political system and the political process of decision making, government ownership of natural resources, and public policies) affect the degree of intervention in the pricing and extraction of forest products, the extension of favorable treatment to interest groups, and the selective provision of forest output as public goods. External factors (e.g., the demand of foreign countries for local resources and products) also influence economic and political considerations in forest use. The dynamic interaction of these social, economic, and political factors creates competing demands for forest goods and services and forest lands, which result in either sustainable use of forests or destructive deforestation.

Interest groups have an important role in the exploitation of forests, influencing policy decisions and management of forest resources. At the local level, where the concern is for improving human welfare, people use forests for commercial and subsistence purposes, and they clear forest areas for farming and ranching. At the national level, forests often represent an important source of foreign exchange, employment, government revenue, and land for agriculture, mining, or industry. In response to social and political pressures, national interests frequently favor exploitation of forests for short-term economic gains. At the global level, people demand forest products but also seek to preserve forests because of their role in climate and biodiversity. Because of their competing aims and values, local, national, and global interests of ten conflict. Furthermore, within each level there are competing interest groups. At the local level, for instance, forest-dwellers, farmers, landless people, commercial entrepreneurs, and local government compete for the use of forests.

The market does not value all the environmental goods and services that have characteristics similar to those of pure public goods. This market failure creates conditions for inefficient use of forest resources. Because environmental costs are not internalized, private and social costs diverge. Moreover, the conflict between the time horizon of people now living and the needs of future generations creates a bias in favor of exploiting forests more rapidly. The use of high discount rates in investment decisions discourages conservation and environmental protection projects that have long gestation periods for generating net benefits. Also, the lack of clearly defined property rights creates market distortions and makes forests vulnerable to pressures from rapid population growth and poverty. Finally, benefits and costs are often not directly related to the use of forests. Although some benefits from the use of forests (e.g., harvesting of forest for wood products) can accrue directly to some people today, environmental costs (e.g., downstream effects in the form of flooding and soil erosion) may be borne by others in distant places and over time. This situation inhibits individuals and governments from taking costly measures that have intangible benefits.

Public policies seldom provide adequate incentives for sustainable management of forests or promotion of reforestation. By distorting the true cost or price of forest resources, perverse public policies have encouraged short-term exploitation of forests. Experience in many countries shows that agricultural incentive policies, resettlement, taxation, and trade policies are frequently more influential in determining land use than forest-sector policies. Existing agricultural and credit policies and tenural incentives often encourage expansion of the agricultural frontier at the expense of forests. Inadequate government response to increasing land scarcity provides incentives to people, especially in densely populated regions, to move into forest areas. Inefficient fuelwood policies (pricing, concession policy, and subsidies) have made fuelwood scarce in many areas, leading to depletion of forests.

Severe underpricing of tropical timber through deficient royalty and concession policies leads to serious waste of resources. Underpricing also implies that the owners of the resources are not capturing a significant portion of timber rents. Countries reduce benefits from commercial forestry by maintaining an unstable macroeconomic environment, keeping wood artificially cheap, and directing investments toward inefficient processing industries. Other negative consequences include unsustainable management of natural forests, low levels of reforestation, inadequate use of processing capacity, and even the loss of forests. Finally, weak enforcement of existing regulations and concession agreements also has encouraged unsustainable use of forests.

In the many countries where the government is the principal holder of forest property rights, traditional systems of providing access to forests and allocating common property resources to local people have broken down. The government’s disregard of traditional rights of local communities and tribal groups makes forests more vulnerable to open-access problems. Moreover, in many instances, governments lack the capacity to manage forests effectively and to control access.

**Governments tend to assign a low priority to the forest sector and to make relatively low investments in forest management, research, and plantation programs.**
to forest land under public ownership. Local people also lack the technology and the legal and institutional framework to manage forests sustainably.

Forests are undervalued because many of their noncommercial products, as well as their environmental goods and services, are not taken into account. Therefore, in many countries the contribution of the forest sector to the economy (computed in terms of gross domestic product) is less than the contribution of other productive activities such as agriculture and industry. As a result, governments tend to assign a low priority to the forest sector and to make relatively low investments in forest management, research, and plantation programs. And because of a general lack of knowledge about the ecological effects of human interaction with forests, governments and the private sector often ignore the environmental benefits derived from forests and the environmental costs associated with destructive deforestation. Even though a society may place a high value on environmental services, if the goods and services do not generate a monetary return, forests may still be undervalued by the market, the private sector, or the government.

