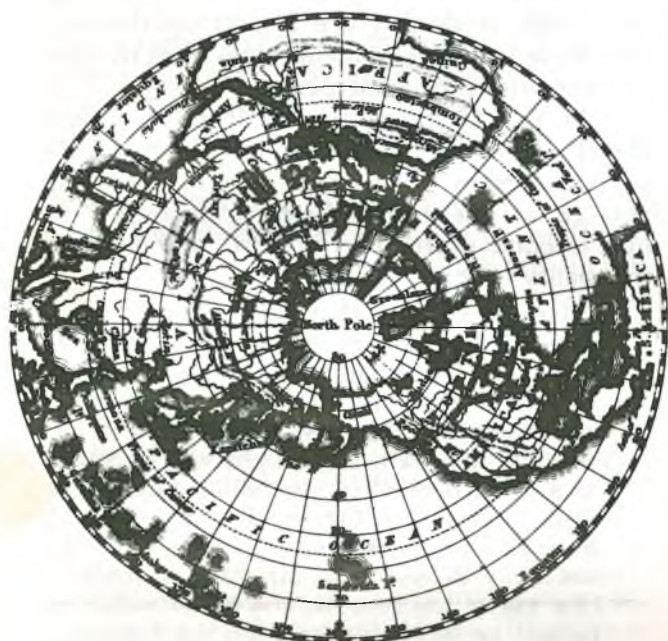


Humanities

Gerald Holton: Worlds within worlds by BARBARA DELMAN WOLFSON



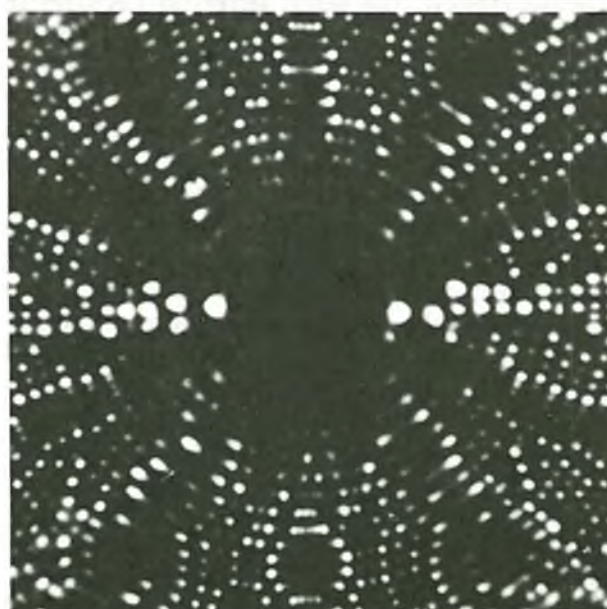
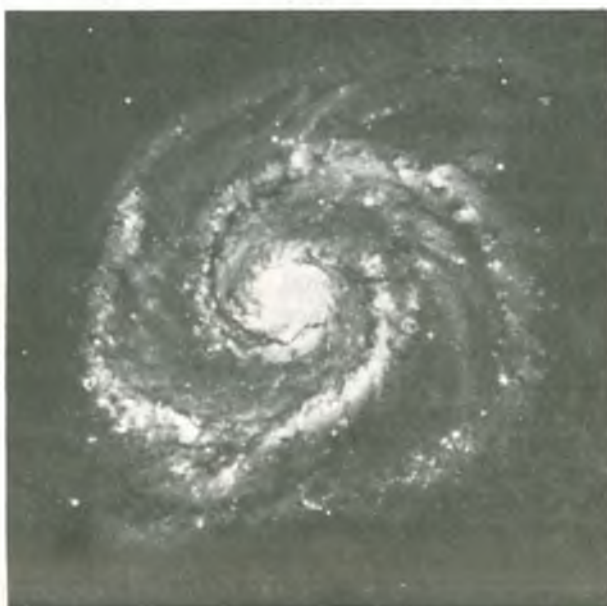
PROLOGUE: It is January 1934 in the city of Paris. A husband and wife are at work in a university laboratory. They are exposing a piece of ordinary aluminum to a stream of tiny charged bits of matter called alpha particles. Stated so simply, this hardly sounds like an important event. But look more closely, for it is important indeed. Later you will look at the technical details, but for now they will not get in the way of the story.

The story is something of a family affair. The husband and wife are the French physicists Frédéric Joliot and Irène Curie. The alpha particles they are using in their experiment are shooting from a piece of naturally radioactive metal. This metal is polonium, first identified 36 years before by Irène's parents, Pierre and Marie Curie, the discoverers of radium. What Frédéric and Irène have found is that when common aluminum is bombarded by alpha particles, it too becomes radioactive for a short time.

This was a surprise. Until that moment, a familiar, everyday substance becoming artificially radi-

What student, opening an introductory high-school physics text, can read that passage and resist turning the page to find out what happens next in what promises to be a great adventure story? Telling a rousing story is indeed the aim of the Project Physics Course, a national curriculum codirected by Gerald Holton, Mallinckrodt Professor of Physics and Professor of the History of Science at Harvard—the 1981 NEH Jefferson Lecturer and first natural scientist to be so honored.

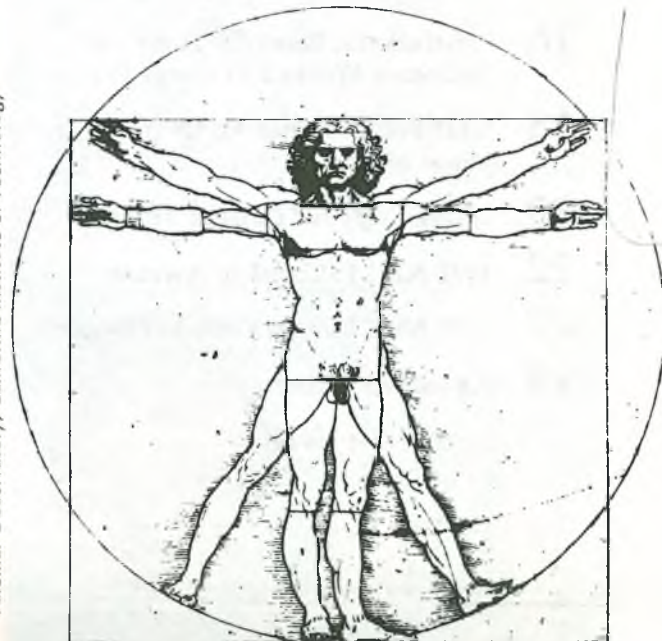
The team of collaborators who prepared the course hoped, Holton has written, "to develop a sequence of organically related ideas whose pursuit takes a student to an ever higher vantage point, a more encompassing view of the



Macrocosm to microcosm: the globe, a spiral galaxy, the symmetry of Leonardo, a pond's concentric ripples, diffraction pattern of charged particles.

Palomar Observatory, California Institute of Technology

Photograph: Professor E.W. Mueller, reprinted from Project Physics Photograph: Robert Lautman



working nature, of the style and life of the scientist, and of the power of the human mind."

Hundreds of thousands of students in this country in secondary schools and colleges have used the course, now in the third edition since its commercial publication in 1970, and millions more around the world have used the materials in French, Arabic, Japanese, Hebrew, Italian and other language adaptations. Although few will ever become scientists, they will have a chance to "see physics as the wonderfully many-sided human activity that it really is."

Throughout his career as physicist, historian, editor, and educator, Holton has been a lucid interpreter of the complexity of the scientific enterprise and the scientific imagination to scholars and practitioners in other disciplines as well as his own. In the late 1950s he launched and edited *Daedalus*, the journal of the American Academy of Arts and Sciences, as a forum for serious dialogue on questions and ideas that cut across all fields of intellectual inquiry. Entire issues of *Daedalus* have been devoted to science and culture, the future metropolis, symbolism in religion and literature, mass culture and mass media, arms control—most, if not all, of the seminal questions of our time. To a whole generation of intellectuals, *Daedalus* exemplified "interdisciplinary studies" long before the term came into academic fashion.

Twenty years later, Holton founded the journal, *Science, Technology and Human Values*, published by the MIT press, and was one of the initiators and first faculty members of MIT's new College of Science, Technology and Society, which aims to incorporate humanities study into the science and engineering curriculum. He is recognized as a leading Einstein scholar, and

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took on the job of organizing the first *catalogue raisonné* of Einstein papers at Princeton, thus making the documents accessible to other researchers.

Philosopher Stephen Toulmin has written that:

Few people in the United States have done as much as Gerald Holton to foster an appreciation of science as a social and cultural force, to promote an understanding of the links between science, philosophy and art.

As an emissary who travels freely and easily between science and the humanities, Holton spans what are often perceived to be the closed borders between the two worlds. His work is informed by the conviction that the supposed dichotomy between scholarship in science and scholarship in the humanities is false and artificial. He has consciously directed his energy, he says, to "smashing" what he sees as "a strange thing, an unnatural barrier between the sciences and all other materials taught."

This was not always so. To Holton as a child in post-World War I Vienna, the gap between the orderly world of science and the ever-changing panorama of history seemed "unbridgeable."

Holton was born in Berlin of Austrian parents in 1922 and was schooled at the rigorous classical Humanistische Gymnasium. In a recent article in *The American Journal of Physics* he recollects the traditional, sharp division between history and science:

The curriculum at our Gymnasium was heavy on history, literature, and ancient languages. . . . Here was the vibrant, colorful, ever unfinished struggle of mankind. . . .

On the other hand, in our science classes, we encountered an entirely different universe. Here was the finished and apparently unchanging product of distant and largely anonymous personages, unchallengeable monuments to their inexorable rationality—but only occasional traces of historic development.

At the front of the classroom hung two

maps. On the left, a geopolitical map of Europe and Asia. This map "was regularly changed," a new one for each period, and. . .

with each change we students could see the violent, spasmodic, unpredictable pulsation of shapes and colors in the wake of the thrilling story of conquests.

On the right side was a very different map—the Periodic Table of the elements: the very embodiment of empirical, testable, reliable, and ordered sets of truths. That map was never changed, although there was a rumor in the benches that some of the blank spaces were being filled in. . . .

"To the young mind," he writes, the gulf between the maps "seemed like a division that demanded some sort of decision." (The adult Holton was to observe that Einstein saw it as a choice between a world "dominated by wishes, hopes, and primitive feelings," and "this huge world which exists independently of human beings," contemplation of which "beckoned like a liberation.") "Only much later in life," Holton has written, does it become clear "that these two kinds of destiny are in fact intertwined, that these two developments stem from two potentials within the same person."

At the Gymnasium, Holton also read Hegel, and vividly recalls the lesson on Hegel's pronouncement: "The final cause of the world at large, we allege to be the consciousness of its own freedom on the part of spirit, and *ipso facto* the reality of that freedom."

I must confess that this formula, when presented in history class, was not easy to unpuzzle; but it had a nice ring to it. History as the evolution of freedom seemed an appealing idea. But just at that point in our studies, this train of thought was deprived of a good deal of its credibility when, one Friday evening in March, the portion of the map of Europe showing Austria turned suddenly brown, and our history teacher, like many teachers in the other subjects, turned up in Nazi regalia on the following Monday.

His family, forced to flee Austria after the *Anschluss* in 1938, went to England and, two

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Editor's Notes

According to the recent Commission on the Humanities' report, ". . . science and technology have been a domain of the humanities in western culture every since its Greek origins."

The author of those words might have been Gerald Holton, the tenth Jefferson Lecturer in the Humanities. For even as the late C.P. Snow was proclaiming his "two cultures" theory—stressing the divisions between science and the humanities—Professor Holton was founding *Daedalus*, the interdisciplinary journal of the American Academy of Arts and Sciences.

Mr. Holton's myriad achievements are chronicled elsewhere in this issue of *Humanities* which focuses on NEH-supported activities that join human values with science and technology.

Einstein and Modern Literature, co-authored by a physicist and a professor of literature, tells of the profound effect the genius of Einstein's thought and work had on many of the twentieth century's great works of literature.

In describing the prescient role of the humanities department in Pennsylvania State University's medical school at Hershey, we note, with pleasure, that more than half the medical schools in the country now include a well-organized program in the humanities. And still

another article describes a new program in applied ethics designed specifically for senior government managers.

That there are differences about the value of applied ethics is manifestly apparent in our Dialogue between two distinguished scholars—a moral philosopher and a philosopher cum religious scholar.

We also call your attention to *Dustjackets*, which begins, in this issue, a three-part series on research tools and reference works—the lifeblood of scholars in every field. Although, as the author states, "almost everyone at one time or another has consulted a dictionary, atlas, or encyclopedia," to paraphrase the old saw about the weather, almost nobody talks about them. These most interdisciplinary of works deserve a hearing—indeed three hearings, as you will discover in subsequent issues of *Humanities*.

The list of 1981 NEH Fellowship Awards encompasses nearly every field of inquiry and is testimony to the ever-widening circle of humanities scholarship, echoing the sentiments of the first-century Latin poet Terrence: "*humani nil a me alienum puto*," or "Nothing human is foreign to me."

—Judith Chayes Neiman

years later, to the United States. Holton was sixteen when they left Vienna. It was assumed that he would join his father in the practice of international law. "I was interested in regularities, it turns out," he says, "but in the much more credible kinds of laws—physical laws."

He was already captivated by science, and began his studies at the School of Technology in Oxford. When the family arrived in America he was offered a fellowship at Wesleyan University in Connecticut. It was almost graduation time until he decided whether to take his B.A. in physics or literature. Physics won out when Walter G. Cady took him on as a research assistant to work on crystal physics. (He received an M.A. in physics the next year—1942.)

In 1943 Holton came to Harvard to work on the acoustics of sonar (useful in anti-submarine warfare), and to teach physics to radio officers and Army personnel. At war's end he began his Ph.D. work as a student of Percy W. Bridgman, winner of the Nobel prize in 1946 for his research on high-pressure phenomena.

Holton describes Bridgman as grounded "in the bedrock of American sensibility," a man "crusty and constantly questioning," to whom "the central reality was . . . science done at first hand." In the 1920s, when physicists were confronted with the new ideas in quantum mechanics, Americans, under Bridgman's influence, "just leapfrogged over the metaphysical difficulties and went directly to the measurable part. This was absolutely American—pragmatic, and the pay-off was right there," Holton says. Bridgman was

a wonderful mentor . . . in the sense that . . . he didn't have compartments. In his life, both his physics and his philosophy of science, and indeed his social theory, were all of one piece.

The fact that he worked with his hands, with the directly understandable, transparent techniques, was part of his implicit philosophy. He never called himself a philosopher, he just *was* a philosopher.

When Harvard President James B. Conant returned to Cambridge from his World War II service in Washington, he was convinced of the national need for stable support of scientific research, wider understanding of the place of science in history, and the best teaching of science that could be devised for students in all fields. What followed was the science requirement in the General Education curriculum.

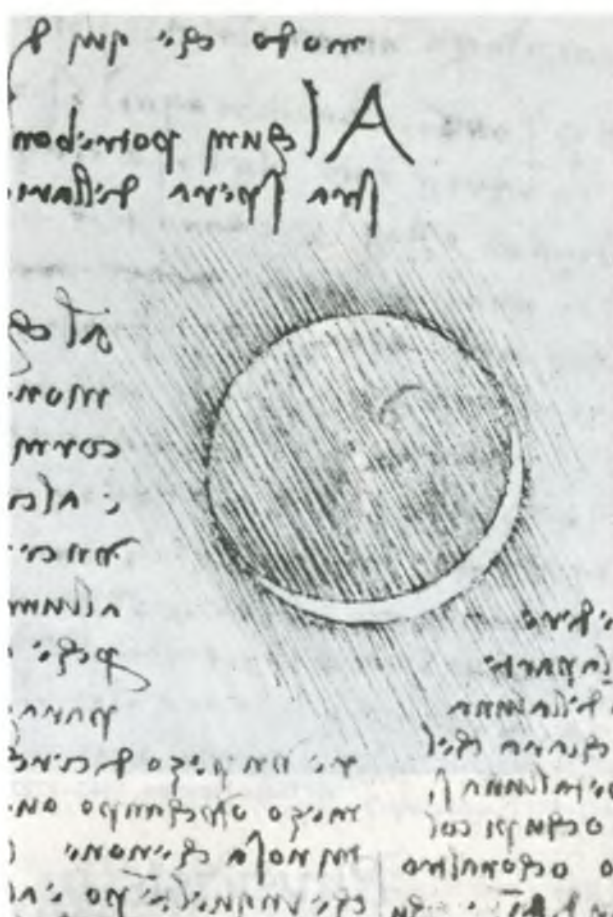
Holton, a junior Harvard faculty member at the time, tells of "the accident of being intrigued into teaching in the General Education program" by Conant, and of coming "up against some of the raw pedagogic problems" that the new curriculum posed.

The first science textbook to come out of the General Education program was also Holton's first book, the *Introduction to Concepts and Theories in Physical Science*, published in 1952 when he was thirty, and still in print. While the book presents, as required of a text, the technical physics, it does much more. Holton rose to the challenge set down in the *Report Establishing General Education at Harvard*, that science includes

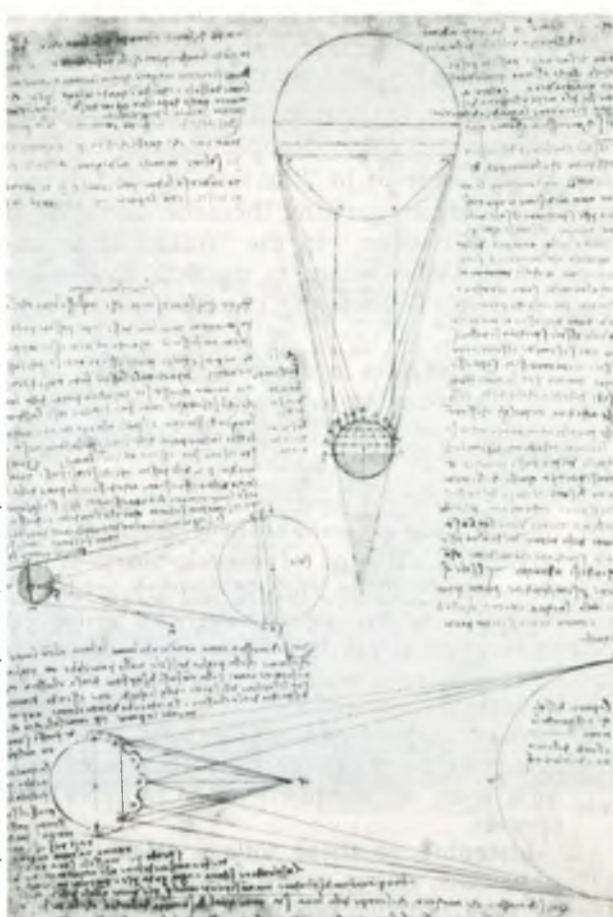
. . . conceptual relations, a world view, and a view of the nature of man and knowledge, which together constitute the philosophy of science; a history which forms a continuous and important segment of all human history; and writings which include some of the most significant contributions to a literature.

The aim of the book was, in Holton's words, "the presentation of science as *experience*, as an integrated and exciting intellectual adventure."