Many forest conservation and development programs suffer from weak legal and institutional support. Forestry institutions such as forestry departments usually operate within a larger framework in which overlapping jurisdictions and policy objectives lead to conflict over forest land use. Revenue-earning, development, and conservation priorities conflict. Forestry institutions are frequently pressured to support some objectives to the neglect of others. Governments have also failed to include local communities, tribal groups, and the private sector in the long-term management of forests.

Finally, intact forests, especially primary tropical moist forests, are increasingly viewed as a global environmental good because of their biodiversity and their influence on climate. But the world community has neither the institutional and legal framework nor a special global fund to impose guidelines and "best practice" behavior on countries to ensure sustainable management of forests or to finance large-scale management of preservation forests. Each nation retains the sovereign right to manage its forest resources as it wishes, and there is as yet no consensus in the world community on sustainable use of forests.

Ways to Deal with the Problem

The world community and independent nations face two forest-related challenges: to manage existing natural forests (both temperate and tropical) sustainably and to expand forest resources through reforestation and afforestation. Plantations in tropical and temperate areas, restoration of degraded forests, and trees planted outside forest areas (e.g., farms and urban areas) should provide more forest products and environmental services. Appropriate local, national, and global actions are needed to meet these challenges. A participatory approach, which takes into account local needs and national priorities and is based on international cooperation, is vital.

In the transition to sustainable development of forests, trade-offs between short-term economic gains and long-term development must be made. By balancing conservation and development goals, sustainable development protects the interests of current and future generations in the use of forest resources and links consumption to the needs of the society. Sustainable development also requires reducing population growth and poverty, particularly in areas where natural resources and the environment are already under stress.

As countries try to stabilize existing forests and increase forest resources, they face many important questions: How much forest should be maintained to meet the desired economic, social, conservation, and environmental objectives? How should these resources be classified and managed to reflect both the productive and the protective functions of forests (forest reserves; national parks; protective forests; forests for timber production; wildlife preserves; forests for recreational purposes; and forest areas for mixed cropping, tree crops, agroforestry, and nonwood product extraction)? To what extent should global concerns be reflected in these decisions?

Answers to these questions go beyond the scope of economics or the market. Important ecological, ethical, and sociopolitical considerations are involved as well. Economic reasoning and improved scientific information will be helpful, but ultimately each country must decide how much forest to maintain to accommodate current

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MANAGING THE WORLD'S FORESTS
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and future needs. Ideally, all remaining natural forests should remain intact, but preserving them all intact would be unrealistic given the needs of many developing countries for social and economic development. Most countries will opt for a second-best solution by considering intact forests for multiple uses, balancing conservation and development objectives. On ethical considerations, a "burden of proof" falls to each country to demonstrate that use of natural forests is necessary and ecologically sustainable.

Eventually each country must develop its own forest conservation and development program and create incentives for sustainable use of forest resources. Countries should take the values of conserving forests for the future into account in decisions about land use and management of forest ecosystems for multiple uses, including commercial forestry. Strategies for more efficient use of forest resources must be developed in a larger context of natural resource management policy. Specifically, to establish incentives for sustainable use of forests, countries need to develop a comprehensive national land-use policy, strengthen forest management systems for single or multiple uses, enhance traditional restrictions on destructive resource use, create property rights and legal restrictions, correct market and policy failures, develop forestry institutions and human resources, involve local people and the private sector in forest management, adopt environmentally-friendly technology, implement conservation measures in the consumption of forest goods, and expand environmental education.

Correcting market and price distortions will significantly improve the use and management of forests, but because of the opposition of interest groups, policy changes will be difficult, requiring strong public support and political will by decision makers. Furthermore, as noted earlier, many policies relating to the use of forests fall outside the forest sector, and the policies in other sectors support competing objectives with broader implications. Loss of forests, for example, is an unintended effect of some agricultural policies (such as pricing, taxation, and subsidies) designed to increase food production, income, and employment. Policy reforms could require the sacrifice of some benefits in the short term. For example, preservation of forests could prevent people who depend on this resource for their livelihood from having access to forests. In the absence of alternatives for generating employment and income, these people could fall deeper into poverty.