That college text is in a sense the grandfa-



Lent by the Corcoran Gallery of Art, courtesy of the Armand Hammer Foundation



In these drawings from the Codex Leicester, Leonardo illustrates the phenomena of the moon's secondary light (left) and the relationship of the earth and moon to the sun (right).

ther of the Project Physics Course, Holton notes:

One day in 1960 a high school teacher from California came into my office at Harvard. He said he had been using my text . . . for the seniors in his . . . class. It worked well except that the sentences were often too lengthy . . . He suggested I rewrite the text for that audience, and I in turn urged him to write a suitable textbook himself.

The high school teacher was James Rutherford, and from this casual meeting came the collaboration—along with Fletcher Watson of the Harvard Graduate School of Education—that eventually produced the Project Physics Course.

In 1964, with support from the National Science Foundation, the U.S. Office of Education, and several foundations, a group of nearly 200 people—physicists, historians and philosophers of science, psychologists, filmmakers, reading specialists, designers—started working on the texts, the companion anthologies of important writings, films, lab equipment and other materials that make up the course.*

Stephen Toulmin has pointed out that Holton's practical contributions have been . . .

so widespread and effective . . . that some people may be in danger of overlooking the complex theoretical insights that have underlain and directed his labors. A careful reading reveals how profound and subtle are his ideas about the whole enterprise of science.

Some of Holton's major work in the historical analysis of scientific thought may be found in two collections of essays: *Thematic Origins in Scientific Thought: Kepler to Einstein* (1973), and *The Scientific Imagination: Case Studies* (1978).

According to Holton, *themata* are the underlying assumptions that shape a scientist's theories. Since they issue from a "general imaginative capacity," thematic analysis is a useful technique for tracking the scientific imagination:

The strong hold that certain themes have on the mind of the scientist helps to explain his commitment to some point of view that may in fact run exactly counter to all ac-



The Jefferson Lecture

Gerald Holton will deliver the tenth Jefferson Lecture in the Humanities in Washington on May 11 and in Boston on May 13. This year's lecture will be delivered in two parts, one in each of the host cities.

Established by NEH in 1972, the Lecture is the highest honor the federal government confers for distinguished intellectual achievement in the humanities.

The purpose of the Jefferson Lecture is to focus national attention on the humanities and to provide a unique forum from which distinguished thinkers, scholars, and citizens can bring their wisdom and experience to matters of broad public concern.

Nominations for the Jefferson Lecture are received by the Chairman of the National Endowment for the Humanities from learned and professional societies, national and international organizations, and from individuals. The National Council on the Humanities makes the final selection.

Previous Jefferson Lecturers were Lionel Trilling, Erik Erikson, Robert Penn Warren, Paul Freund, John Hope Franklin, Saul Bellow, C. Vann Woodward, Edward Shils, and Barbara Tuchman. The lectureship carries an award and a stipend of \$10,000 which the Endowment provides. All associated expenses which may not be supported by appropriated funds are covered by private contributions.



Gerald Holton

cepted doctrine and to the clear evidence of the senses.

The term "thematic analysis," Holton reminds us, is familiar in anthropology, art criticism, musicology and other disciplines, and he likes to compare himself in "the task of identifying, ordering and categorizing thematic elements in scientific discussion" to the "folklorist or anthropologist who listens to the epic stories for their underlying thematic structure and recurrences."

His role then is to describe themata—as he does in the following explication of a text by the contemporary particle physicist, Steven Weinberg:

The technical report of, say, the analysis of a bubble chamber photograph is cast largely in terms of a life-cycle story. It is a story of evolution and devolution, of birth, adventures, and death. Particles enter on the scene, encounter others, and produce a first generation of particles that subsequently decay, giving rise to a second and perhaps a third generation. They are characterized by relatively short or relatively long lives, by membership in families and species.

Listening to these village tales told by physicists, one is aware that the terminology may initially not have been 'seriously' meant. Yet the life-cycle thema works, and so do a number of other themata imported into the sciences from the world of human encounters. ("On the Role of Themata in Scientific Thought," *The Scientific Imagination: Case Studies*.)

Yet Holton warns against pushing analogies too far. By merely describing, one gives up the hope of making judgments:

I would not like it to be thought that the themata in a scientific work are its chief reality. Otherwise, work in the history of science would degenerate into descriptivism, and scientific findings would seem to be on a par with the tales of the old men in the hills of Albania, to whom today's story is just about as good or as bad as yesterday's.

There is in science evidently a sequence of refinements, a rise and fall, and occasionally the abandonment of introduction of themata. But also there undoubtedly has been on the whole a progressive change to a more inclusive, more powerful grasp on natural phenomena.

In the Humanistische Gymnasium, Holton recalls, the discipline of history was presented "as the measure of all things." The failure to carry this vision through into the sciences—the setting up of a false barrier between science and its cultural context—has always worried him. In an introduction to a *Daedalus* issue on "Science and Culture," Holton has cited Plato, discussing Socrates' warning, more than 2,000 years old, about the misapprehension of science on the part of philosophers:

When he was young, he had had a great appetite for the study called natural science, and had thought Anaxagoras would be a suitable teacher. But these fine hopes were soon dashed: The man talked only of things like air and ether and water and other absurdities. He left the real cause untouched, the soul unattended.

*Holton's account of the genesis of the Project Physics Course is taken from "On the Educational Philosophy of the Project Physics Course," in *The Scientific Imagination: Case Studies* (1978).

Humanities wishes to thank Marcel LaFollette, editor of *Science, Technology and Human Values*, for the material on which some of this article is based, particularly the quotations from her interview with Mr. Holton.



Sir Isaac Newton, 1642–1727



Phenomena of the solar systems, circa 1851

Physicists in Historical Context and

James Meyers teaches at St. Gregory's College, a private two-year school in Shawnee, Oklahoma. He is, as he puts it, "the physics department." He also teaches "some astronomy classes, computer programming, and once in a while an occasional math class."

Since graduate school, Meyers had always had "a condescending attitude towards people in the humanities. We were taught to regard them as people who weren't interested in anything that was worthwhile worrying about." And, Meyers adds, "since humanists used different methodology, they probably weren't finding out anything worth finding out."

However, since Meyers attended a summer seminar in 1979 at Yale University, "Physicists in Historical Context," he has drastically revised his earlier opinions about the humanities.

The seminar Meyers attended is part of the annual program of summer seminars for college teachers sponsored by the NEH. Preference in granting fellowships to attend is given to those who have been teaching for at least three years and who are at a college or university without access to the collections of a major library. One focus for several seminars is in the area of science, technology and human values.

The seminar at Yale led by Martin Klein, and one given at Harvard by Everett Mendelsohn, "The Social History of Modern Science," were open both to the humanist and to the natural scientist. NEH seminars in Science, Technology and Human Values are planned so that the seminar content as well as the classroom experience of the participants will form a bridge between science and the humanities.

James Meyers, who was not an astronomer by training, feared he was passing "some of my own boredom on to the students." Most of his St. Gregory's students were humanities majors, and Meyers turned to the course at Yale for help in relating science to the humanities.

Albert Gunns, a professor of history at California State University at Long Beach, participated in the seminar with Meyers at Yale. His area of expertise, twentieth-century American history, had led him to a recent and intense interest in the impact of science on the development of the United States. Gunns viewed the seminar as a way to learn more about the science involved in his historical studies.

Klein's seminar was designed to focus on

the scientist at work: a particular individual in a definite historical setting facing certain problems with the resources available. The scientists who were examined were Galileo, Newton, Carnot, Maxwell, Rutherford, and Einstein; students read works by the scientists themselves as well as historical scholarship about their work.

Although there was not an exact balance of humanists and scientists, there *was* a lively exchange between the disciplines. Gunns joked that he gave scientists "an in-depth idea of what the humanists' ignorance of science was." But Klein commented that "it was startling to the scientists to see how a historian would take a text and give it a close reading, suddenly to be confronted with a whole mode of thinking about the world, a whole way of talking about it." Gunns said, "I think they came to value the fact that an accurate history gave them a deeper understanding of their own field."

While Klein was discussing individual scientists at Yale, Mendelsohn at Harvard was leading his students through the social history of modern science using three paths: the chronological framework (the seventeenth through the early twentieth centuries), methodological analysis of research procedures and modes of interpretation in the social history of science, and a focus on specific topics such as patterns of institutionalization and scientific careers.

Mendelsohn described the interaction of his students this way: "The seminar members themselves became resources for the perspectives and information of their own disciplines. The scientists took on the task of explaining technical materials to the humanist while the humanists became the teachers when historical or literary issues arose." One of the strengths of Mendelsohn's seminar was the diversity of its members, both in their research interests and their regional diversity—participants came from as far away as Montana, Minnesota, and Hawaii, as well as from the eastern part of the United States.

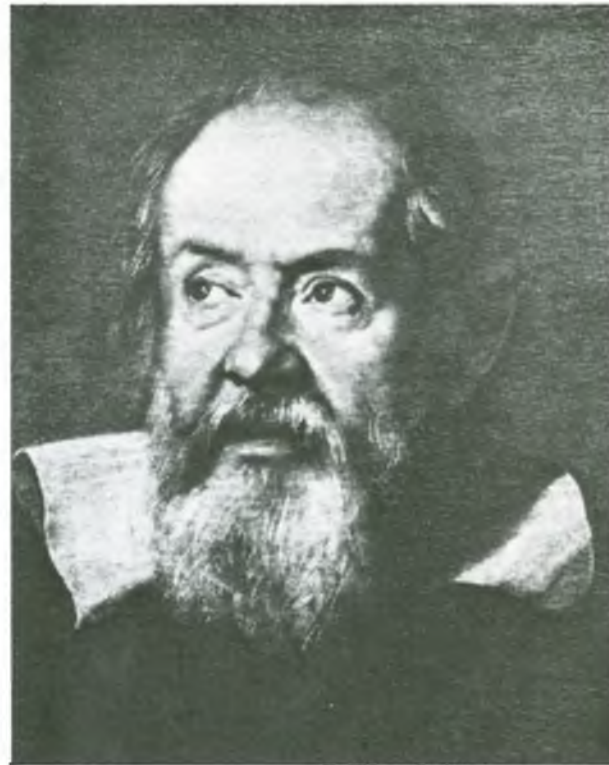
Several seminar participants remarked that the variety of points of view provided a trusted sounding-board as well as an intellectual hybridization of their ideas. For Stanley Bernstein, one of Mendelsohn's seminar participants and a professor of chemistry at Antioch for the last eleven years, the mix meant "some legitimization of my own idea that there is no such thing



Enrico Fermi, 1901–1954



Nicolaus Copernicus, 1473–1543



Galileo Galilei, 1564–1642

The Social History of Modern Science

as a purely objective scientist. Then I got hints of how to pursue that, a framework in which those ideas may be investigated, frameworks from the social sciences, some from history."

For Pierce Mullen, also at Cambridge that summer and a professor of the history of science at Montana State University in Bozeman, the seminar was an affirmation of his belief that "there is a bridge built by the fact that the scientist works in a social situation and can never be completely divorced from the concerns of the society. The way in which Everett developed the material indicated to me that there was a bridge, that I hadn't been imagining it, but that other people also had been thinking about it."

For many of the seminar participants, the benefits stretched beyond the exposure to new material, although that academic plus should not be minimized. For many it was a mid-career breather, a time to re-immense themselves in scholarship, to finish a research project that had been put on the back burner.

The seminars pursue a total immersion pattern: in addition to class meetings, there is ample chance for informal discussion over coffee, or dinner. One participant found the experience "absolutely extraordinary. The usual pressures for a professor are to do everything but scholarship: to teach, to sit on committees, to advise students. I hadn't been around real scholarship since graduate school and I had forgotten what it was like!"

The ultimate beneficiaries of the seminars are the students of the participants. For some who attended, it will mean something as simple as adopting a teaching technique used by the seminar leader. The Harvard seminar encouraged Kathleen Redd, an associate professor at St. Cloud University in Minnesota, to convey to freshmen in her introductory social science course "the usefulness of all disciplines and all perspectives in looking at human experience." And for upper classmen, she is developing a new course focusing on the interrelation of science and politics.

For Mullen, who also went to the Harvard seminar, it meant impressing his engineering students with the idea that they have to pursue their career "not in terms of dams and highways, but ultimately in terms of human beings."

And for Gunns, the lone humanist who

participated in Klein's seminar, his summer's work meant retooling a floundering history of science course and presenting it as "Modernization: an examination of the impact of science and technology on the Western world as well as the underdeveloped countries."

Perhaps Bernstein gave the most direct testimony to the value of Mendelsohn's seminar "[It was] sharing ideas with others and making the leap into a world view different from one's own comfortable discipline."

—Louisa Hart

Ms Hart is a Washington writer.

"Physicists in Historical Context"/Martin Klein/Yale U., New Haven, CT/\$50,542/1979/"The Social History of Modern Science"/Everett Mendelsohn/Harvard U., Cambridge, MA/\$48,783/1979/Summer Seminars for College Teachers, Division of Fellowships and Seminars

Other recent NEH Summer Seminars in science, technology, and human values:

Exact Sciences in Antiquity and the Middle Ages, Asger Aaboe, Yale U., New Haven, CT

The Second Scientific Revolution, Stephen G. Brush, U. of Maryland, College Park

The Functions of Discourse in Science and Literature, E. Fred Carlisle, Michigan State U., East Lansing

The Importance of History to the Philosophy of Science, Ian Hacking, Stanford U., CA

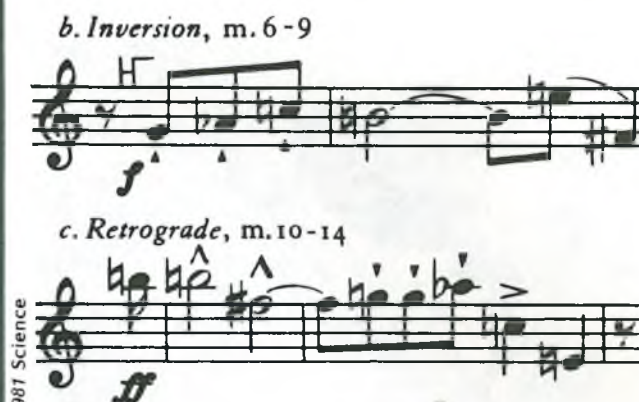
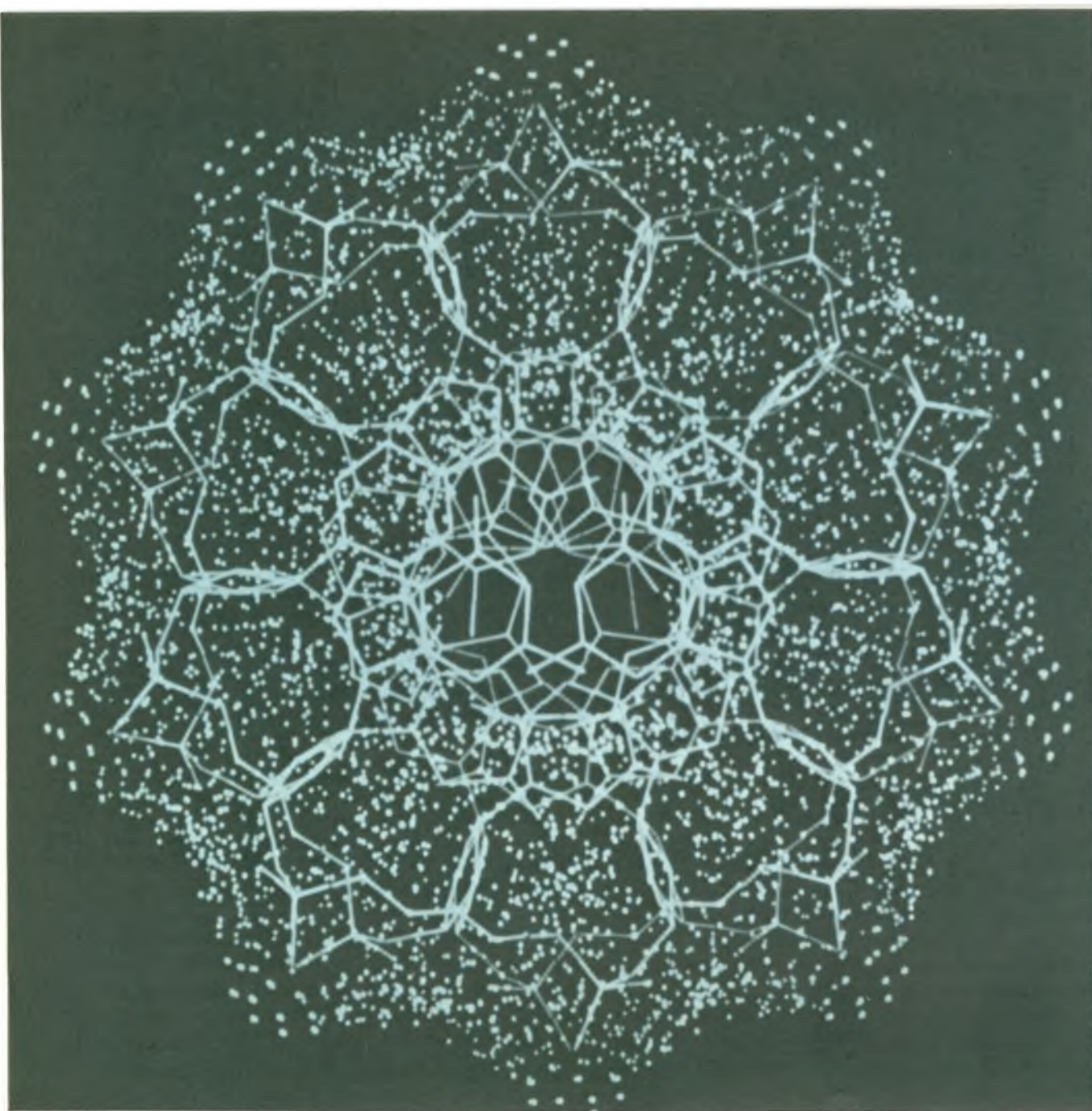
The Unity of Learning in the Later Middle Ages, John E. Murdoch, Harvard U., Cambridge, MA

The Interpretation of Scientific Change, Dudley Shapere, U. of Maryland, College Park

Liberty, Equality and Fidelity in Bioethics, David H. Smith, Indiana U., Bloomington



Heaven (right) and earth (left) illustrate nineteenth-century mathematical and geometrical problems.



From Schoenberg's Fourth String Quartet.

iconography and architecture of French cathedrals. The computer will have the capability of producing diagrams, line drawings, and patterns in color to highlight the geometric forms within each of the architectural structures. In addition, a signal to the computer requesting, say, an interpretation of the religious symbolism in crosses, hexagons and octagons in Baroque baptistries will also trigger a slide projector that shows a photograph of the baptistry while the computer screen provides text and illustrations.

In addition to teacher, illustrator, and slide projectionist, the computer is both exhibit evaluator and librarian. By recording the amount of time that visitors spend on each program and by including quizzes in some programs, the computer provides data for assessing the effectiveness and popularity of various parts of its menu. Each program ends with a listing of resources and locations: material held in the resource center, adjacent to the exhibit; books and articles in nearby libraries; even models and illustrative works of art held at neighboring institutions.