Policy changes will also be complex because of other considerations. Externality costs associated with forest use (such as replacement and environmental costs resulting from harvesting) may have regional and global consequences, but sovereign governments can be expected only to address domestic externalities in their pricing and taxation policies. Global externalities need to be dealt with through international cooperation and, possibly, income transfers from rich countries to poor. In addition, forest land is used by people with a wide variety of land-tenure arrangements, including indigenous tribal groups with long-held customary rights, illegal squatters, communities managing common land, and freehold farmers with state-granted leases or titles. Customary tenure systems also vary considerably and can be much more complex than open-access systems. The rights that people have over forest lands significantly influence their response to particular incentive policies.

Moving toward conservation and sustainable use of forest resources also has significant cost implications. Because intact natural forests, especially primary tropical moist forests, are increasingly considered to be a global environmental good, the compelling questions relating to forest conservation on a large scale are those of cost and compensation. Who should pay for the cost of preserving forests for the benefit of the world community, now and in the future? Also, what portion of the cost should be met nationally because benefits accrue locally? How should countries, and affected social groups within countries, be compensated for income foregone as a result of forest preservation that benefits everyone? And how should that compensation be determined? Such questions, however difficult, lie at the heart of the conflict between development and preservation of forest resources.

Proper valuation of forests to promote more efficient uses of forest resources needs special attention. Accurate valuation is essential for better allocation of resources and for improved design and appraisal of both forestry and nonforest projects. Investment decisions among alternative land uses require accurate measures of costs and benefits of different forest goods and services. Undervaluation of forest products as a result of distorted markets and unpriced environmental services provided by intact forests may create a bias toward incentive policies favoring nonforest land-use activities. At present, national income accounts reflect only a fraction of the goods and services generated by forests. Current national accounting practices fail to treat the depletion of forest stocks as capital depreciation or to consider the degradation of the environmental services associated with forest destruction.

The world community can help countries stabilize natural forests and deal with global environmental concerns. That community also carries the "burden of responsibility" to support developing countries in their drive to use forest resources more efficiently. During the past decade the world community has launched a number of important initiatives (such as the Global Environmental Facility, the Tropical Forestry Action Plan, and the establishment of the International Tropical Timber Association) that emphasize preservation and sustainable management of forests, but more needs to be done through international cooperation.

The world community urgently needs to develop a global strategy for forest management and to provide funding to help countries. All types of forests, not just primary tropical moist forests, need help; at present, too much attention is directed to the latter. The world community should also support research efforts to improve...
knowledge of the ecological, biological, and physical processes of tropical forest ecosystems. Additional research should focus on understanding the physical effects of human interventions in tropical forests and on creating sustainable management systems of tropical forests.

Funding for the preservation of ecologically diverse forest ecosystems and for reforestation must increase significantly during the 1990s. Because preservation of forests has worldwide benefits, the world community should contribute to the direct and indirect costs of expanding preservation forests. In order to achieve sustainable development objectives, the donor community should also provide incentives by making forestry lending attractive. More concessionary funding should be made available for reforestation, as well as for investments in large conservation and environmental programs that have significant regional and global benefits. In addition, such funding could be made available for technical assistance, research, training, completion of inventories, development of information systems, and pilot projects.

In the immediate future the debate about the status of world forests will continue and perhaps intensify. Throughout the 1990s, deforestation is likely to continue and, as population growth and poverty will continue to place pressure on existing forest areas. As the rapid loss of natural forests pushes the planet to the threshold of crisis, people will respond more readily to this serious problem. Better management of forest ecosystems will evolve through incremental responses and adjustments, but the problem is serious enough to warrant special attention. Individual countries are taking steps to improve the use of forest resources for different purposes, but the world community can accelerate the transition to sustainable development through collective action.


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**RECOMMENDED READING**

**BOOK COMMITTEE**

**Humanities:** Robert P. Sonkowsky, Jean Sudmann, Lawrence Willson

**Social Sciences:** Earl W. Count, Richard N. Current, Leonard W. Doob, Thomas McNaught, Madeline R. Robinton, Victoria Schuck, Anna J. Schwartz

**Natural Sciences:** Ronald Geballe, Russell B. Stevens

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**Lawrence Willson**


Dreiser, an elephantine writer of elephantine books, deserves an elephantine biography, and that is exactly what Lingeman has given him. Readers of the first volume, *At the Gates of the City, 1871–1907*, published in 1986, will not wish to miss the sequel, in which the subject is seen in all his lumbering glory as a novelist (*with An American Tragedy* at the center of the stage), his persistent anglophobia, his naive embrace of communism (*which to him was “a practical social program”), and his more ardent embrace of the “surfeit of women” who responded to his libidinous bidding, answering the urgency of the moment (every moment, it would seem). Dreiser’s “willfully windy” style fits his purpose to present “life as it is,” not as it ought to be, in stories drawn directly from life and marked, he would say naturally, by a philosophy of pessimism. He was the logical inheritor of the naturalism of Frank Norris and Stephen Crane.


The Boston Idea, “a dedication to community, culture, and spiritual fulfillment,” is thoroughly canvassed in this book, from the birth of Boston as John Winthrop’s metaphorical “City upon a Hill,” to Hawthorne’s less exalted city, where the founders (Winthrop included) saw to it that the first institutions established were a prison and a burying ground, to Henry Adams’s city, which was always “cheap and middling . . . the ideal bourgeois,” an Arcadian society in which “sexual passions seem to be abolished,” approaching the circumstances of T.S. Eliot, where “the readers of *The Boston Evening Transcript* sway in the wind like a field of ripe corn.”

Almost all the “imaginers” of Boston are represented, the old and the new. Arrestingly, most of the natives of the area have little good to report of Boston, whereas the outlanders are likely to worship at the shrine. Dr. Holmes, for whom Boston was the hub of the universe, is a notable exception. More characteristic are Robert Lowell, who scorned the cradle of his ancestors, and Henry Adams, who remarked, “I am not made for Boston, Mass., and would rather go to heaven another way.”


Alice Stone Blackwell was the only child of the redoubtable Lucy Stone, who, before her daughter’s birth, observed with some asperity, “‘Tis next to a chattel slave to be a legal wife,” but by some fluke of fortune was persuaded to marry Henry Blackwell, an Englishman who (perhaps diplomatically) devoted his life to the struggle for women’s rights. Alice, too tall and weak eyed, never associating with boys, might well have become freakish, and in a way she did, at least by comparison with teenage girls of our own time—for in the two years of this journal (written while she was between 14 and 16 years old) she cites roughly 130 books (some multi-volume), newspapers, and magazines that she was reading; and she learned the Gaelic language from one of the servants (chosen for their fitness to be her companions when her parents were off lecturing) so that they could

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converse in company without being understood by others present.

Still, Alice was compounded of the right stuff; she emerges as a reasonably normal, sensitive, articulate, and lively girl, who was at times willing to grant that "all boys are not unmitigated scoundrels." Her literary standards remained rather idiosyncratic: she was "disgusted" by James Fenimore Cooper because he disapproved of women's rights "and called Queen Bess a Monster because she was strong minded."


It is refreshing to the point of being hitherto unheard of to find a literary essayist—a female college teacher, no less—who is willing to address the D-level students, on the off-chance that among them, the unsophisticated, unself-conscious readers, unhampered by current fashions of theory with their slippery devices and imperceptible jargon, who will accept her doctrine that "literature has uses . . . that are at the heart of its interest and excitement." In an essay titled "As We Like It: How a Girl Can Be Smart and Still Popular," Park also addresses the dilemma of the adolescent girl as reader, who finds fewbildungsromans for girls, who are relegated to the fate of being merely heroines, not heroines. She has persuasive words to say about Flannery O'Connor's "crippled laughter" and "Trollope for Grown-ups." Trollope, she observes, "made ordinary upper-class life interesting. Time has made it into Arcadia." In an appreciative foreword, Howard Nemerov calls this "a beautiful and necessary book." I see no reason to quarrel with his judgment.