But it is by enabling the computer to act as lab partner that the exhibition designers have out-programmed computers used in the past to interpret exhibits. The microprocessor is being programmed to "simulate," meaning that it can produce on request lines and forms in certain patterns, helping the visitor experiment with certain mathematical principles. A visitor could conduct a series of free experiments with symmetry, for instance, by choosing a motif or motifs and a repetitive rule for laying copies of the motifs on a plane surface. It is in this way that a visitor can produce the simplistic analogue of an Escher periodic drawing. After seeing the drawing in the exhibit, studying some text explaining the principles of symmetry it embodies, along with their historical context and influence, the visitor can create a related picture of his own devising.

The computer also collaborates in composing music. In what project co-director Daniel Goldwater calls "a very simple program," the

Gödel, Escher, and . . . the Humanities

A flock of Escheresque birds in still, symmetric flight crosses a ground that appears first to recede, providing a white sky for the bird formation, then to approach, becoming a grid of pale twins flying their own, opposite journey. The white ground is neither paper nor canvas, but the luminescent square of a computer screen; the "artist," a visitor to the Franklin Institute Science Museum's exhibition on mathematics, the arts and the humanities, opening in Philadelphia this June.

Producing on a computer, by a computer-taught mathematical formula, the visual symmetry of an M.C. Escher drawing is one of many experiments in the exhibition that will bring museum visitors face to face with what Pythagoras of Samos first realized long ago, "All is number." It demonstrates, too, a sophistication in computer programming never before used in interpreting the humanities for a gener-

al museum audience.

In a jolting confirmation that the medium is the message, the connections between mathematics and music, art, literature, linguistics, archaeology, anthropology, and philosophy are interpreted, illustrated, diagrammed, and experimented with through a computer—four Apple microprocessors, to be exact.

The microprocessor is the most obliging and versatile of museum guides. It offers its visitors a "menu" from which they may select a program of particular interest to them—symmetry, depth and perspective, numerical relationships in music, or geometric form. The information is organized and offered, as in a subject outline, general information presented first, followed by a series of choices for more detailed explanations.

A visitor interested in geometric form, for example, may be given information about the

Readers familiar with Escher's art will recognize that this pattern of birds was used in his well-known woodcut, *Day and Night*. Like the birds, Escher's symmetrical fishes consist of identical animals, dark and light.



Reproduced by permission of The Escher Foundation, Haags Gemeentemuseum, The Hague, copyright © The Escher Foundation



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computer accepts numbers, translates them into notes, and directs a "music board," a simple electronic synthesizer, to produce corresponding sounds. This capability allows a visitor to "compose" music in an approximation, however streamlined, of the Schoenberg method. It takes the computer about two minutes to teach theme, inversion, and retrograde. By commanding these components to be repeated in a certain series, the visitor "composes" a piece and is then directed to the resource center to hear tapes of music that Schoenberg composed in a similar, if more elaborate, fashion.

Project directors Harvey S. Shipley Miller, curator of museum collections, and Goldwater, director of museum education, both emphasize that the exhibition, cofunded by the National Endowment for the Arts and the National Endowment for the Humanities, is not an exhibit on the computer, but one in which computers help to restore the visibility of mathematics and its reciprocal influences on art and the humanities.

Though the microprocessors are the most sophisticated and innovative departure from the conventional text-on-the-wall exhibition, they are not the only means for visitors to encounter these influences. Goldwater describes the planned exhibit as one "more in the tradition of the Science Museum, which is a 'hands-on' Museum." There will be a working camera obscura for experimentation with perspective, sets of tiles and mirrors that people can arrange in various patterns of symmetry, an oscilloscope to demonstrate the Pythagorean discovery of the harmonic series.

To show how completely mathematics infiltrates all human surroundings, the directors are selecting materials from many cultures, many disciplines, many ages. An Escher drawing, a medieval Rose window, a wrought-iron trivet all may be used to depict certain laws of mathematical symmetry, but in addition, the symmetry of the Rose window also has implications for religious symbolism; that of the trivet, for cultural anthropology.

Reproductions of paintings by Giotto, da

Photograph: Morton Broffman

The axis of double helical DNA (opposite page) photographed directly from a computer display bears an extraordinary resemblance to the rose window in the National Cathedral.

Vinci, Mondrian; models of the Parthenon and of Buckminster Fuller's geodesic dome; historical analysis of the discovery, made in the eleventh century by the Arabic philosopher Alhazen, that an object's appearance depends on the angle of reflected light that reaches the eye; commentary on the structural patterns and proportions of Virgil's *Aeneid*—information carefully selected from months of research will be organized by the four thematic groupings: symmetry, numerical relationships in music, depth and perspective, geometric form.

In the resource center, visitors can explore ideas too complex to capsuleize on a computer screen or to turn into experimental devices: Noam Chomsky's theories of transformational grammar, for example, or the influences of Greek geometric form on epistemology and phenomenology.

Proportion in architecture. Depth in lan-

guage. Symmetry in art. Proof in logic. Perspective in psychology. Form in literature. The language of mathematics permeates human endeavor. But in the course of the twenty-five hundred years since Pythagoras, the intertwining of mathematics with the arts and the humanities has become increasingly difficult to recognize, hidden perhaps by its very ubiquity. The Franklin Institute exhibition is planned to demonstrate that the language of mathematics is the vernacular of the universe—a language that counts in the humanities.

—Linda Blanken

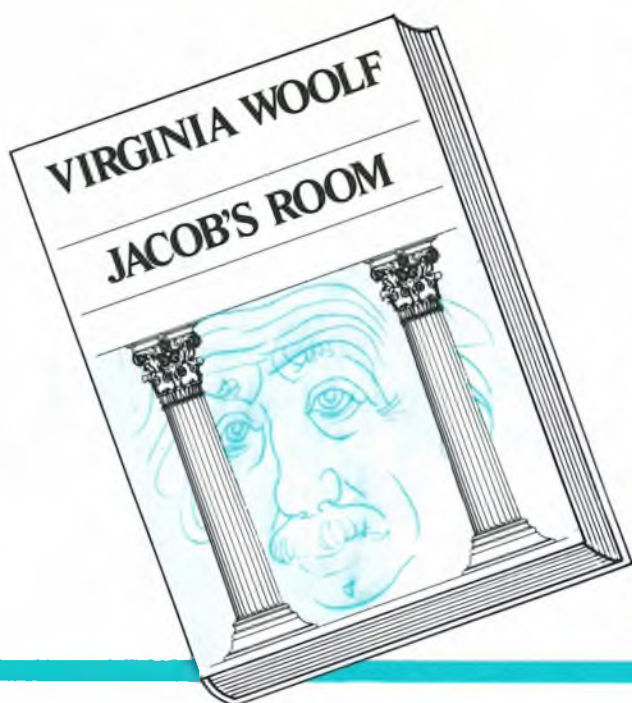
Ms. Blanken is managing editor of Humanities.

"Mathematics, the Arts, and the Humanities: A Model Computer-based Museum Interpretive Research Tool" / Harvey S. Shipley Miller / Franklin Institute, Philadelphia, PA / \$128,173 / 1979-81 / Museums and Historical Organizations Program, Division of Public Programs



This illustration from Albrecht Dürer's *Work About The Art of Measurement* published in 1525 shows how to reduce or enlarge a drawing proportionally. This woodcut of a man drawing a recumbent women was published in the second edition, 1538.

EINSTEIN AND MODERN LITERATURE



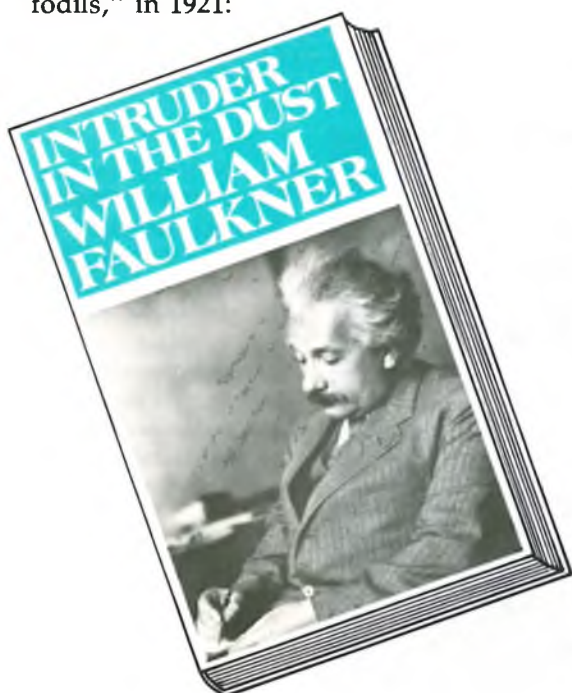
by Joel Scharf, copyright © 1979 The Institute for Advanced Study

In Frederick Durrenmatt's play, *The Physicists*, Albert Einstein is a central character, the inmate of an insane asylum, left hopelessly to play his violin while the secrets of his theories are used to create instruments of destruction.

It is one of the many works of modern literature where Einstein moves—if not in the plot, then behind it, revolutionizing techniques of narration. It is also one of the many instances where Einstein is used as symbol, the reality of the living man having been replaced by a personification of the atomic age.

Einstein as myth and muse is the subject of an interdisciplinary study, *Einstein and Modern Literature* by Alan Friedman of the University of California at Berkeley, and Carol Donley of Hiram College, Ohio, scheduled for publication next year. Friedman, who directs the astronomy and physics education program at the Lawrence Hall of Science, and Donley, who is on the faculty of the English department, pool their resources in exploring the myths and truths, the factual errors and formal experiments, inspired by Einstein and other modern scientists, in the works of writers as diverse as Jorge Louis Borges and Louis Zukofsky. Their collaboration began in 1979 with support from NEH.

The influence of Einstein on literature, however, reaches back at least to 1919, when the Eddington eclipse expedition verified a prediction of Einstein's theory of relativity, making headlines around the world. Dozens of journalists and commentators wrote about Einstein's discovery, and poets were soon to follow. One of the first poets to publish a poem about Einstein, says Carol Donley, was William Carlos Williams with "St. Francis Einstein of the Daffodils," in 1921:



Photograph: J. Hagemeyer, Bancroft Library, courtesy of the AIP Niels Bohr Library

April Einstein
through the blossomy waters
rebellious, laughing
under liberty's dead arm
has come among the daffodils
shouting
that flowers and men
were created
relatively equal.
Old fashioned knowledge is
dead under the blossoming peachtrees.

"April Einstein" was indeed young when he made his discoveries about the universe, and barely middle-aged when his discoveries were accepted and Williams wrote this poem. Yet he is most often remembered as a wizened old man of seventy. "Einstein has become the symbol of wisdom in our time," says Friedman, adding, "We associate wisdom with age. That's why Einstein is always shown as an old man."

Friedman is fascinated by the myths that have grown up around Einstein. People believe, he says, "that Einstein's theory made everything relative. It's not so." Einstein did believe that certain laws of nature were universal, but many people took the loss of traditional absolutes such as time and space to imply a loss of traditional moral values. The world according to Einstein was a strange place: our intuitions about time and space were falsified or distorted.

The new world of Einstein is also assumed to be a world of the atom bomb and total annihilation. But Friedman sketches in the book the links in the story of the idea for the atom bomb—links which have to do with Einstein only in myth, not reality: "The idea for the bomb dates to two years before Einstein's formula, $E=mc^2$. It can be traced to one Friedrich Soddy, the man who won the Nobel Prize in chemistry the same year—1921—Einstein won the prize in physics."

Soddy realized as early as 1903 that radioactivity from Uranium could make a power source—or a bomb. He wrote a book—*The Interpretation of Radium*—that explained his ideas in popular, not technical, terms. H.G. Wells read the book, and ten years later published a science fiction account of the first atomic holocaust. Then a Hungarian scientist, Leo Szilard, read Wells' book, got excited about the idea of atomic energy, and came up with the idea of a chain reaction, but kept it secret—fearing how it might be, and finally was, used.

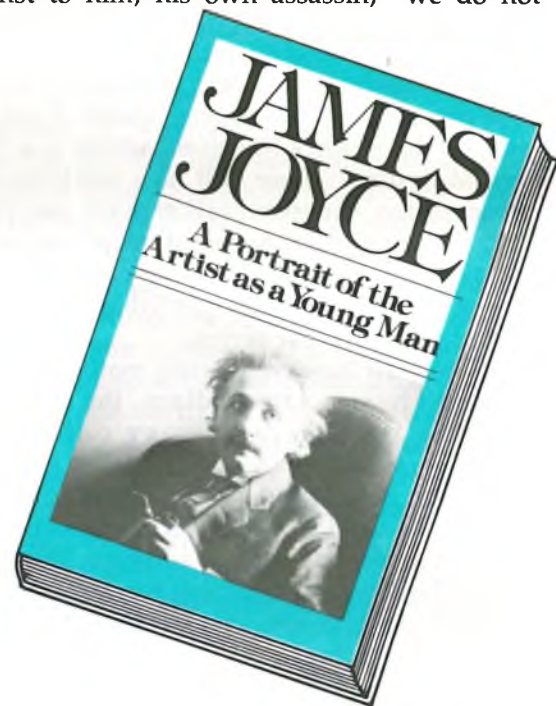
"Einstein," says Friedman, "really had nothing to do with the atomic bomb. When the possibility of atomic energy was suggested to him, he compared it to 'shooting birds, while blindfolded, in a country where there are very few birds.'" The atom bomb is often used to ex-

plain $E=mc^2$, but in fact, insists Friedman, "a ballpoint pen is as good an explanation. By clicking the point, you increase the mass. The pen weighs a little more."

Another popular misconception ascribes uncertainty to Einstein's universe. Yet the Uncertainty Principle, discovered by Heisenberg in 1927, was never accepted by Einstein, who was fond of raising the rather unscientific objection that "God does not play dice." With this principle, the uncertainty which had once been a practical problem—a question of human ignorance—now became scientific fact.

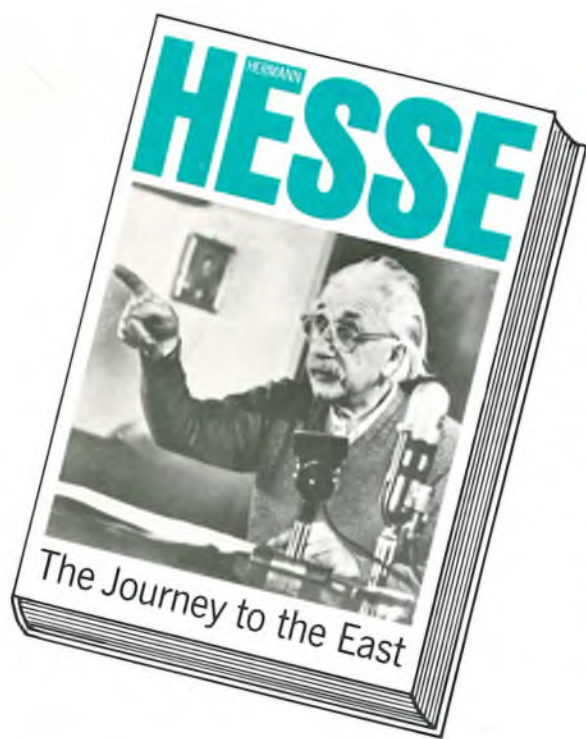
Stimulated by this idea, poets played with images of uncertainty in indeterminate poetic lines. Novelists eschewed common causality in their plots, preferring to experiment with unresolved endings and nonlinear plots. For example, in "t zero," a story by Italo Calvino, an archer contemplates the problems of space and time as his arrow hisses through the air, toward a lion which is at that very moment leaping upon him, its jaws agape and its long claws extended. Like the scientist observing his particles, the archer calculates the probabilities that he will be eaten alive, versus the chance that his arrow will hit its mark.

Some writers, like Richard Coover, use dice games in their fictional worlds. Others, like Jorge Louis Borges, use the notion of a labyrinth to explore indeterminacy. In Borges' story, "Garden of the Forking Paths," a wartime spy discovers that the only way he can signal the crucial word "Albert" is by murdering a stranger of that name. On this murderous mission, he goes to the house of Stephen Albert, where he is told of a labyrinth, constructed by his own revered ancestor, which embraces "all possibilities of time." In the majority of these times, says Albert, looking at the man who is, unbeknownst to him, his own assassin, "we do not



exist, in some you exist and not I; in others, I and not you, . . . In the present one, which a favorable fate has granted me, you have arrived at my house . . ." The spy responds that "in every one I am grateful to you," but Albert interrupts him: "Not in all. Time forks perpetually toward innumerable futures. In one of them, I am your enemy." And as Albert turns away, the spy raises his revolver to shoot.

It is this Einstein-inspired revolution in thinking about time and space and the breathtaking formal changes which it inspired in poetry and novels that Carol Donley examines in the book. "Not that there is always a causal connection between the new forms and Einstein's theory," warns Donley. "Rather, poets like Williams looked to the theory of relativity to justify certain formal changes."



National Archives, courtesy of The AIP Niels Bohr Library

In papers published in the *William Carlos Williams Newsletter*, Donley shows how Williams applied relativity theory to the poetic measure to create a "variable measure." Williams asked, "How can we accept Einstein's theory of relativity, affecting our very conception of the heavens above us of which the poet writes so much, without incorporating the essential fact—the relativity of measurements—into our own category of activity? Do we think we stand outside the universe? . . . Relativity applies to everyone." Williams' experiments with the poetic line have, of course, changed the entire course of American poetry—directly, or through Williams' influence on such poets as Charles Olson and Robert Creeley.

Through his reading of Einstein's work and conversation with Bertrand Russell, T.S. Eliot acquired a sophisticated grasp of Einstein. Eliot objected to the application of scientific ideas to areas outside science, yet, says Donley, "The Hollow Men" and others of his poems reflect the shattered meaningless world—"this broken

jaw of our lost kingdoms" where "lips that would kiss/Form prayers to broken stone"—in a way which reveals the fear and confusion of the new world.

One implication of relativity theory is that space and time measurements for one observer will not be the same for another observer, in a different frame of reference. Thus, in Williams' poem about "April Einstein," Einstein is both "tall as a violet/in the latticearbor corner" and "tall as a blossomy/pear tree!" depending on one's frame of reference.

This aspect of relativity theory led novelists to experiment with multiple perspectives and points of view in telling a story. For if time and space are not absolute, but depend on a frame of reference, then, in Friedman's words, "We cannot have a God's eye view of the world." For novelists this meant relinquishing the traditional omniscient narrator, characteristic of many nineteenth-century novels, for such a viewpoint implies absolute truth. Some of the most exciting experiments in modern fiction use multiple perspectives and points of view to tell a story. Novelists such as James Joyce, Lawrence Durrell, William Faulkner and Virginia Woolf, to mention only a few, all seem to be "consciously building (their) novels on (their) . . . understanding of relativity," notes Donley.

In these examples, the influence of scientific ideas is quite indirect. Other writers, such as Vladimir Nabokov, treat scientific ideas directly. "Nabokov," says Friedman, "likes to play around with scientific ideas—half in fun, half seriously." As an example, Friedman uses Nabokov's novel, *Invitation to a Beheading*, part 4:

The texture of Space is not that of Time, and the piebald four-dimensional sport bred by relativists is a quadruped with one leg replaced by the ghost of a leg.

"Nabokov is parodying a lecture on relativity theory," Friedman says. "In this and in other novels, Nabokov seems to be saying that science is no more and no less real than art, literature, or history. In all these ways we continue

to understand the human condition. If people let themselves be dominated by some aspect of life—by art or by science, they are doomed."

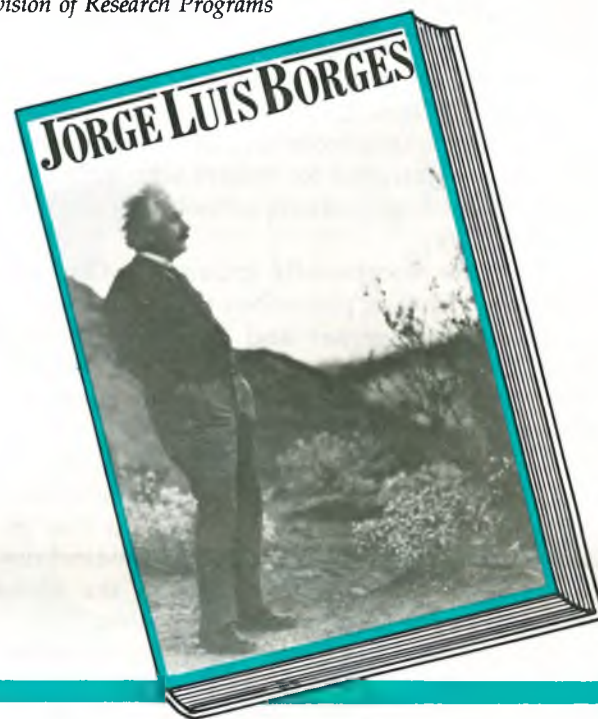
If to be "saved," we need art and science, then these disciplines cannot be as antithetical as Nietzsche and some radical empiricists have taken them to be. For the neoplatonists, poetry in the generic sense was related to divine inspiration and revelation—and not opposed to science. Poets are clearly inspired by science. And scientists—as in the case of Szilard's reading of H.G. Wells' science fiction—are also influenced by literature.

Indeed, if the creative act in art or in science is a deep unconscious process, the relationship between artists, humanists, and men of science may be one of kinship, not antithesis. The work of Friedman and Donley goes a step toward deepening our understanding of that kinship.

—Carolyn McKee

Ms. McKee is a Washington writer.

"Einstein and Modern Literature"/Robert Karplus/U. of California, Berkeley/\$29,837/1979-81/Basic Research, Division of Research Programs



A fundamental shift in medical education

Doctors are turning to the humanities for the questions—if not always the answers—raised by the proliferation of complex issues in modern medicine. Following the lead of the prototypical Department of Humanities at the Pennsylvania State University medical school at Hershey, more than half the medical schools in this country now include a well-organized program in the humanities.

"We are witnessing that rare event—a fundamental shift in the aims of medical education," wrote Dr. Edmund Pellegrino, president of Catholic University, for the *Encyclopedia Britannica*. The shift, he says, "is as profound as the introduction of the laboratory sciences in the early years of this century."

Penn State's medical school at Hershey is the creation of Dr. George Harrell, formerly dean of the University of Florida Medical School.

At a time when few of the nation's medical schools had instruction in ethics, Harrell created at Hershey a humanities department with status equal to that of the science departments, next door to the family and community medicine department—another Harrell innovation. The behavioral sciences were assigned an adjacent location to encourage communication



A medieval medical student studies for examinations in this woodcut from *Regimen Sanitatis Salerni* (Paris, 1506).

among the departments. From the beginning, the humanities department participated in the decisions and operations of the school, including student admissions, recruitment of scientific and clinical faculty, curriculum planning and library development.

The first class arrived in 1967. From 1969 on, NEH supported the design of courses, and by 1974 the humanities department had a faculty offering courses in the history of science and medicine, literature, philosophy and ethics, political science and law, and religious studies.

The humanities department was developed by its chairman, the Reverend E. A. Vastyan, an Episcopal clergyman, formerly at the University of Texas Medical School, who with a number of theologians from campus ministries had long been meeting to discuss the role of religion in medical education.

Harrell regarded the alliance between religion and medicine as one evident in history's earliest records. "The first physicians were priests, shamans and witch doctors," he says.

Vastyan thinks of a medical school as a paradigm of our culture with its need to provide basic human services while adapting to an explosion of technical advancement.

He contrasts the ethics and philosophy



Photograph: Ellen Shub

A Guide to the Culture of Science, Technology, and Medicine

courses offered to undergraduates with those at Hershey. "Generally," he says, "college courses are taught from an historical perspective and are designed for majors who must pass exams to get into graduate school. It is not education for life.

"We are vocationally grounded. Our students know that as physicians they will encounter practical dilemmas and they are eager to learn. Our purpose is to help students learn to reason ethically. We don't have to cover the waterfront of literature or philosophy."

History can also broaden the student's vision, Vastyan says. "Science is put into a more human context when you understand that infection was not overcome through medical discovery, but with improvements in the social order—better sanitation, better housing."

Of the various branches of humanities, Vastyan thinks that ethics is the easiest to rationalize as a part of the medical curriculum.

Vastyan's colleague Joanne Trautmann, assistant editor of the *Letters of Virginia Woolf*, holds a rare and possibly unique position among medical schools: she is a full-time professor of literature. The author of one textbook, *Literature and Medicine*, Trautmann is working on a second, *The Healing Arts*, and argues that literature is the only discipline which offers a whole view of humankind.

"Consider the aged," she says. "The definition of aging includes biology, physiology, psychiatry, sociology, economics and political science. Only literature puts all these together in a usable form."

Responding to the concern that required humanities courses might burden already encumbered medical students, Trautmann points out that literature "exercises a different part of the mind, uses mental muscles which might otherwise atrophy, and is therefore not a drain as an additional science course would be."

Student evaluations of Trautmann's classes have been highly enthusiastic. At least a fourth of Hershey students choose to take more than the required humanities electives. "This course has kept me thinking," said one student. Said another, "this course has saved my sanity."

—Anita Franz Mintz

Mrs. Mintz is a Washington writer.

"Development for the Department of Humanities at the College of Medicine" | E.A. Vastyan | Pennsylvania State U., University Park | \$329,671/1971-78 | Division of Education Programs

appears at a time when much debate—both in the classroom and in larger public forums—focuses on ethical questions arising in science, technology, and medicine. The 723-page book contains state-of-the-art reviews of the history, philosophy, and sociology of three areas—science, technology, and medicine, with a final chapter on science policy studies, an analytical table of contents, and an extensive bibliography appended to each chapter. In the words of its editor, Paul T. Durbin, the *Guide* is designed to "demonstrate the relevance of these new fields to the solution of ethical questions" arising in the context of science.

Teachers and students, scholars and policy makers, will find references in the *Guide* to technological and medical fruits of science—from recombinant DNA to computer diagnosis—as well as social and historical categories—from national health insurance to Babylonian science. Unlike the *Encyclopedia of Bioethics*, which covers some of the same ground (and which also received major support from NEH), the *Guide* is not really an encyclopedia, although both were published by Free Press under its division of encyclopedias. Says Durbin: "The *Encyclopedia of Bioethics* has for its entry on 'Philosophy of Technology' an entry of about 1,200 words, with a two-page bibliography. But the *Guide* contains a full chapter on the philosophy of technology—about 150,000 words, and ten pages of bibliography." Durbin adds, "The *Guide* has the same kind of authority as the *Encyclopedia*, but it is much larger."

To paraphrase Arnold Thackray, whose essay on the history of science opens the *Guide*, what teachers and scholars will find here is not so much a "map of the whole territory," as "a compass and some initial instructions" to some very new fields. Not that history and sociology per se are new. Only in recent decades, however, have the history and sociology of technology and science established their own graduate programs and produced scholars.

There's nothing new, either, about the "idea of looking at science from a humanistic point of view," says Paul Durbin. As we can learn by looking in the *Guide*, Aristotle raised a bioethical question when he recommended the

use of early abortion as a way of controlling population, and a Portuguese Jewish physician named Rodrigo Castro discussed doctor's fees and stressed the virtues of prudence and generosity in the conduct of physicians in his *Medicus politicus sive de officiis medicopoliticis* as early as the seventeenth century.

"What is unique about the *Guide*," says Durbin, the man who knows it more intimately, perhaps, than anyone, "is that it is the first effort of its kind to pull the different disciplines together to study the impact of scientific and technological advances on our culture as a whole." Indeed, the scholars assembled for this four-year interdisciplinary effort with the help of grants from the National Endowment for the Humanities and the National Science Foundation decided to call their book a guide to *culture*, not a guide to *values* precisely because they were interested not only in value issues within the sciences, but also the value of science—and medicine and technology—within our contemporary culture.

The question of doctor's fees, for example, has a context within the history of medicine, as Gert H. Brieger notes in his chapter on the history of medicine. But the question also has an ethical dimension—how much should doctors receive for their services?—as H. Tristram Engelhardt, Jr., and Edmund L. Erde, indicate in their chapter on the philosophy of medicine. The very same issue, however, can also be discussed within a broader social context, in terms of the social aspects of medicine, and the way science and medicine work as social institutions. This is the approach of sociologists like Linda H. Aiken and Howard E. Freeman who contributed the *Guide's* chapter on medical sociology and science and technology.

In some respects, says Durbin, the *Guide* resembles *Science, Technology, and Society*, edited by Ina Spiegel-Rosing and Derek de Solla Price, and conceived initially, says Durbin, "as a study primarily in science policy, and later expanded to include some history and philosophy." Some of the scholarly difficulties the *Guide* aims to overcome were brought out in the way specialists from different fields responded to the publication of the Spiegel-Rosing/Price enterprise in 1977: philosophers hailed it as a major breakthrough, some historians welcomed having an influence in philosophy of science, but others bemoaned the lack of historical originality in the work. Some sociologists praised it, but others rejected it as too narrowly based on the physical science model. "The *Guide* carries further," says Durbin, "the work begun by *Science, Technology, and Society*," and attempts to remedy misunderstandings among specialists by including full chapters on the history and sociology of science and technology. "It contains a more complete bibliography, without

Illustrations that symbolize the breadth of subject matter contained in the *Guide*: an inclined plane; a full-length Oriental figure stroking his beard, acupuncture points and meridians illustrated with Japanese characters; a model of the Pioneer I spacecraft which transmitted 43 hours of data although it failed to reach the moon; Hippocrates; Stalk of a Lily with a Head of Flowers, by Leonardo Da Vinci; Charles Darwin.

overlapping entries. The bibliography is subdivided into journals, classics, and straight bibliography."

"Each contributor," Durbin continues, "handled a topic a little differently. Some used a more historical, others a more analytical approach. But all the essays attempt a synthesis which related their own specialty to the other disciplines included in the *Guide*." For example, Arnold Thackray, in his essay on the history of science, blends historical elements with key concepts and current controversies within his field: He touches on medieval science, and moves to the modern notion of a scientific revolution. At the same time, Thackray relates the history of science to philosophy and sociology of science—and to the philosophy and sociology of technology and medicine.

As the physicist and historian of science Gerald Holton has noted in a different context, until recently it has been taken for granted that both the doing and the findings of science will be for the good of mankind. But the public becomes increasingly ambivalent about the beneficence of science, the more visible science becomes. And Thackray points out in his essay in this volume, the new visibility of science, and the increasing number of specialties within science, only serve to deepen "the need for mediation between the many groups with interests in the social construction of science."

The value of this enterprise was eloquently argued a few years ago in an essay called "The Future of Knowledge," by the British philosopher Stuart Hampshire. Hampshire warned that modern knowledge may become sterile unless scholars begin to fertilize their own narrow fields with loam from other disciplines, and added:

Of its nature knowledge advances by the division of labor, by ever-increasing specialization. Every inquiry subdivides into new disciplines requiring separate investigation. It is also true that new knowledge depends on ideas from different disciplines being connected within a single mind. This contradictory requirement, not to be avoided, is a principal wound in modern culture, and it has been a topic for political theorists, poets, and philosophers ever since the Enlightenment." ("The Future of Knowledge," *New York Review of Books*, March 31, 1977)

A Guide to the Culture of Science, Technology, and Medicine, is a poultice for this "wound in modern culture," at least as it has afflicted humanists and scientists.

—Carolyn McKee

Ms. McKee is a Washington writer.

"A Guide to the Culture of Science, Technology and Medicine" (Paul Durbin/U. of Delaware, Newark) \$123,012/1976-78/Science, Technology and Human Values Program, Division of Special Programs





Our laboratory records indicate that we are slowly contaminating all wells in our area, and two of our own wells are contaminated to the point of being toxic to animals and humans. This is a time bomb we must defuse.

—From "The Hooker Memos" a December 16, 1979 broadcast of 60 minutes.

You are an environmental engineer with a large chemical company. You warn management against its practice of dumping water containing toxic wastes for two years. Management does not respond. Does your responsibility end here? Or do you jeopardize your professional future and your family's financial security by "blowing the whistle" on your company?

Is this a typical dilemma faced by managers in government, business and industry?

While the Hooker case may not be "typical," it is enough like the daily round of decisions faced by government managers and their counterparts in business and industry to warrant a closer examination of the entire decision-making process, according to Homer Sewell, director of the NEH-sponsored project, "Applied Ethics for Government Managers."

Sewell says that decisions made by government managers affect the lives of thousands, if not millions, of people. "The problems of the next two or three decades—population growth and the concomitant shortages of resources and food, the revolution in microbiology and microelectronics and the social upheaval they will precipitate, the proliferation of nuclear and perhaps even more lethal biological weapons—we can't go on muddling through like we have up until the present," insists Sewell.

The program was held at George Washington University and consisted of two courses designed to attract senior government managers whose jobs relate to science and technology. Government executives quickly filled the two seminars offered: one, an all-day workshop consisting of lecture, case analysis, seminar debate and discussion; the other, a longer, more rigorous program involving eight seven-hour seminars. The forty participants in the latter program included colonels, naval captains from NASA Goddard Space Flight Center, the United States Navy Ship Research and Development Center, the United States Nuclear Regulatory Commission and the Defense Communications Engineering Center, among others.

"They came with terribly important concerns about the moral dimension of their professional experience," Sewell explained.

Each interdisciplinary session in the seminar was led by a distinguished figure in a particular humanities discipline. Dr. Daniel Callahan, director of the Hastings Center: Institute of Society, Ethics and the Life Sciences, led the session on ethical issues in science; Dr. Robert Baum, director of the RPI Center for the Study of Human Dimensions of Science and Technology, on societal issues in engineering; and Dr. LeRoy Walters, director of Georgetown University's Kennedy Center for Bioethics, on medical ethics.

After being grounded in the theoretical traditions of moral philosophy, the participants examined the ethical applications to decision making in their professional lives, with such questions as:

"Are scientists responsible for the consequences of basic research?" "Is there such a thing as forbidden knowledge?" "Are there some technological possibilities that should not be pursued?"

"I think some of us were saying, 'Give me a formula—a set of rules and regulations to make ethical decisions!'" said Robert McEwen of the

U.S. Geological Survey, "but at the end, at least for some of us, there was a realization that that was impossible."

Sewell believes that, "some of the participants came out of the course more frustrated than before. The nature of these kinds of questions is intrinsically ambiguous because they are a reflection of our consciousnesses . . . even though we are enormously successful at answering the 'what' questions of our existence, we are no closer to answering the 'why' questions than we were 1,000 or even 10,000 years ago."

"Ten years ago the average corporation executive never had a serious thought of the moral climate in which he did business," said Sewell, who left his position as director of the Boeing International Corporation in Europe to acquire a doctoral degree in moral philosophy and currently teaches ethics to graduate engineering students at The George Washington University.

That contemporary management practice itself has contributed to an ethical malaise in business and government was addressed in sessions such as "Can an Executive Afford a Conscience?" and "Is Business Bluffing Ethical?" Participant Robert Levine, a technologist from the Defense Communications Engineering Center, blamed management practice for "an environment where self-objectives and the rewards that come with not making mistakes are more important than any real accomplishment."

Callahan, of the Hastings Center, pursued the practice by technologists and scientists of applying "scientific" methodologies to policy making with discussions asking "How might we judge whether technological 'progress' and innovation actually contribute to human welfare? Are such techniques as cost-benefits and risk-benefits 'value-free'?"

"We aren't unethical," said Robert McEwen, "but we need to sharpen our decision-making process. We worry about a lot of things but we don't do anything about them."

The realization of the need for a sounder and more informed approach to ethical questions by the professions, government and business is demonstrated by the burgeoning interest in ethics courses in the professional schools, the appearance of consulting firms specializing in applied ethics and in seminars like this one.

"Applied Ethics for Government Technical Managers" will be repeated at least biannually and will be the basis for a permanent course in the School of Engineering and Applied Science at The George Washington University. The success of the programs, measured by the enthusiasm of the participants who recommended future courses to their colleagues, has led to serious discussions concerning the establishment of a center devoted to the study of ethical issues in business and government for which the Washington, D.C., area is a particularly appropriate location.

"The objective of an applied ethics course," asserts Sewell, "is not to leave the participant a more moral person—there is no way to make a person more moral except by veiled indoctrination—but to develop a more morally sensitive person. We can increase our moral sensitivity to an issue as opposed to our total ignorance of its ethical dimension. We can do a better job by using the analytical material at our disposal."

—Karen Salisbury

Ms. Salisbury is a Washington writer.

"Courses on Applied Ethics for Managers of Technical Activity in Government" (Homer Sewell/George Washington U., Washington, DC \$52,454/1980-81/Science, Technology and Human Values Program, Division of Special Programs



Doomsday Clock from the Bulletin of the Atomic Scientists. The hands point to four minutes to midnight.



A New Dimension in Decision Making

Please note: Area code for all telephone numbers is 202.

Deadline in
boldface

For projects
beginning after

DIVISION OF EDUCATION PROGRAMS—*Myron Marty, Acting Director 724-0351*

Elementary and Secondary Education—*Francis Roberts 724-0373*

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Consultant— <i>Janice Litwin 724-1978</i>	June 1, 1981	October 1981
Implementation— <i>Lyn Maxwell White 724-0393</i>	June 1, 1981	January 1982
Higher Education/Regional-National— <i>Blanche Premo 724-03 11</i>	July 1, 1981	January 1982

DIVISION OF PUBLIC PROGRAMS—*Stephen Rabin, Acting Director 724-0231*

Humanities projects in:		
Libraries— <i>Thomas Phelps 724-0760</i>	July 15, 1981	January 1, 1982
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DIVISION OF STATE PROGRAMS—*Donald Gibson, Acting Director 724-0286*

Each state group establishes its own grant guidelines and application deadlines; therefore, interested applicants should contact the office in their state. A list of those state programs may be obtained from the Division of State Programs.