Charlie Scribner (the fourth to be so addressed by family and friends) is obviously a jolly good fellow who could not make an enemy if he tried and goes (or at least in youth went) the full distance to avoid hurting people's feelings. After Princeton, where he majored in classics and showed promise of becoming a scholar of distinction, it was his ambition to become a teacher, but he went to work in the family business lest he break his parents' hearts by selfishly following his own inclinations. Like his father before him he became a friend of his authors, lent them money, and soothed their vanity; but he is a natural diplomat (or perhaps only a gentleman) and kept his friendships clear of too much socializing. He was careful to call Hemingway not "Papa" but "Ernest," and declined an invitation to visit him in Cuba. "I think my guardian angel was doing me a good turn," he says, "because I suspect that if I had ever been on a social footing with Ernest, the happy relationship would not have lasted."

Like Will Rogers, Charlie seems to have liked all the people he met, and he makes excuses for the deficiencies of those who, like Maxwell Perkins, had deficiencies; but he shows a greater discrimination than Rogers by drawing the line fairly sharply at Edmund Wilson and very sharply at F.R. Leavis, who, being not a gentleman, made miserable the last years of C.P. Snow. This is a charming chronicle by a charming man, a master of understatement, so modest as to be immodest in his modesty.

Victoria Schuck


Nominating the President. Ed. by Emmett H. Buell, Jr., and Lee Sigelman. Univ. of Tennessee, 1991. $42.95, paper, $18.95.

Although they reflect different philosophies, methodologies, and technologies, all these books present new and important research on the process of selecting the president which should be of interest to students, voters, and political scientists.

Owen's careful analysis of data from the 1984 and 1988 presidential elections examines how voters regard four types of media messages: candidate ads, television and newspaper reporting, reports on polling, and TV debates. The superficial packaging of candidates and the negative strategies, the author holds, will persist until voters demand better.

Wattenberg's behavioral analysis chronicles how candidate-centered presidential (and congressional) politics in this country evolved as a result of the decline of political parties in the 1980s. As people moved away from both parties, a "dealignment" occurred. The party vacuum led to a takeover of parties by candidates. Divided voting by the electorate is one of the results.

Norrander's monograph details the effects of scheduling 16 Democratic primaries (and five caucuses) and 16 Republican primaries (and one caucus) on the same day—March 8, 1988. This regional plan was the brainchild of southern Democrats aiming to increase their region's clout and to produce a more conservative Democratic presidential nominee. The anomalous results carried over into the 1992 superprimary, although half a dozen states withdrew, and a southerner was among the Democratic nomination seekers.

The nine essays edited by Buell and Sigelman deserve special attention because of their comprehensive treatment of a range of topics on the 1988 system, from the Iowa caucuses to national conventions and newspaper and network coverage of the races.

The Almanac for 1992 is a virtual warehouse of facts about state executives and records of elections as well as an indispensable source of demographics, campaign finance, ratings by organizations watching Congress, and the political history of each state. Although written before money over drafts of House members or the strategies of Perot had turned up, this reference for voters wanting to dig into accurate details about incumbents is both useful and almost fun to read.

Inside Campaign Finance: Myths and Realities. Frank J. Sorauf. Yale, 1992. $27.50.

Some 13 to 15 million Americans made political contributions in 1988. Costs have soared; campaign costs for all elections, federal, state, and local, rose from $1.7 billion in 1984 to $2.7 billion in 1988. For years, campaign finance has been one of the most divisive subjects on Capitol Hill. At present, public funding is provided only for presidential elections. Sorauf’s landmark book and Alexander’s update from his many years of studying campaign finance penetrate the complexities and “unanticipated consequences” of the present law.

Sorauf provides a descriptive and interpretive analysis of how campaigns are conducted today. He laments the gap between the popular myths of turn-of-the-century Progressivism about “fat cats” and grass-roots fund-raising that affect public policy on finance and the actualities that should be determining decisions and reforms. Sorauf also covers the role of the Federal Election Commission; the sources of funds and the costs of elections; “hard money” regulations; “soft money,” brokerage, and “bundling” outside the regulations; the leveling off of contributions; the explosive growth of political action committees (PACs)(to more than 4,000); myths about the advantages to incumbents in Congress; and the gridlock over proposed reforms.

Sorauf convincingly argues against banning PACs. He also supports extending public funding, as well as giving aids to challengers such as money floors and unlimited ceilings. He views the need to increase the quality of challengers as paramount.

Alexander traces the history and politics of campaign finance regulations and devotes considerable space to state and local experience and experimentation. For him the “cornerstone” of reform is disclosure. He favors public finance and the restoration of modest federal tax credits, which have had a short life in the past. In order to get rid of “soft money” raising, he wants the states to furnish indirect subsidies to parties and candidates for voter registration and information programs.

He also supports educational programs to promote more small contributions to campaigns, which, like voting, would be evidence of good citizenship. Alexander argues that the problem with the finance laws derives in part from the fact that they evolved piecemeal, and do not reflect an overarching philosophy.


Drawing on research in two distinctly different genres—the historical and behavioral—these scholarly books are significant additions to the expanding field of women’s studies. History of Women in the West is the first in a five-volume series on the lives of ordinary women from ancient times to the present. A grand project in the European encyclopedic tradition, it was conceived by two Italian publishers. To be written by some 75 distinguished historians in Europe and North America, the series will focus primarily on the Western European experience, though not neglecting the North American. The unifying feature is to be relationships between the sexes with emphasis on women’s work, domestic and family life, religion, and government policies. To counter the fact that much of what we know about women has been “filtered through the gaze of men,” the editors have reproduced “picture archives.”

The elegant prose of the 11 essays in vol. I represents the scholarship of 16 historians and covers more than 20 centuries of Greek and Roman history when silence, motherhood, and the family controlled the social position of women. Following an account of the representations of women, the volume discusses mythology, rituals, marriage, dowries, slavery, concubinage, kinship, funerals, property, religious roles and the priesthood, evolving Christianity, and the customs of Jews. For both general readers and specialists, this volume presages valuable scholarship and greater knowledge of women.

The Bennington study explicates the methods of survey research responsible for findings about the formation of, and subsequent changes in, sociopolitical attitudes over the life span of a cohort of students at Bennington College in the 1930s and 1940s. Data were collected at three points: in 1946, in 1967, and in 1984. The authors tracked down earlier studies in the field and set forth details about formulating this study.

The earliest survey found that young women who arrived at the college exhibiting strongly conservative parental influence yielded to the liberal contemporary intellectual climate of Bennington. FDR’s New Deal might also have influenced their attitudes toward “public issues, public figures, voting preferences and party identification.” But once having settled on their attitudes in young adulthood, these graduates proved remarkably stable in maintaining the same positions throughout their lives. The authors reject the aleatory account of human adjustment, but admit that as many as 40 percent of the sample could change.
wide diversity of species on the one hand, and the complex cultural forces that seem to have built the uniquely human complex moral systems on the other. What adds appeal to the two works, studied together, is that Cronin is a philosopher who has added biology to her reservoir of insights, whereas Alexander is a career biologist who has become well versed in the writings of philosophers. That their conclusions are much the same enhances the effect of the message.


In many ways this is a typical conference summary, presenting a dozen or more individual papers by invited specialists and reflecting divergent views of the central issue. But the term revolution is aptly used, in light of the impressive speed with which the techniques—and therefore the potential impact—of genetic engineering have emerged in recent years. Predictably, points of view in these papers vary with the background and experiences of the individuals participating, but all are laudably calm, reflective discussions. Few issues are likely to be more in the public mind in the next decade or so.


Westbroek, in fewer than 250 pages of text and with laudable restraint in the use of technical jargon, shows how biological and geological factors are interwoven in the earth as we know it today. At the same time, he enhances the global picture by interpolating detailed descriptions of the landscape features of his native Holland. The balance is excellent.


Like it or not, scientists must accept the fact that science writers generally do better than scientists themselves at generating attractive prose. Budiansky has prepared a highly readable and entertaining book, but one that also contains a wealth of commentary on the relationship of humans to animals and on humankind’s place in the natural world. A few readers will be exasperated; none will be bored.