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Publications— <i>Margot Backas 724-1672</i>	May 15, 1981	October 1, 1981
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Research Resources— <i>Margaret Child 724-0341</i>	June 1, 1981	April 1, 1982

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Science, Technology and Human Values— <i>Eric Jeungst 724-0354</i>		
Preliminary Proposal	May 1, 1981	December 1, 1981
Final Application	August 1, 1981	December 1, 1981
Youth Programs— <i>Marion C. Blakey 724-0396</i>		

OFFICE OF PLANNING AND POLICY ASSESSMENT—*Armen Tashdinian, Director 724-0344*

Planning and Assessment Studies— <i>Stanley Turesky 724-0369</i>	August 1, 1981	December 1, 1981
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Grant Application Deadlines Through August 1981



Students, professional schools, and foundations (including the National Endowment for the Humanities) have shown considerable interest in the topic of professional ethics, or, more broadly, the humanities and the professions. This sudden rush to fund research, and to teach, write, and enroll students in the area of "applied ethics" reflects a society in trouble. The humanities, it is hoped, will offer some measure of wisdom to practitioners in medicine, law, journalism, and public administration who have lately discovered that their power and success in solving problems have generated a special set of moral problems that their technical training has not prepared them to confront.

Despite social interest and support for the enterprise, teachers who currently patrol the terrain of professional ethics face skepticism from their colleagues within the academy. Faculty members in professional schools are willing to respond to external pressure and establish courses in professional responsibility, but many worry that such courses do not match in rigor the technical subjects of a professional education. They generally assign the work to an untenured colleague whose academic career depends upon research in a more traditional field of study. Or they purchase the partial services of a teacher in the humanities who has lately taken up an interest in the particular profession. The language of disdain sometimes verges on the phallic: the "soft" insights of the humanist do not compare with the "hard" data on which the professional depends for competence and fortune. The well-intentioned humanities scholar seems far removed from the hard realities of professional practice.

Meanwhile, thoughtful traditionalists in the humanities have their own doubts about applied ethics. The current enthusiasm for the subject seems a little opportunistic and somewhat unbecoming. Faculty members introduce courses in professional ethics for the sake of favorable body counts. They mount research projects in the field in response to the sweet-talk of foundation money. Finally, they tend to lack intellectual credibility in the eyes of some colleagues in the fields of philosophy and theology, who find applied work secondary and derivative, compared with foundational research in the classical disciplines.

No one wants to defend opportunistic behavior or second-rate work. At the same time, it should not be forgotten that the proud disdain of some scholars for the world of practice has itself rested on an economic base. Teachers in the humanities have been able to rely on substantial enrollments in their traditional courses because, until recently, students graduating with a B.A. degree could secure a job irrespective of major; the public school system needed armies of teachers. Further, foreign language departments had the advantage of cold war funds to keep themselves furnished with graduate students. Recently however, the economic base of the humanities has eroded.

The key question is whether these recent shifts in enrollments and money must be experienced as pure intellectual loss or whether, within limits, the humanities have something to gain, especially to gain intellectually, in addressing new constituencies in new ways. A response to this question requires a look at the word "applied," a term which may encourage a somewhat misleading view of the task of the teacher. The phrase "applied ethics" suggests a sharp distinction between ethical theorists, who do the original research (more highly prized by tenure and promotion committees), and applied ethicists, who relate abstract principles, generated elsewhere, to practical problems of the

kind the professions face. One immediately thinks of the corresponding distinction between pure and applied research in the sciences or between fundamental and mission-oriented research directed to the development of specific technologies.

Applied ethics, so conceived, at once claims too much and too little for the field. It claims too much to the degree that it implies to the professional community that the humanities offer some kind of rescue and salvation from moral problems. People in this camp look to the humanities to infuse the society with values and to help it cope with its problems and destiny. (Malcolm Muggeridge once called values the polite "BBC" term for religion.) In this view the applied ethicist functions as a kind of professional's professional, who, it is hoped, has access to a tradition and to a mode of reasoning that will eliminate the moral dilemmas that arise in professional life. With some such hope, professionals attend seminars on ethics and foundations support them. But, of course, moral problems are a peculiar class of problems—chronic rather than occasional. This leads thoughtful moralists to want to lower expectations.

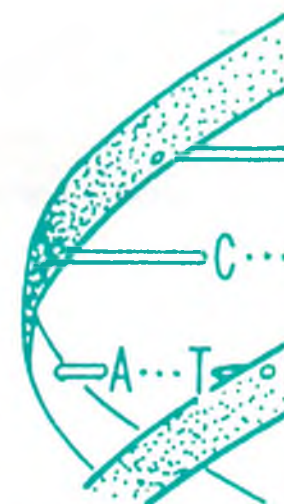
Alternatively, applied ethics claims too little for itself—particularly within the Academy—insofar as it suggests that "applications" have a merely deductive, derivative, and dispensary relationship to theory. Thus, truly serious moralists are presumed to do abstract, foundational work; applied ethicists, at best, live parasitically off this basic research and relate it to specific problems which, alas, they know less well than the expert in the field. Their competence is constantly at risk. They carry water from wells they have not dug to fight fires they cannot find. They do not appear to be intellectually serious figures.

This condescending view of the applied ethicist overlooks a more heuristic possibility for the vocation. Wrestling with specific issues may help one see theoretical problems in a fresh way. Through the effort to reach some kind of clarity about "applications," one may not merely package what is already known, but discover what is unknown, barely known, or known only by rote. To this degree, the applied ethicist is more than a taxonomist who classifies already established moral systems and applies them to specific issues. He or she works as a constructive moralist who offers fresh theoretical insights in interpreting and criticizing a specific world of practice. James Madison, Edmund Burke, Erasmus, Martin Luther, Samuel Johnson, and Simone Weil are examples of thinkers who bridged worlds to the benefit of both.

The word "theory," unfortunately, sometimes suggests to the practical person a remote and abstract enterprise, blindly distant from the real world; and much of it is so. But classically understood, the theorist provides for a fresh envisioning of the world. So Plato understood it, when he cast the *polis* that he knew in the light of the ideal state. And so Machiavelli understood it, when, in his dedication to the *Prince*, he compared the political theorist to the landscape painter who views the world from the distance of insight and perspective. The very word "theory" in its Greek root refers to vision. Appropriately, the word "theater" also derives from *theoria* because theater, like good theory, presents us with a world to see. Thus applied ethics has a theoretical component intimately related to insight and vision.

But ethical theory is a special type of vision, a corrective vision. It does not merely scan the world as it is or prepare leaders for the professions as they are. Rather, it entails a knowl-

DIALOGUE ON



Watson's double helix, which shows the structure of the DNA molecule, has transformed the science of biochemistry. Philosophers shown clockwise from the top are Aristotle, William James, Emmanuel Kant, Jean Jacques Rousseau, and Bertrand Russell.

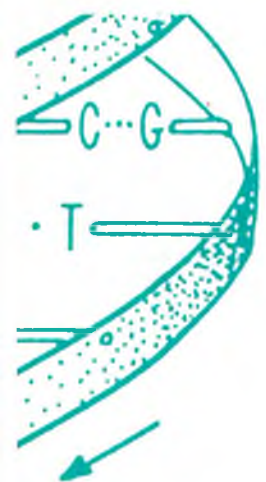
Illustration from *The Double Helix* by James D. Watson, copyright © 1954

edgeable re-visioning of the world that human practice presents. Through this cognitive illumination, the ethicist serves, in some limited way, the human capacity for resolution and decision.

Ethical theory may not always eliminate moral quandaries, but it opens up a wider horizon in which they may be seen for what they are and thus become other than they were. To this degree, it creates a little clearing and space for men and women to act somewhat differently. It throws the accepted world in a new light, an unexpected perspective; it opens up new possibilities for action, so that behavior that previously seemed plausible and imperative now loosens its hold, its power to compel. Every world of practice tends to harden into its apparent urgencies—"at that point in time," or "in that time frame," whereby it rationalizes the dubious. In ethical reflection, the world, as it once appeared, gets stretched and rearranged; other modes of practice become more inviting; other social structures, more fitting. Teaching ethics in this mode does not attempt



APPLIED ETHICS



Philosophers who are *also* trained in law, medicine or business may well be exemplary lawyers, physicians or corporate managers, and indeed their philosophical training may well enrich their other professional skills. But simply being a philosopher—particularly a moral philosopher—does not make anyone a values expert when it comes to practical decisions that have moral significance. On the contrary, philosophers' unworldly reputations are probably well earned. Their views on practical issues are often naive, utopian, or refracted through an ideological prism and thus distorted.

Of course a philosopher, like any other responsible citizen, can serve perfectly well on a lay advisory board whose function is to keep medical researchers or jurists in touch with the moral standards and beliefs of the community at large. But even serving on a hospital board, or a parole board, may be harder for the moral philosopher than for another citizen. A philosophical commitment to a particular ethical theory may get in the way of the ability to represent community moral standards. Other board members may represent a variety of live moral traditions, a practicing Catholic, a rabbi, a Unitarian Sunday school teacher for example. But what does a philosopher, who may be a utilitarian or a contractarian, represent? And why should the philosopher be considered the expert on moral issues?

The philosopher represents only a tradition of intellectual reflection cultivated today mainly in academic philosophy departments. This tradition has an honorable role to play, but not necessarily in practical decision making. The moral philosopher's expertise lies in a particular sort of reflection on ethical matters, a purely cerebral and, usually, armchair reflection.

His or her theory will have been tested only in philosophical debate, not tested and practiced as a viable "form of life," to use Wittgenstein's phrase. Philosophical theory is not like a live moral tradition, a way of living that can be handed on from parents to children. Philosophical theories are held and assented to, but one does not necessarily *live* by them.

The philosophers' theoretical versions of morality have not passed the practical test of having been transmitted from parents to children, when moral conscience is formed. Thus they are in one important way *less* thoroughly tested than the non-intellectual, "uncritical" tenets of morality that philosophers usually despise as unreflective.

But reflection can take forms other than moral theorizing; there are more important tests than survival in debate; and receiving and accepting moral constraints may be more important than paying intellectual homage to a theory without any motivational commitment. The morality that counts in the lives of individual men and women, the ethical views that determine how they feel, are learned long before reading Kant or Mill or Rawls. And when some specific normative theory is accepted, it may dictate only the counsel given to others, not one's own actions. To say, "If I were you I would do X . . ." often really means, "I advise this, as long as I don't have to do it or have it done to me."

Philosophers are tolerated, even supported, by a community not because they have a monopoly of wisdom or are expected to purvey instant advice on urgent practical questions. Rather their value lies in the unworldly and detached thinking that can, over many generations and after much non-theoretical testing, contribute to the quality of our contemplative life, and thus to the quality of our practical decisions.

By a slow process, the ideas of a Descartes

or a Leibniz transform scientific theories and technology and thereby change the character of a culture. The ideas of Locke and Rousseau and Hegel, adapted by activists, informed revolutions. The ideas of Godwin and Mill heralded, after much social turmoil, changes in the status of women. The ideas of Bentham changed penal practices, and Rawls' ideas may also change social practices. Thinkers like Rousseau, Rawls, Foucault, enlarge our vision of the possible, free us to make new choices.

But this does not mean we should put philosophers in a position to direct those changes. The ideas of philosophers need a period of gestation in more wordly minds, to survive the risk of spontaneous abortion, before they can yield their practical uses. It is dangerous to try to bypass or hasten the process by allowing or encouraging philosophers to "apply" their theories. Even a worldly philosopher like Bentham, whose system contained what Hume called "a share of this gross earthy mixture," conceived a "monster," the *panopticon* (a prison so arranged that all parts of the interior are visible from a single point), to carry out his theories of prison reform. What can we expect from today's philosophers, for whom philosophy is a profession in itself, not a way of reflecting on their own lives or work in other fields? We risk getting more *panoptica* if we let philosophers loose outside their studies.

A society that invests in philosophy makes a long-term investment, one which cannot be converted to short-term profit. If hospitals or other institutions employ philosophers as professional consultants, they may get what they are willing to pay for, but I doubt if it will be what philosophers can be proud to offer.

At worst these philosophers will provide rationalization of whatever policy it suits their employers to adopt, proffering different moral theories to suit different justificatory needs. Perhaps they will even serve as a new form of insurance against malpractice suits counseling their employers about the moral-cum-legal costs of contemplated decisions. At best they will provide harmless intellectual babble as a soothing and, at the moment, fashionable background music to the real action. Those philosophers who advise decision makers on applied ethics will become neither philosopher kings nor king makers, but sophists, running dogs, or court entertainers—fools and jokers. The latter role is not altogether to be despised, and may in any case be the role always played by professional philosophers. But to play the fool in honest fool's motley is one thing; to play it in judge's wig and robes, quite another.

The negative case I have presented applies particularly to the attempt to apply normative moral theories to real-life decisions, when not only are these theories untested in application, but there is no consensus about which theory is most acceptable.

Fortunately, not all moral philosophers spend their time formulating or defending normative theories. Some of the greatest moral philosophers—Aristotle or Hume, for example—offer us primarily ways of understanding existing moral practices, practices of training as well as of justification, and such understanding may make a difference.

Philosophers and philosophy courses can expand the reflective self-consciousness of moral agents, which in turn may even lead to changes in practice. But we should not deceive ourselves that these are "applications" of normative theory. Rather they are simply examples of that reflective response to practical ethical problems which is the core of all moral thought.

—Annette Baier

to bend the will or infuse the appetites with values or indoctrinate without illuminating, but it helps keep open the path to good practice.

—William F. May

Can professional philosophers—particularly philosophers who specialize in ethics—be of any practical assistance to businesspeople or physicians, whose job is to set policy and make judgments in hard individual cases?

Philosophers, by virtue of their special training, are familiar with a variety of moral theories and the distinctions drawn both in constructing and criticizing them. But does this make philosophers good consultants to hospitals or corporations? Do courses that purport to show how normative theories may be applied to specific cases really train medical and business students for the ethical responsibilities of their professional lives? A host of philosophers, and their employers, say yes—applied ethics is a booming business these days. I shall give some reasons for saying no.



DUSTJACKETS

Research Tools and Reference Works—Part I

Almost everyone at one time or another has consulted a dictionary, atlas, or encyclopedia. Yet to the popular imagination the making of such works often seems an arcane and plodding pursuit, whose product reflects a mere rehearsal of facts, a summary of information handed down and handed out. Moreover, the sheer scale of any enterprise to create a reference work challenges in itself contemporary notions about the inherent limitation of individual possibility: what one person can do or ought to attempt.

Ours is not an epoch in which scholars are encouraged to strive for eloquence in several disciplines; we are usually more comfortable with the specialist who knows one thing and knows it very well. In earlier periods, philosophers, statesmen, and literary figures assumed responsibility for refining and redacting what they thought significant or indispensable to human experience. The Victorian man-of-letters, Sir Leslie Stephen, undertaking to write a *Dictionary of National Biography*; Samuel Johnson, daring to compile a *Dictionary of the English Language*; Denis Diderot, playwright, novelist, art critic, survivor of the French Revolution and projector in its teeth of the *Encyclopédie*: all come to mind as examples of men who accept-

ed, as fundamentally possible for the individual, the creative act of assembling, defining, and interpreting a comprehensive body of knowledge.

There is always the danger, of course, that such grandiose efforts may prove pyrrhic or self-destructive. One recalls George Eliot's Casaubon and the havoc of his attempt to unify all the world's mythologies within a single compass.

But then there is also the instance of James Murray, devoting thirty-five years to editing the *Oxford English Dictionary* only to die before its completion, who nevertheless could view his immense task as a kind of triumphant destiny:

I think it was God's will. In times of faith I am sure of it. I look back and see that every step of my life has been as it were imposed upon me—not a thing of choice: and that the whole training of my life with its multifarious and irregular incursions into nearly every science and many arts, seems to have had the express purpose of fitting me to do this Dictionary But I am only an instrument, only the means that He has provided, and there is no credit due to me, except that of trying to do my duty: Deo soli gloria.

However much the spirit of the age may

seem to consort against the encyclopedist and lexicographer, the need for what they do apparently remains undiminished. No less than previous cultures (and perhaps even more, given the vast amounts of undifferentiated information generated by our society), we require the coherence and interpretive judgments these kinds of works bestow. Perhaps this begins to explain, at least in part, the number and variety of projects to create major research tools and reference works currently in progress or recently completed. Indeed it can be argued, perhaps, that this period may ultimately be deemed a "great age" for atlases, dictionaries, and encyclopedias.

The geographical atlas might seem to be among the most conventional of reference works and one least susceptible to the concerns of the humanities. However, as the historian Lester Cappon has observed, "Graphic expression has a peculiar capacity to communicate facts and ideas directly and indirectly, outspokenly to the fact seeker, subtly to the knowledgeable reader who probes further."

The *Atlas of Early American History* is a work designed to communicate on both these levels. Its 286 maps, based on years of original research, are drawn and chronologically arranged to reveal the history of the Revolutionary Era from 1760 to 1790 and are accompanied by extensive text and a bibliography of sources for its cartographic data.

But almost all of the information in the *Atlas* may be inferred from the maps themselves which take as their subject not only traditional depiction of terrain and military sites, but political representation in the Colonies, the location of religious congregations by denomination, economic and cultural activity, and a number of thematic issues that fuse the temporal element of history with the spatial dimension of geography.

In "reading" this atlas, one may learn a variety of things: how the geography of the Colonies compares with that region of the United States today, how the population developed from 1720 to 1760, how the war itself progressed in twenty-four discrete periods, even how long it took for news to travel from Boston to Philadelphia. Sponsored by the Newberry Library and the Institute of Early American History and Culture and published by Princeton University Press, the *Atlas of Early American History* has been hailed as a landmark in the history of cartography and the use of cartography for historical reference.

A similar approach to the expanded possibilities of the atlas is seen in the *Historical Atlas of South Asia*, edited by Joseph Schwartzberg and published by the University of Chicago Press in 1978. Reflecting the work of more than



The Sumerian Dictionary is based on thousands of cuneiform tablets dating from 3000 B.C. to A.D. 1000.

Courtesy of the National Museum of Natural History, Smithsonian Institution

fifty cartographers and historians over a period of fourteen years, this atlas undertakes to depict the history of South Asia from the Old Stone Age to the present day. Its maps trace various political, cultural, social, and economic aspects of a region encompassing India, Pakistan, Bangladesh, Afghanistan, Nepal, Bhutan, Sri Lanka, and the Maldives. Certain maps also portray how the internal history of these countries was affected by Central Asia, Southwest Asia, and China.

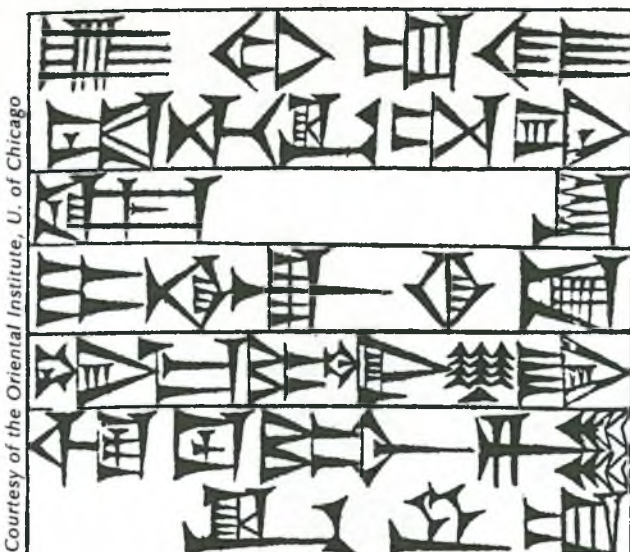
In its totality, the *Atlas* provides not only a wealth of data and information but also a vivid sense of the limitations of previous intellectual demarcations used to define South Asian history: the Hindu, Mohammedan, or British "periods"; transmuted European categories like "Ancient," "Medieval," and "Modern"; thematic schemata like "Slavery," "Feudalism," "Capitalism," and "Communism." The maps themselves are enriched by a substantial narrative text, bibliography of sources, indexes and cross-referencing.