As the author says, “Even today much that is written about Darwin is simply wrong or, worse, malicious.” This excellent treatment does much to clarify and to interpret what Darwin really said. There can hardly be a more worthy objective. As we have come to expect from this author, the text is lucid and persuasive, well worth the time spent in reading it carefully.


The Lake Washington story—its recovery from serious pollution in a relatively short span of years—is rather widely known, but is worth retelling at this point. More important, however, are the lessons that Edmondson derives in discussing the “beyond,” in other situations, and the nature of the research that must be done to deal with a serious environmental issue.


The editor says it best: “Beyond the thousand-and-one facts and the reeking frogs of our school days is a world brimming with ideas, conflicting ideas, that bear on our deepest questions.” This collection of essays is her highly successful attempt to assemble, in convenient form, key papers across a wide spectrum of modern biology. Fortunately, as she also says, the “scientists whose works appear in this volume are all skilled and passionate writers as well as respected theorists.” Amen!

Anna J. Schwartz


In this highly readable study, the author, who rejects searching for the intent of the framers, bases his interpretation on the meaning of language to educated readers at the time of the writing of the Constitution. He uses economic analysis to comment on the original meanings and interpretations of constitutional clauses bearing on property rights, commerce, monetary and fiscal powers, contracts, due process, and equal protection. He applies this approach to investigate the economics of separated powers, and the economics of federalism. Much of the work is critical of Supreme Court opinions. The author finds strong presumptions in favor of the legislative branch over the judiciary for the resolution of social conflict.


This exhaustive study of the provision in the Banking Act of 1933 (also known as the Glass-Steagall Act) that mandated the divorce of investment banking from commercial banking examines reasons initially advanced for the legislation and more recent ones for its continuation. The author demonstrates that the 1931–32 hearings before and the 1933–34 Pecora hearings after the act was passed as well as other sources contain no evidence consistent with the belief that banks’ securities activities or investments during the 1920s caused them to fail, or that conflicts of interest and abuses characterized their securities operations. The author concludes that repeal of the Glass-Steagall Act would be a benefit, but not a panacea, for the banking industry.


This transcription of taped interviews of Edward Bernstein, conducted by Stanley Black, records the lively reminiscences of an academic economist who left Chapel Hill in 1940 to work on monetary questions at the Treasury Department. Bernstein played a role subordinate to that of his chief, Harry White, in the design of the postwar Bretton Woods System. The international exchange rate system named for the site of the 1944 conference that established it. Bernstein wrote to Keynes, the British counterpart to White, that he was just a Leviite...
serving the priests in their holy work, when Keynes incorrectly attributed the design to him. Bernstein subsequently became the first head of research for the International Monetary Fund, and then a private consultant to international agencies and central banks. The value of this retrospective would have been enhanced had the interviewer annotated it, indicating whether other versions exist of events and issues discussed by Bernstein.


The improbable in this narrative of novel approaches to portfolio management that Wall Street has adopted in recent decades is that the approaches originated with scholars who published their mathematical theories about finance and investment in academic journals. The author describes the contributions of the scholars—three of whom shared the Nobel Prize in economics in 1990—as well as of financial market participants who were able to put the theories into practice thanks to the availability of the computer.


The sessions reported in this volume deal with the essentials of an economic liberalization program for developing countries abandoning a centrally controlled economic order. A unique recommendation is that, to achieve low and predictable inflation as a cornerstone of development, these countries should abolish their central banks and replace them with currency boards. A currency board issues domestic currency backed by liquid reserves denominated in a foreign-reserve currency into which it is convertible at a specified fixed rate. One chapter offers an interesting historical example of a currency board: in Archangel, in connection with the Allied intervention, between November 1918 and October 1919, a currency board, an organ of the northern provisional government, issued rubles, backed by reserves in the Bank of England. Keynes was the author of this scheme.

When I first received my Spring 1990 copy of The Key Reporter, I didn’t notice anything special about it. Upon reading it, however, a small paragraph at the bottom of the front page caught my eye. “University of Miami Chapter Honors Environmentalist,” it said. I’d never heard of Marjory Stoneman Douglas before, but her achievements, summarized in the short article, piqued my interest. I clipped out the information.