The creation of new tools and reference works relating to native-American history may prove especially important, since they often will provide, for the first time, the necessary base for sustained interpretive research in this field as well as help to illuminate the true history of the Indian experience to a broader audience.

Currently nearing completion, the *Atlas of Great Lakes Indian History* will depict in its forty maps and 176 pages of illustrated text, introduction, and indices an extraordinary number of discoveries drawn from primary sources and original research about the geographical location of Indian settlements and tribes. One map of Indian villages in Illinois circa 1860, for instance, sites more than 100 Indian villages where previous scholarship had posited twenty at best.

The temporal span of the *Atlas* stretches from 1600, marking the first significant contact made between Indian and white, to 1875, when final treaties had been concluded with the government and the tribes placed where they may be found today. Since so much of its information has never been published before in any form, the *Atlas of Great Lakes Indian History* is expected to become an invaluable resource for a wide range of scholars, teachers, and students; for government administrative agencies and workers in local communities; and, perhaps most of all, for Indians themselves—whose history in this region will now, at last, have been appropriately documented.

Of no less importance to Indians and to scholars of their culture (and the history and

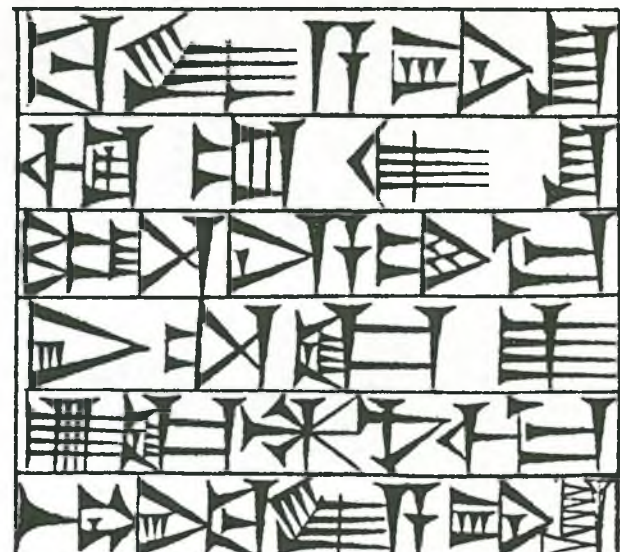


The famous Babylonian precursor of the biblical injunction "an eye for an eye" was found on one of the cuneiform tablets used in making the Assyrian Dictionary. The passage translates "if a man has destroyed the eye of another man, they shall destroy his eye." Shown is cuneiform hand-copied from the same tablet.

structure of language generally) is the completion of adequate lexicographic tools. At the Native Language Center of the University of Alaska, linguists and native speakers are working collaboratively to produce a series of dictionaries that will preserve from extinction ten separate native-Alaskan languages. Similar projects have been undertaken in recent years to create dictionaries for the Penobscot, Gros-Ventre, Colville, Comanche, and Salish languages. Appearing in 1980, *The Navajo Language: A Grammar and Colloquial Dictionary* epitomizes the varied uses and impact such dictionaries may have. Designed as a bilingual lexicon, it serves as a research tool for linguists and other scholars, as a tool for those concerned with the teaching of English or Navajo as foreign languages (even providing the raw material for a series of progressively graded texts), and as a basic reference for the young Navajo, enabling him to meet the necessity of learning English without sacrificing a knowledge of his "first" language.

Major dictionaries for other languages, often widely separated in time and geography, are also in progress. The Assyrian and Hittite Dictionaries at the University of Chicago and the Sumerian Dictionary at the University of Pennsylvania are each based on tens of thousands of cuneiform tablets dating from 3000 B.C. to A.D. 1000 and will constitute the first comprehensive lexicographic reference work for these historically significant civilizations.

When the three dictionaries are finished, the entire written corpus of these cultures will be made accessible to historians, linguists, economists, and cultural anthropologists; more-



over, in supplying with their definitions a full context for each word, these dictionaries serve as a kind of encyclopedia as well as a thesaurus for the user.

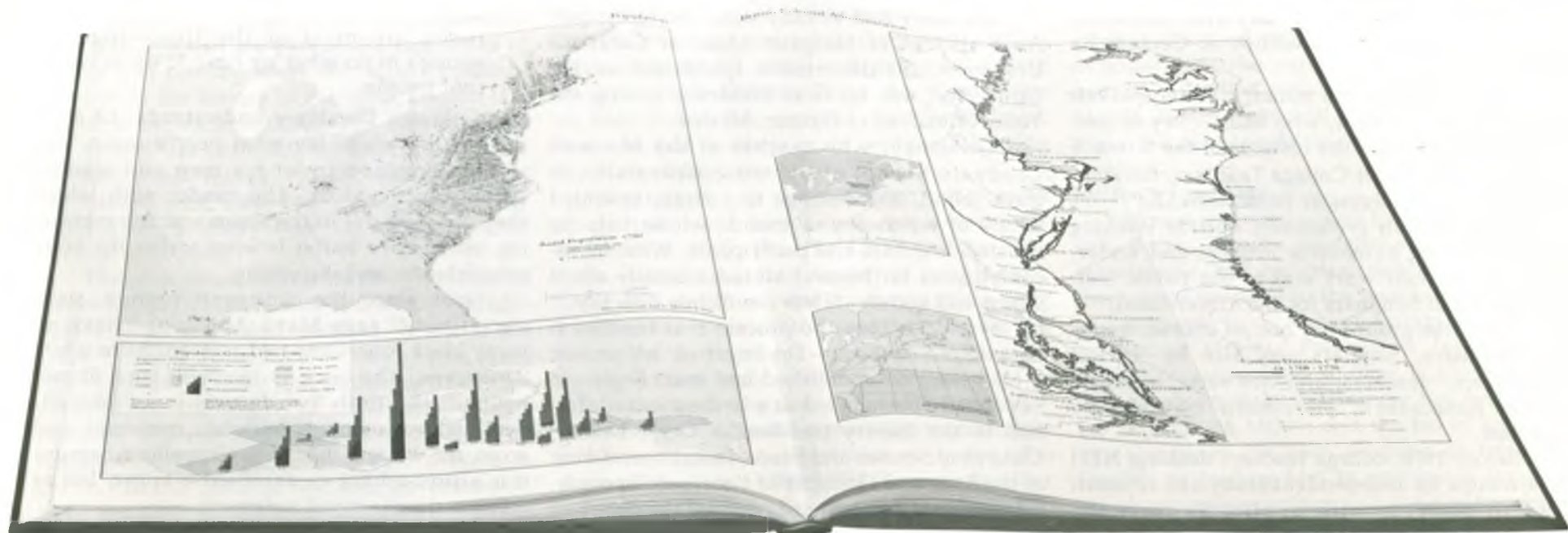
Surprisingly, perhaps, dictionaries for certain languages currently spoken remain unwritten. The first English-Vietnamese/Vietnamese-English Dictionary is just nearing completion.

A modern Greek-English dictionary is now being compiled at the University of North Dakota. Its editor has been working assiduously for the past twenty years; he is seventy-three and estimates the project may be completed by 1990. And as in the case of James Murray, the Dictionary has become his life. He will often work a nine-hour day, eat dinner, nap for an hour, and return to work for five more hours. Recently he told a reporter, who sought him out among this three million file cards, that "many people don't know what labor goes into this." He is hard-pressed even to remember when he last saw a movie—"twelve years ago, or maybe fifteen." All the same, he also took care to read approvingly to this reporter the words of the lexicographer J.R. Hulbert from a card taped to the wall of his office: "I know of no more enjoyable intellectual activity than working on a dictionary . . ."

—George Farr

Mr. Farr, a member of the Endowment staff, directs the Research Materials program.

Ed. note: All book projects mentioned in this article are supported by NEH grants. In Part II of this *Dustjackets* series, Mr. Farr will discuss encyclopedias and the impact of computer technology on the creation of research tools and reference works.



The *Atlas of Early American History* shows how the geography of the colonies compares with that region of the United States today.

NEH FELLOWSHIPS

Photograph: Morton Broffman

An Overview

Fellowships are, in effect, grants of time. They make possible uninterrupted study and research by providing stipends to cover the approximate cost of undertaking a summer research program or attending a summer seminar. Endowment fellowships range in length from four weeks in some summer seminars to a full year for most fellowships.

Unlike most other Endowment grants, fellowships go directly to individuals for personal study or research, rather than to institutions to fund larger-scale, collaborative projects; and applications are submitted directly by individuals, either to the Endowment or to the seminar directors.

This reflects another difference between fellowships and most other Endowment grants: the basic purpose of fellowships is to help individuals develop their ideas and capacities rather than to provide funding for a product such as a reference work, educational curriculum, museum exhibit, or television program.

Through its fellowship and seminar programs the Endowment keeps a primary focus upon the individual scholar: thinking, studying, doing research, planning courses, writing, and, in the seminars, exchanging ideas with colleagues.

NEH fellowship and seminar programs have been directed toward three main groups:

(1) scholars who can make significant contributions to humanistic knowledge (Fellowships for Independent Study and Research, Summer Stipends, Fellowships at Centers for Advanced Study),

(2) teachers in the nation's undergraduate and two-year colleges, who will convey to generations of students the insights of the humanities (Fellowships for College Teachers, Residential Fellowships, Summer Seminars), and

(3) leaders in professions outside teaching who will bring humanistic insights and understanding to their work and to the public (Fellowships and Seminars for the Professions).

The three groups are not, of course, mutually exclusive. Scholars may also be—in fact usually are—teachers, and vice versa; members of the nonacademic professions may also be scholars.

Before 1978, college teachers desiring NEH fellowships for independent study and research had to compete with applicants from the research-oriented universities. Because of their heavy career investment in undergraduate

teaching and the colleges' limited research resources, some had difficulty competing successfully.

In 1978, the Endowment established a separate program of Fellowships for College Teachers, intended primarily for teachers in undergraduate and two-year colleges. This new program, freed of the overwhelming preponderance of established scholars proposing work designed to result in significant publications, can more readily respond to different kinds of work which contribute to knowledge and teaching in the humanities in undergraduate institutions: for example, concentrated reading in the substance of one's teaching or study that will enhance the understanding of one's own field, as well as research directed toward published contributions to knowledge.

Recipients of fellowship awards cut across all sections of American society, and their projects are equally varied. Perhaps the best way to get a sense of their diversity is to look at some of the examples that follow. —James Blessing

Mr. Blessing is the director of the NEH Division of Fellowships and Seminars Programs.

"Ordinary" People

When anthropologist John Gwaltney set out on the field work made possible by his NEH fellowship, he wanted to test the validity of the traditional anthropological technique of the life history to document not an exotic culture, but the cultural character of "my own community."

Gwaltney had already used the technique. As a student of Margaret Mead at Columbia University, his dissertation (published as *The Thrice Shy*) was on river blindness among the Yolox Chinantec of Oaxaca, Mexico.

Gwaltney, who teaches at the Maxwell Graduate School of Syracuse University, is black, blind, and belongs to a large, extended family of relatives and friends whose help he enlisted as guides and participants. What he recorded goes far beyond attitudes simply about illness and society. "Data can dictate direction," he says, describing the process that resulted in an astounding book—*Drylongso: A self-portrait of black America*—published last year. *Drylongso* has already been hailed as a landmark contribution in the literary tradition of Oscar Lewis's *Children of Sanchez* and Studs Terkel's rendering of the lives and thoughts of "ordinary" people. ("Drylongso" means ordinary in the argot of core black culture).

Gwaltney interviewed forty-one men and

women from age eighteen to eighty-nine. Many are domestic workers; others, industrial workers, teachers, students, retirees; most are poor, or very close to being poor; all were chosen for their conscious allegiance to ancestral values and because they speak for what Gwaltney calls "core black culture." All are highly respected members of their community. Gwaltney shares "the opinion commonly held by natives of my community that we have traditionally been misrepresented by standard social science." As one of his informants put it, "I think this anthropology is just another way to call me a nigger."

Thus the book was meant to be not "another collection of street-corner exotica but an explication of black culture as it is perceived by the vast majority of Afro-Americans who are working members of stable families." "You never hear about black people like you or me," Janet McCrae tells Gwaltney:

Not that there is anything so special about me, but everything I read about us is sick . . . I'm an ordinary black person. I have never spent a day in jail. I'm polite to everybody who is polite to me. I don't take drugs and I can save my money. I can say three sentences without "man" and "like" and "you know." I am not about to get on welfare as long as I can work.

"Since I don't see myself or most people I know in most things I see or read about black people," says Harriet Jones, "I can't be bothered with that."

I wish you could read something . . . that would show the people . . . like most of us really are most of the time—together enough to do what we have to do to be decent people.

Although Gwaltney understands, he says, the "awful itch to say what people mean," he was determined to let his men and women speak directly to us. The candor with which they do speak out in the absence of any mitigating interpretive buffer is what makes the book astonishing—and disturbing.

"Not since the nineteenth-century slave narratives," says Maya Angelou, "have so many black Americans told such truths to white Americans. The book is terrifying and illuminating." The truth that disturbs is a thorough, well-nigh unanimous mistrust, contempt and scorn for whites, the more compelling because it is expressed not as unreflective anger, but as a dispassionate moral judgment:

We don't really agree with white people about anything important. If we were in



John Gwaltney

power we would do almost everything differently than they have.

The only white man that I ever could stand was John Brown, and they lynched him when my grandfather was 14 years old.

As long as white people have been running this country, they have done everything the exact opposite way that we all know things should be done.

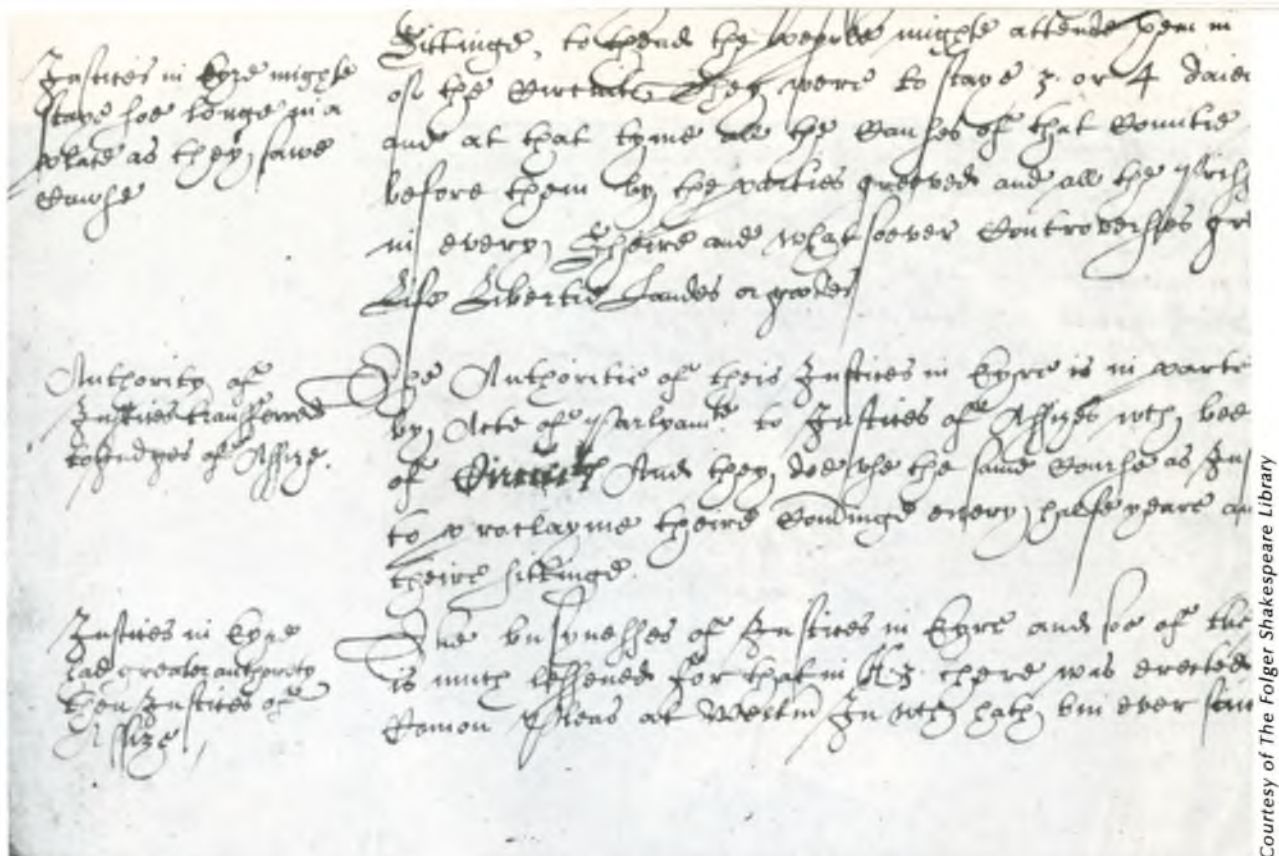
Gwaltney says we need to accept that like it or not, "here is a section of the truth," and that if there is to be any real dialogue between American communities, we must hear what "this segment of our society thinks." He believes that "we must learn to live as a plural society," and to that purpose we all need to know more about the character of ethnicity. He speaks of what can be learned from "the art of listening," and wishes that more people "were doing in American ethnicity what I'm doing instead of sitting in offices quantifying data."

Medieval Justice

In 1329, just before the opening of the local court session presided over by the king's itinerant justice in the county of Northamptonshire, there was some political trouble in the town of Northampton: the mayor was dragged out of his house by the hair and forced to accede to certain demands—mainly that he resign the office of Coroner which he also held.

The inevitable legal actions that followed were tried during the session. We can reconstruct these cases and the events behind them from eyewitness reports of the court proceedings, accounts that are part of the vast series of records that provide some of the best evidence we have of the history of medieval English law as well as the social realities with which the law had to deal. For example, the defendants in the Northampton fracas finally pleaded *nolo contendere* and avoided going to jail by negotiating a heavy fine—not unlike some modern politicians.

The evolution of the English system of common law, which in turn has shaped Anglo-American constitutional tradition, is one of the great subjects of modern historical investigation. Questions about the authority of central government, the origins of parliamentary institutions, and the working out of the unique Anglo-American doctrine that due process is central to our form of law and government, have engaged generations of scholars. As old evidence is reconsidered and new sources become accessible, the debate flourishes.



Detail from "In What Things the Use of the Law Consisteth" (1629) sometimes attributed to Francis Bacon.

The manuscript reports of the 1329–1330 Northamptonshire court session—known as a general "eyre" because the king's judges were commissioned to hear all pending litigation involving freemen that came under the jurisdiction of the crown—have never been published.

An NEH Summer Stipend allowed Donald Sutherland, professor of history at the University of Iowa, to complete his work of translating, annotating, indexing, and introducing the reports of the Northamptonshire eyre. The text will be published by the Selden Society.

The judges who presided over the eyre also had administrative power to investigate royal fiscal claims in the county, a power fiercely resented by the local gentry. Hostility on the part of local society was so strong that the king was forced to retreat. The 1330 eyre of Northamptonshire, along with eyres the same year in Bedfordshire, Nottinghamshire, and Derbyshire—Sutherland is now working on manuscript reports of those—were the last ever in England to investigate royal fiscal claims. From then on, judges' commissions were restricted purely to judicial business.

Reconstructing the reality of fourteenth-century legal procedure from the opaque sources is tough, painstaking work. About twenty different manuscripts report the 700 cases tried at the Northamptonshire eyre, and the accounts of a specific case may be wildly divergent. Matching the reports to the corresponding official record of cases entered by the clerks of the court on the Plea Rolls is "operation needle in haystack," says Sutherland. The Plea Rolls are in Latin, while the reports, which were written and circulated privately among lawyers, are in French. Often the manuscripts are hard to decipher; copyists, paid by the page, wrote as fast as they could without worrying much about legibility.

The reports are not verbatim, but present cases in dramatic form—"we can almost hear the voices," Sutherland says. The Plea Rolls—the inexorable record of judgments, fines, and penalties—are an invaluable source of data, but some of the reports bring us the texture of medieval life with more immediacy than any other body of evidence we have.

Sutherland who uses some of the cases extracted from the Northamptonshire manuscripts in his undergraduate legal history course, also drew on them in a 1979 NEH Summer Seminar for College Teachers he directed on "Freedom and the Rule of Law." A strict observance of the points of legal procedure can be identified with

the liberty of the subject, he believes, even though the phrase "due process" was not heard in the fourteenth century. "These people were the most fantastic sticklers for procedure," Sutherland adds. One of the chief objects of the rules of pleading was that no one be required to make specific statements or be compelled to testify. Sutherland calls this very broad tradition from which our Fifth Amendment rights come "the right of reticence."

When the reports of the four last years are published—by 1986, it is hoped—more than 1,000 cases previously unavailable in any form will be accessible to the international community of scholars dedicated to tracing the main themes of Anglo-American law.

Fellowships for College Teachers

A teacher at a small, four-year college where the principal commitments are to teaching and service has commented:

The opportunity to renew our self-esteem and keep ourselves intellectually honest has a hard-to-measure, but nonetheless important, impact in the classroom. By encouraging us to go about a neglected piece of our business—scholarship—the Endowment's contribution to 'effective teaching' may well be that it allows us to return to the job with a sense of refreshment and commitment that has gotten diluted by scarce promotions and the weather eye kept on class enrollments and full-time-student body counts.

The Fellowships for College Teachers program is designed especially for teachers of undergraduates who carry heavy teaching loads and have limited opportunities for doing research. The independent study that fellowships allow is meant to vitalize and enrich teaching.

Milton's Language

Almost everyone agrees that freshman English, particularly for students planning careers in scientific and technical fields, should "get them more sensitive to the possibilities resident in language," as Robert Entzminger, who teaches at Virginia Polytechnic Institute and State University, puts it. This is easier to say than to accomplish. Entzminger has found that his research on Milton and the fall of language has sharpened his own teaching of freshman English by leading him to emphasize the relationship between writers and their audiences.

At VPI, noted for its engineering and pre-medical programs, students often approach the



John Milton, from the first illustrated edition of *Paradise Lost*, printed 1688.



Detail of *Country Scenes and Occupations* by Hanabusa Itchō, 1652–1724.

Courtesy of the Smithsonian Institution, Freer Gallery of Art, Washington D.C. (Accession #03.47)

required freshman reading and writing course with the preconception that the exclusive function of language is to convey information. Thus literature ought to be logical and make its points clearly and directly; a “good” text is one that starts with an introduction, explains what it promised, and ends with a clear summary conclusion. This is the kind of mindset that prompted one student to complain, after reading 100 pages of *Jane Eyre*, “Why didn’t she tell me that in the beginning?”

How does specialized scholarly work in Milton criticism (the manuscript Entzminger completed as a result of his six-month NEH Fellowship is titled “Divine Word? Milton and the Redemption of Language”) help a teacher show students how to appreciate the subtleties, even the imprecision, of literary language?

Entzminger reports that students are immediately intrigued by some of the same topics that engaged Milton and other seventeenth-century writers caught up in the crisis of language that accompanied the seventeenth-century upheavals in politics, society and religion. We too are forced to confront “on the one hand the conscious or unconscious abuse of language, and on the other the inadequacy of language even when used responsibly to say all we want to say,” according to Entzminger.

While Milton’s approach to his art must be seen in the context of Puritan theology, the problems he addresses in such poems as *Paradise Lost* and *Samson Agonistes*—the manipulation and distortion of language, the moral uses of literary form and convention—have

continuing urgency today, Entzminger says. For example, Samson comes to distrust language after being conquered by Delilah’s words and pleads, “Be less abstruse. My riddling days are past.”

For his freshman class Entzminger prepared exercises to show that a writer can seem to be saying one thing, while using language that in fact says something very different. The students read *Alice in Wonderland*, a perfect text for raising questions of meaning and providing examples of language used to convey information as well as language used to mislead. And by analyzing ads, Entzminger’s freshmen see how media can be manipulative, while advanced students in his Milton course examine the poems to see how language is carefully manipulated to control the audience’s perspective.

The freshmen grapple with the question that if literature is inevitably manipulative, how does one distinguish it from propaganda? On the basis of the author’s intent, says Entzminger. The “secret mark” of literature is that “it lets you in on consciousness about yourself; propaganda makes you do something.”

Milton himself, a consummate manipulator of language who also wrestled with the dangers inherent in writing, defies simple categorization, Entzminger says. That makes reading Milton all the more challenging, just as the challenge of teaching freshman English is to convince students that careful, sensitive reading more than repays the effort and that complexity is a quality to be appreciated and prized in language and literature.

Modernization in Japan

There are six people on the faculty of the history department of Knox College in Galesburg, Illinois: two American historians, two European specialists, one medievalist, and Mikiso Hane, who covers the rest of the world. Hane’s repertoire of courses includes Western civilization, Russia, India, China, Southeast Asia, and Japan. “I teach everything,” he says cheerfully.

Hane used his twelve-month NEH fellowship to study the effects of modernization in rural Japan by examining one village—Hane’s own ancestral village of Oya, where he lived between 1933 and 1940. Born in California, he was sent back at age ten and remained until he was eighteen; his research also became a pilgrimage to recapture a lost memory of childhood.

Oya, he discovered, is no longer a farming community. The town is halfway between Hiroshima and the naval base of Kure and urban sprawl has overtaken it. Most people now go off to work in the city, and city people have made the rice fields residential areas.

There was more than enough material for Hane to broaden the scope of his initial topic and analyze the effects of modernization on the Japanese peasantry in general. The book he wrote on Japan from 1868 to 1945 (it will be published by Pantheon) examines the underside of the “miracle” of Japan’s modernization by dealing with the lives of the peasants and the men and women who were the products of agrarian poverty—girls forced to work in the textile factories or to become brothel inmates, miners, and the *burakumin* (outcasts). Hane’s

main sources are for the most part memoirs, diaries, and the mass of oral history gathered by Japanese social scientists and journalists. Although some of these interviews have been published in Japan, the material will be accessible to an English-speaking audience for the first time in his book.

Hane came back from his fellowship year with all kinds of ideas for doing comparative history. His examination of the plight of the Japanese farm girls working in the silk and cotton factories led to a comparative study of Japanese women textile workers and their counterparts in nineteenth-century New England.

There are interesting parallels between what happened in Japan and other countries that moved from agrarian to industrial economies—France and Russia in particular. A study comparing Japanese and Russian peasants in the nineteenth and twentieth centuries is another possibility, and one that would be especially pertinent to Hane's teaching of Russian history. He also wants to continue his work on modernization by looking into the life of urban dwellers, particularly those in the slums.

The only problem is finding the time to get started on the next project, Hane says. Meanwhile he has decided to pay more attention in all his courses to the impact of modernization on the masses and to slant the non-Western history courses more toward social history.

Hane is a subscriber to Barbara Tuchman's dictum about studying history through the lives of individuals, and notes that students are more responsive to social history when it looks at the "life of the common people." Students often need to have things described in concrete terms, and helping them understand what life was like for a specific farmer or peasant, whether in medieval France or Meiji Japan, makes history more interesting, he says. "That's what I've been trying to do."

Doing comparative history is nothing new for Hane. His dissertation was on English liberalism and the Japanese enlightenment, and he points out that since most of the countries he deals with in his courses are still agrarian, his research on Japanese peasant life is very useful all around. Unlike historians who are specialists in one narrow field, Hane is involved in teaching so many things, he says, that "I find I'm learning something all the time."

Mothering in Classical Antiquity

Five years ago, a child psychologist at the National Institute of Mental Health asked Valerie French, who teaches ancient history at the American University in Washington, D.C., to do a brief survey of the ancient world to help answer the question: Was Locke's concept of



Statue of the Mater Matuta, the goddess of a Roman cult worshipping the nourishing mother.

the *tabula rasa* characteristic in Western thought, or did adults at various times perceive that they react differently to different children? She quickly agreed, "He offered to pay \$200, and I needed the money," she recalls.

French soon found there was virtually no secondary material on the subject, and ever since, she has been absorbed in what has blossomed into a full-scale investigation of early childhood in classical antiquity, staking out in the process a relatively new field of historical inquiry. An NEH fellowship last year allowed her to find and organize evidence from classical literature, history, archaeology and medicine that will result in a two-volume work on child rearing from the age of Homer (800 B.C.) through the reign of Constantine (350 A.D.)

An understanding of how families reared their children helps answer tough historical questions about the structure of society, shifting family patterns and changes in value systems. For example, French suggests that the

failure of fourth-century Sparta to preserve its traditional ethos after the Peloponnesian Wars may be due to a radical change in child rearing during the Wars, when Spartan women forced to assume more responsibility for the state and the economy turned the job of child rearing over to non-Spartan women, and that these women were not able to establish the traditional social models by which Spartan ideology was transmitted from generation to generation. French also believes that "a fair amount of bizarre behavior" among Roman imperial families—particularly the Julio-Claudians, may be explained by the fear, indulgence and instability that marked their early childhood.

In the course of her research, French has ventured into fields new to her as she came to recognize the need for multidisciplinary analysis of the material. She consulted with child psychologists ("you must resort to psychological theory" to talk about mother-child bonding, for instance), sociologists, obstetricians and pediatricians. Although the secondary histories of pediatrics led her to believe the primary sources were skimpy, French discovered a rich tradition of pediatric literature, and found herself studying "a field I'd never heard of before," —pharmacognosy, the medical administering of herbs. To analyse the data collected from hundreds of funerary epitaphs she found for Roman children, she learned to use a computer.

A course she teaches on psychohistory incorporates much of the new material on childhood and French now spends much more time on family life in her general courses on Greece and Rome. Slides made from the hundreds of photos she took in England, Italy and Greece illustrate her guest lectures on images of child life in art history classes, and a paper on "Roman midwives and maternal care" will be presented at this year's Berkshire Conference of Women Historians. A long list of research topics is ready to suggest to students and scholars interested in ancient childhood.

French has learned, she says, that she cannot produce the definitive treatment of the subject; the material is too vast. "If I try to run down all the loose ends, I'll never finish." Her own children have helped to interpret the iconography of children at play and explain the use of toys that were obscure to her.

In response to some feminist resistance to studying the history of mothering at a time that many historians are turning away from an examination of women's traditional roles, French says "It's silly *not* to devote an enormous amount of attention to what ninety-nine and nine-tenths of all women did."

—Barbara Delman Wolfson

Ms. Wolfson is a Washington editor and historian.



A rare Roman relief depicts boys and girls playing. Dating from the early imperial period, it shows a pronounced difference in the demeanor of the sexes.

1981 NEH FELLOWSHIP AWARDS

Archaeology & Anthropology

Fellowships for Independent Study and Research

Helen F. Codere, Brandeis U., Waltham, MA
Shepard Krech, III, George Mason U., Fairfax, VA
Peter A. Metcalf, U. of Virginia, Charlottesville
Eric B. Ross, U. of Michigan, Ann Arbor
Michael T. Taussig, U. of Michigan, Ann Arbor
Robert J. Thornton, U. of Cape Town, South Africa
Elizabeth J. Tooker, Temple U., Philadelphia, PA

Fellowships for College Teachers

Myra H. Bluebond-Langner, Rutgers U., Camden, NJ, *Anthropology*
Edmund J. Dehnert, Chicago Truman College, IL, *Folklore*
Barbara L. Hagaman, Curry College, Milton, MA, *Anthropology*
Terence E. Hays, Rhode Island College, Providence, *Anthropology*
Theodore C. Humphrey, California State Polytechnic U., Pomona, *Folklore*
Richard A. Lobban, Jr., Rhode Island College, Providence, *Anthropology*
Kathleen M. Stokker, Luther College, Decorah, IA, *Folklore*

NEH Fellowships at Centers for Advanced Study

School of American Research, Santa Fe, New Mexico; \$68,500. **Douglas W. Schwartz**, Director

Summer Humanities Seminars for the Professions

Taste and Popular Culture in America, \$38,476, **Ted Cohen**, Philosophy Department, U. of Chicago, IL

Summer Seminars for College Teachers

Humor in Cross-Cultural Perspective, \$46,299, **Stanley H. Brandes**, Anthropology Department, U. of California, Berkeley
Symbolic Anthropology: A Humanistic Critique, \$47,145, **Christopher J. Crocker**, Anthropology Department, U. of Virginia, Charlottesville

American Folklore and Literature, \$58,586, **Patrick B. Mullen**, English Department, Ohio State U.

Oral Literature of the Hispanic Southwest and Mexico, \$51,263, **Stanley L. Robe**, Spanish and Portuguese Department, U. of California, Los Angeles

Anthropological Approaches to the Study of Law, \$55,953, **Lawrence Rosen**, Anthropology Department, Princeton U., NJ

Asian Performing Arts, \$48,484, **Allegra Fuller Snyder**, Dance Department, U. of California, Los Angeles

American Folklife: Traditional Architecture, Art and Craft, \$42,195, **John M. Vlach**, Anthropology Department, U. of Texas, Austin

Unity and Diversity in Brazilian National Culture, \$55,201, **Charles W. Wagley**, Anthropology Department, U. of Florida, Gainesville

Summer Stipends

Carole L. Crumley, U. of North Carolina, Chapel Hill, *Anthropology*

Paul V. Kroskrity, U. of California, Los Angeles, *Anthropology*

Joan Larcom, Mount Holyoke College, South Hadley, MA, *Anthropology*

Susan P. Montague, Northern Illinois U., DeKalb, *Anthropology*

John W. Olsen, Tucson, AZ, *Archaeology*

Gary B. Palmer, U. of Nevada, Las Vegas, *Anthropology*

Glenn T. Petersen, CUNY, *Anthropology*

Gwendolyn M. Remy, Georgetown U., Washington, DC, *Anthropology*

Martha H. Wiencke, Thetford Ctr, VT, *Archaeology*

Arts—History & Criticism

Fellowships for Independent Study and Research

Frederick M. Asher, Minneapolis, MN, *Art*
Thomas A. Bauman, U. of Pennsylvania, Philadelphia, *Music*
James H. Beck, Columbia U., NYC, *Art*
Richard J. Betts, U. of Illinois, Urbana, *Architecture*
Herbert R. Broderick, III, CUNY, *Art*
William A. Camfield, Rice U., Houston, TX, *Art*
Malcolm J. Campbell, U. of Pennsylvania, Philadelphia, *Art*
Anne D. Clapp, Wellesley College, MA, *Art*

Sue C. De Vale, Field Museum of Natural History, Chicago, IL, *Music*

Jonathan D. Fineberg, Yale U., New Haven, CT, *Art*

Jaroslav T. Folda, U. of North Carolina, Chapel Hill, *Art*

Rufus E. Hallmark, Jr., College of the Holy Cross, Worcester, MA, *Music*

Ann S. Harris, Metropolitan Museum of Art, NYC, *Art*

Alan J. Hay, Harvard U., Cambridge, MA, *Art*

Karl D. Kroeger, Moravian Music Foundation, Winston-Salem, NC, *Music*

John B. Litweiler, Chicago, IL, *Music*

Linda S. Myrsiades, Widener College, Chester, PA, *Theater*

Bruno Nettl, U. of Illinois, Urbana, *Music*

Carra Ferguson O'Meara, Georgetown U., Washington, DC, *Art*

Lee A. Parsons, St. Louis Art Museum, MO, *Art*

Marilyn L. Schmitt, U. of Miami, Coral Gables, FL, *Art*

Elaine R. Sisman, U. of Michigan, Ann Arbor, *Music*

Peg Weiss, Guggenheim Museum, NYC, *Art*

Christopher J. Wolff, Harvard U., Cambridge, MA, *Music*

Fellowships for College Teachers

William L. Barcham, Fashion Institute of Technology, NYC, *Art*

Norma Broude, American U., Washington, DC, *Art*

Peter Brunette, George Mason U., Fairfax, VA, *Film*

Whitney Chadwick, San Francisco State U., CA, *Art*

William W. Deguire, Upsala College, E. Orange, NJ, *Music*

William E. Duckworth, Bucknell U., Lewisburg, PA, *Music*

Katherine P. Erhart, U. of Southern California, Los Angeles, *Art*

Diane C. Johnson, College of Charleston, SC, *Art*

Daniel E. Mader, College of Mount Saint Joseph, OH, *Art*

Bruce A. McConachie, College of William and Mary, Williamsburg, VA, *Theater*

Thomas C. Pierson, Texas A & I U., Kingsville, *Music*

Janice K. Ross, Tuskegee Institute, AL, *Art*

Leatrice Y. Tucker, Florida A & M U., Tallahassee, *Art*

Richard Weissman, Colorado Women's College, Denver, *Music*

Summer Seminars for College Teachers

Cinema and the Affective Response, \$51,026, **Charles M. Affron**, French and Italian Department, New York U., NYC

Music in Latin American Society: Past and Present, \$47,983, **Gerard H. Behague**, Music Department, U. of Texas, Austin

Medieval and Renaissance Music: From Notation to Performance, \$52,295, **Margaret Bent**, Music Department, Brandeis U., Waltham, MA

Drama and Performance: Problems of Contemporary Theater, \$56,091, **Herbert Blau**, English Department, U. of Wisconsin, Milwaukee

The Practice of Schenkerian Analysis, \$54,593, **Charles Burkhart**, Music Department, CUNY

American Art and the Classical Tradition, \$53,831, **Philipp Fehl**, Art and Design Department, U. of Illinois, Urbana

The Abstraction of Nature in Early Medieval Art, \$51,514, **Jacques Guilmain**, Art Department, SUNY, Stony Brook

From Michaelangelo to Bernini, \$61,062, **Howard Hibbard**, Art History Department, Columbia U., NYC