A few weeks later, I saw her photograph in a National Geographic magazine article on the Florida watershed. Then I read her interview in the Sierra magazine. I felt I was on to something and approached the editor at Twenty-First Century Books (a division of Henry Holt and Co.) about writing Douglas’s biography for children. After establishing several more sources, I got the go-ahead to write the book.

Marjory Stoneman Douglas: Voice of the Everglades was published in March and is now available to schools and libraries across the country. It was a pleasure to write the life story of such an interesting, talented and dedicated individual as Mrs. Douglas. My thanks to The Key Reporter for supplying the catalyst for the project.

—Jennifer Bryant, PBK Gettysburg College 1982

Ronald Geballe


This is a volume of double-paged, beautifully illustrated articles by a prominent British astronomer. Each explores a single topic, ranging from the origin of the universe to the universe today and to the origin and development of life and the universe.


Here is a triptych of profiles of persons who have played different roles in bringing out the strange, counter-intuitive nature of quantum mechanics: John Bell, who formulated his “inequality” that led to experimental tests of the strange predictions of quantum mechanics; John Wheeler, who has worked in almost all branches of contemporary physics; and Michel Besso, whose name is the only one mentioned in Einstein’s first paper on relativity.


The nature of this book is well summarized by the author: “This is about what it’s like to be on the cosmological quest in the second half of the twentieth century, about how men and women armed with computer chips, underground particle accelerators, 10-ton hunks of aluminized glass, radio telescopes, humor and pride, are still grappling with the issues that tantalized me in my boyhood.” For anyone so tantalized, the book offers a tale of the passions and foibles, successes and failures, of the astronomers and physicists who are carrying on the search amid the confusion of theories and observations that constantly change the grand picture.


The author of the widely reviewed (and read) recent book Innumeracy has come out with another work well worth reading, especially by anyone who wants to understand mathematical concepts, which are explained in conversational style. The book consists of a series of two- or three-page musings about topics ranging from the mundane (Areas and Volumes, Notation, Trigonometry) to the esoteric (Gödel and His Theorem, Möbius Strips and Orientability, Zeno and Motion). All this is presented in a light-hearted, personal manner and all is informative.


Dunham offers an approach to mathematics analogous to examining the great masterpieces of art, literature, and music. He has selected important, ingenious proofs and logical arguments beginning with Hippocra-

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The Houston association solicits nominations for the awards from high school guidance counselors throughout the metropolitan area. Each is encouraged to propose several names of meritorious students, distinguished by high academic achievement and excellent character. Nominees are asked to write a brief essay on a topic chosen by the association. A committee composed of 36 members of the Society carefully reviews these essays.

The culmination of this effort is the annual scholarship banquet, which brings together the award-winning students, their parents, members of the association, and representatives of the supporting businesses and foundations. In addition to recognizing the scholarship winners, the 1992 banquet also was the occasion for the presentation of an award for outstanding contribution to education to W.J. Bowen, chairman of the board of Transco Energy, Inc., and a distinguished Phi Beta Kappa alumnus award to heart surgeon Denton A. Cooley (University of Texas, 1941).

Some physicists situated in the mainstream of contemporary theory believe they are nearing the day when fundamental physics will be complete, leaving only details to be worked out. Barrow attempts here to describe the challenge they face and to demonstrate that “Theories of Everything” as currently conceived may be necessary but cannot be sufficient. The universe is too messy and the kinds of questions we can ask, too diverse; the varieties of human experience are not computable; mathematics is just not able to cope. Without appeal to mysticism he concludes, “There is no formula that can deliver all truth, all harmony, all simplicity.”

The Key Reporter is published quarterly by the Phi Beta Kappa Society at the Garamond/Prismark Press, Baltimore, Maryland. Send all change-of-address notices to The Key Reporter, Phi Beta Kappa Editorial and Executive Offices, 1811 Q Street, N.W., Washington, DC 20009. (Note that the ZIP Code for incoming mail is different from the 20077 code used only for postal returns.) No responsibility is assumed for views expressed in articles published. For members, single copies are $1.00; one year’s subscription is $3.00.

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ISSN: 0023-0804
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