The Beethoven Symphonies: Current Analytic and Historical Perspectives, \$56,473, **Lewis H. Lockwood**, Music Department, Harvard U., Cambridge, MA

Summer Stipends

W. John Archer, U. of Minnesota, Minneapolis, *Art History*

James R. Briscoe, Butler U., Indianapolis, IN, *Music*

Beverly L. Brown, Cambridge, MA, *Art History*

Dan C. Ewing, Hobart-William Smith Colleges, Geneva, NY, *Art History*

Sheila ffolliott, George Mason U., Fairfax, VA, *Art History*

Kristine K. Forney, California State U., Long Beach, *Music*

Irving Godt, Indiana U. of Pennsylvania, *Music*

George L. Gorse, Pomona College, Claremont, CA, *Art History*

Elizabeth G. Grossman, Providence, RI, *Art History*

Jeffrey M. Hurwit, U. of Oregon, Eugene, *Art History*

James T. Koetting, Brown U., Providence, RI, *Music*

Eugene J. Leahy, U. of Notre Dame, IN, *Music*

Ernest D. May, U. of Massachusetts, Amherst, *Music*

Linda M. Papanicolaou, Ridgewood, NJ, *Art History*

Sharon F. Patton, U. of Maryland, College Park, *Art History*

Denise T. Restout, Lakeville, CT, *Music*

Donald Royce-Roll, Green Mountain College, Poultney, VT, *Art History*

Michael E. Shapiro, Duke U., Durham, NC, *Art History*

Edward B. Turk, Massachusetts Institute of Technology, Cambridge, *Art History*

Magda J. Vasillov, CUNY, Bronx, *Art History*

E. Cynthia Verba, Brookline, MA, *Music*

Mary C. Volk, Providence, RI, *Art History*

Richard L. Wall, CUNY, Flushing, *Theatre*

Charles S. Willite, Midland Collge, Fremont, NE, *Music*

Gary J. Williams, Catholic U., Washington, DC, *Theater*

Fikret K. Yegul, U. of California, Santa Barbara, *Art History*

Classics

Fellowships for Independent Study and Research

Alexander J. Graham, U. of Pennsylvania, Philadelphia

William A. Grimaldi, Fordham U., Bronx, NY

Sandra R. Joshel, Boston College, MA

Ludwig Koenen, U. of Michigan, Ann Arbor

Andrew M. Miller, U. of Pittsburgh, PA

Susan A. Stephens, Stanford U., CA

Fellowships for College Teachers

Edmund M. Burke, Coe College, Cedar Rapids, IA

Raymond H. Larson, Saint John's U., Collegeville, MN

Sarah B. Pomeroy, Hunter College, CUNY

Barbara A. Shailor, Bucknell U., Lewisburg, PA

Ziony Zevit, U. of Judaism, Los Angeles, CA

Summer Seminars for College Teachers

Society and Literature in the Roman World, \$54,063, **William V. Harris**, Classics Department, Columbia U., NYC

The Archaic Greek Poet's Vision of the City-State, \$52,200, **Gregory Nagy**, Classics Department, Harvard U., Cambridge, MA

The Origins of the Concept of Freedom in the Ancient World, \$47,023, **Kurt Raaflaub**, Classics Department, Brown U., Providence, RI

Summer Stipends

Janet L. Fraser, Mary Washington College, Fredericksburg, VA

History—Non-U.S.

Fellowships for Independent Study and Research

George Akita, U. of Hawaii, Honolulu, *Far Eastern*

Christine V. Bornstein, U. of Michigan, Ann Arbor, *European*

Marshall S. Clough, U. of Northern Colorado, Greeley, *African*

Marcia L. Colish, Oberlin College, OH, *European*

David A. Cressy, Claremont, CA, *British*

Natalie Z. Davis, Princeton U., NJ, *European*

Richard W. Davis, Washington U., St. Louis, MO, *British*

Jeffry M. Diefendorf, U. of New Hampshire, Durham, *European*

James M. Diehl, Indiana U., Bloomington, *European*

Roger V. Dingman, U. of Southern California, Los Angeles

Todd M. Endelman, Indiana U., Bloomington, *Jewish*

Stephen A. Farmer, Louisiana State U., Baton Rouge, *European*

Jan E. Goldstein, U. of Chicago, IL, *European*

Alice A. Kelikian, Smith College, Northampton, MA, *European*

Earl H. Kinmonth, U. of California, Davis, *Far Eastern*

B. Robert Kreiser, U. of Rochester, NY, *European*

Rudi P. Lindner, U. of Michigan, Ann Arbor, *Near Eastern*

Joseph L. Love, U. of Illinois, Urbana

Michael F. Metcalf, U. of Minnesota, Minneapolis, *European*

Fredrick B. Pike, U. of Notre Dame, IN, *Latin American*

Mark Poster, U. of California, Irvine, *European*

John M. Riddle, North Carolina State U., Raleigh

Alfred J. Rieber, U. of Pennsylvania, Philadelphia, *Russian*

Eleanor M. Searle, Calif. Institute of Technology, Pasadena, *British*

Robert J. Scally, New York U., NYC, *Irish*

Stanley J. Stein, Princeton U., NJ, *Latin American*

Lucy C. Stout, Cambridge U., England, *South Asian*

Dale W. Tomich, SUNY, Binghamton, *European*

James D. Wilkinson, Harvard U., Cambridge, MA, *European*

Fellowships for College Teachers

Stephen K. Ainsworth, Virginia State College, Petersburg, *Latin American*

Henry E. Chambers, California State U., Sacramento, *Near Eastern*

Lynn R. Clapham, Earlham College, Richmond, IN, *Near Eastern*

Dale L. Clifford, U. of North Florida, Jacksonville, *European*

Nina R. Gelbert, Occidental College, Los Angeles, CA, *European*

Robert J. Gentry, U. of Southwestern Louisiana, Lafayette, *European*
Linda B. Hall, Trinity U., San Antonio, TX, *Latin American*
David C. Itzkowitz, Macalester College, St. Paul, MN, *British*
Joseph A. Klaitz, Oakland U., Rochester, MI, *European*
Marjorie E. Lamberti, Middlebury College, VT, *European*
Andrew Lees, Camden County College, NJ, *European*
Edward C. Lydon, Cabrillo College, Aptos, CA, *Far Eastern*
Theresa M. McBride, College of the Holy Cross, Worcester, MA, *European*
John P. McCarthy, Fordham, U., NYC, *European*
Arthur H. Mitchell, U. of South Carolina, Allendale, *British*
Albert Rabil, SUNY, Old Westbury, *European*
John David Root, Illinois Institute of Technology, Chicago, *British*
Peter M. Rutkoff, Kenyon College, Gambier, OH, *European*
Jane T. Schulenburg, U. of Wisconsin-Extension, Madison, *European*
Ruth L. Sime, Sacramento City College, CA, *European*
David E. Skinner, U. of Santa Clara, CA, *African*
Kent C. Smith, Connecticut College, New London, *Far Eastern*
Reba N. Soffer, California State U., Northridge, *British*
Anthony D. White, Sonoma State U., Rohnert Park, CA, *Latin American*
Donald R. Wright, SUNY, Cortland, *African*
Chong K. Yoon, James Madison U., Harrisonburg, VA, *Far Eastern*
Fellowships at Centers for Advanced Study
Villa I Tatti, Florence, Italy; \$57,000.
Craig Hugh Smyth, Director
Summer Seminars for College Teachers
Major Issues in the History of Pre-Modern Western Civilization (open only to two-year college teachers), \$50,977, **W. Bowsky**, History Department, U. of California, Davis
The Assyrian and Babylonian Empires, 745-539 B.C.: Political and Cultural History, \$56,042, **John A. Brinkman**, Oriental Institute, U. of Chicago, IL
The Economic Development of Pre-Industrial Europe, \$50,154, **Jan de Vries**, History Department, U. of California, Berkeley
Perspectives in Chinese History, \$51,386, **Ping-ti Ho**, History Department, U. of Chicago, IL
The Political Culture of Modern Britain, 1870 to the Present, \$57,669, **Stephen E. Koss**, History Department, Columbia U., NYC
Power and Class in Africa, \$57,628, **Irving Leonard Markovitz**, Political Science Department, CUNY
Society and Popular Culture in Medieval and Early Modern Italy, \$54,668, **Anthony Molho**, History Department, Brown U., Providence, RI
The War in Vietnam and Its Legacy, \$44,620, **Robert D. Schulzinger**, History Department, U. of Colorado
Labor and the Industrial Revolution in Europe and America, \$60,568, **William H. Sewell, Jr.**, History Department, U. of Arizona
Seminar Location: Princeton Inst. for Advanced Study
Social and Political Change in Twentieth-Century Latin America, \$45,844, **Carl E. Solberg**, History Department, U. of Washington, Seattle
Germany and the Reformation, \$50,162 **Gerald Strauss**, History Department, Indiana U., Bloomington
Fascism as a Generic Phenomenon, \$52,658, **Henry A. Turner, Jr.**, History Department, Yale U., New Haven, CT
Culture and Politics in Europe in the Era of the Liberal Crisis, 1880-1945, \$51,270, **Robert Wohl**, History Department, U. of California, Los Angeles
Summer Stipends
James E. Bradley, Fuller Theological Seminary, Pasadena, CA, *British*
Joseph C. Bradley, U. of Tulsa, OK, *Russian*
Edward J. Bristow, New England College, Henniker, NH, *European*
Paul A. Bushkovitch, Yale U., New Haven, CT, *Russian*
Ching-chih Chen, Southern Illinois U., Edwardsville, *Far Eastern*
Gary B. Cohen, U. of Oklahoma, Norman, *European*
Samuel K. Cohn, Jr., Brandeis U., Waltham, MA, *European*
Sandi E. Cooper, CUNY, Staten Island,

European
James B. Given, Harvard U., Cambridge, MA, *European*
Alfred M. Gollin, U. of California, Santa Barbara, *British*
Steven H. Hahn, U. of Delaware, Newark, *African*
Tsuyoshi Hasegawa, SUNY, Oswego, *Russian*
Deborah Hertz, SUNY, Binghamton, *European*
Philip T. Hoffman, California Institute of Technology, Pasadena, *European*
Andrew Hsieh, Grinnell College, IA, *Far Eastern*
Penelope D. Johnson, New York U., NYC, *European*
John A. Marino, U. of California, La Jolla, *European*
Donald J. Mattheisen, U. of Lowell, *European*
Sandra F. McGee, Manchester College, IN, *Latin American*
H.C. Eric Midelfort, U. of Virginia, Charlottesville, *European*
Josiah Ober, Montana State U., Bozeman, *Classical*
Thomas R. Osborne, U. of North Alabama, Florence, *European*
Pamela G. Price, U. of Maryland, Princess Anne, *South Asian*
James A. Sandos, La Jolla, CA, *Latin American*
Patricia Seed, College of Charleston, SC, *Mexican*
Nancy G. Siraisi, CUNY, *European*
Leo Spitzer, Dartmouth College, Hanover, NH
Steve J. Stern, U. of Wisconsin, Madison, *Latin American*
Alice Stroup, Bard College, Annandale-on-Hudson, NY, *European*
Mary L. Wagener, Wilmington College, OH, *European*
Suzanne F. Wemple, Barnard College, NYC, *European*
Madeleine H. Zelin, Columbia U., NYC, *Far Eastern*

History—U.S.

Fellowships for Independent Study and Research
W. Andrew Achenbaum, Carnegie-Mellon U., Pittsburgh, PA
Margo A. Conk, U. of Wisconsin, Milwaukee
Michael P. Johnson, U. of California, Irvine
Stanley N. Katz, Princeton U., NJ
Daniel J. Kevles, California Institute of Tech., Pasadena
John O. King, III, Michigan U., Ann Arbor
Calvin Martin, Rutgers U., New Brunswick, NJ
Milton S. Mayer, Carmel, CA
Donald R. McCoy, U. of Kansas, Lawrence
James H. Moorhead, North Carolina State U., Raleigh
Regina A. Morantz, U. of Kansas, Lawrence
Paul L. Murphy, U. of Minnesota, Minneapolis
Moses s. Musoke, Rutgers U., New Brunswick, NJ
Gerald D. Nash, New Mexico State U., Albuquerque, NM
Francis P. Prucha, Marquette U., Milwaukee, WI
Robert A. Rosenstone, California Institute of Tech., Pasadena
Alexander P. Saxton, U. of California, Los Angeles
Mary K.B. Tachau, U. of Louisville, KY
Allan M. Winkler, U. of Oregon, Eugene
Fellowships for College Teachers
Julia K. Blackwelder, U. of North Carolina, Charlotte
Patrick J. Blessing, U. of Tulsa, OK
David T. Courtwright, U. of Hartford, West Hartford, CT
Edmund L. Drago, College of Charleston, SC
Lawrence Foster, Georgia Institute of Technology, Atlanta
Jean Gordon, U. of North Carolina, Greensboro
Michelle H. Herwald, Chatham College, Pittsburgh, PA
Harold Josephson, U. of North Carolina, Charlotte
Carl H. Moneyhon, U. of Arkansas, Little Rock
Cynthia N. Morton, Coppin State College,

Baltimore, MD
David G. Nasaw, College of Staten Island, CUNY
Willie F. Page, CUNY, Brooklyn College
Merline Pitre, Texas Southern U., Houston
Kathryn C. Preyer, Wellesley College, MA
Joanne R. Reitano, CUNY, Long Island
Janice L. Sumler-Lewis, Chaffey College, Alta Loma, CA
Summer Humanities Seminars for the Professions
The Origins, Development, and Prospects of Free Enterprise in the United States, \$44,323, **Stuart W. Bruchey**, History Department, Columbia U., Seminar Location: U. of Maine, Orono
Conflicting Cultures in American Politics: An Historical Perspective, \$40,914, **Robert Kelley**, History Department, U. of California, Santa Barbara
American Cities: Their Growth, Decline, and Prospects, \$43,816, **Robert C. Twombly**, History Department, CUNY
Summer Seminars for College Teachers
Business in the History of American Society, \$52,739, **Richard M. Abrams**, History Department, U. of California, Berkeley
American Social History, 1750-1850: An Interdisciplinary Approach, \$61,809, **David Hackett Fischer**, History Department, Brandeis U., Waltham, MA
The Transformation of the American Role in East Asia, 1937-1954, \$50,094, **Waldo H. Heinrichs**, History Department, Temple U., Philadelphia, PA
Black Protest Movement in Twentieth-Century America, \$55,457, **August Meier**, History Department, Kent State U., OH
The American South as Myth and Symbol, \$52,418, **George B. Tindall**, History Department, U. of North Carolina, Chapel Hill
American Labor History, 1930-1980, \$51,819, **Robert H. Zieger**, History Department, Wayne State U., Detroit, MI
Summer Stipends
Clarence R. Barnett, Marshall U., Huntington, WV
David J. Bodenhamer, U. of Southern Mississippi, Hattiesburg
John J. Bukowczyk, Wayne State U., Detroit, MI
Anna C. Burns, Lecompte, LA
Richard G. Frederick, U. of Pittsburgh, Bradford, PA
Richard A. Garcia, U. of Colorado, Boulder
Bruce A. Glasrud, California State U., Hayward
Richard A. Griswold del Castillo, San Diego State U., CA
Michael C. Grossberg, Case Western Reserve U., Cleveland, OH
Miriam J. Haron, Carmel, NY
Thomas J. Lears, U. of Missouri, Columbia
Constance M. McGovern, U. of Vermont & State Agricultural College, Burlington
Joseph T. Moore, Montclair State College, NJ
Gregory H. Nobles, Blacksburg, VA
Gerald W. Patton, Washington U., St. Louis, MO
Carol M. Petillo, Boston College, Chestnut Hill, MA
Larry E. Rivers, Florida A & M U., Tallahassee
Steven J. Ross, U. of Southern California, Los Angeles
John S. Schuchman, Gallaudet College, Washington, DC
Kathryn K. Sklar, U. of California, Los Angeles
Ronald T. Takaki, U. of California, Berkeley
Jonathan W. Walton, U. of Iowa, Iowa City
Michele H. Willard, Marietta College, OH
Charles R. Wilson, Lubbock, TX
Paul C. Wilson, Virginia Military Institute, Lexington
Martin N. Zanger, U. of Wisconsin, LaCrosse

Intercultural Studies

NEH Fellowships at Centers for Advanced Study
Albright Institute of Archaeological Research, Jerusalem, Israel; \$40,000. Thomas Beale, Executive Director
American Research Center in Egypt, Cairo; \$66,000. Paul E. Walker, Executive Director
Summer Humanities Seminars for the Professions
The United States and the Caribbean: A Conflict of Values and Goals, \$41,585, **Franklin W. Knight**, History Department, Johns Hopkins U., Baltimore, MD

Residential Fellowships for College Teachers
International Relations in a Multicultural World: Comparative Studies of Concepts and Approaches, \$39,936, **Adda B. Bozeman**, Political Science Department, Sarah Lawrence College, Bronxville, NY
Participants:
Walter T. Brown, Ramapo College, Mahwah, NJ *African History*
Douglas E. Clark, Linn-Benton Community College, Albany, OR, *Political Science*
Lawrence P. Frank, Saint Lawrence U., Canton, NY, *Political Science*
John J. Gros, Christian Brothers College, Memphis, TN, *Religion*
Robert E. Jones, Belmont Abbey College, NC, *Political Science*
Rendell N. Mabey, Jr., Virginia State U., Petersburg, *Philosophy*
John J. MacDougall, U. of Alabama, Huntsville, *Political Science*
Douglas R. Spitz, Monmouth College, IL, *South Asian History*
Summer Seminars for College Teachers
Muslim Ethnic Minorities in the Middle East, \$55,345, **Richard N. Frye**, Research Association Center for Middle Eastern Studies, Harvard U., Cambridge, MA
The Colonial Experience: A Comparative Study of India and South Africa \$50,017, **Thomas R. Metcalf**, History Department, U. of California, Berkeley

Interdisciplinary

Fellowships for Independent Study and Research
Linda J. Holmes, College of Medicine and Dentistry of New Jersey, Newark, *American Studies*
Carol Shloss, Wesleyan U., Middletown, CT, *American Studies*
Fellowships for College Teachers
Edith A. Folb, San Francisco State U., CA, *American Studies*
Richard C. Lyon, Hampshire College, Amherst, MA, *American Studies*
James I. McClintock, Michigan State U., E. Lansing, *American Studies*
David E. Nye, Union College, Schenectady, NY, *American Studies*
NEH Fellowships at Centers for Advanced Study
American Academy in Rome, Italy, \$60,000. Ruth D. Green, Executive Secretary
American Antiquarian Society, Worcester, MA; \$132,000. John B. Hench, Research and Publication Officer
American Center of Oriental Research, Amman, Jordan; \$40,000. Thomas Beale, Executive Director
Institute for Advanced Study, Princeton, NJ; \$212,500. Harry Woolf, Director
Newberry Library, Chicago, IL; \$180,000 OR; \$60,000 G&M. Richard H. Brown, Director of Research and Education
Hastings Center, Hastings-on-Hudson, NY; \$44,000. Daniel Callahan, Director
Huntington Library, San Marino, CA; \$140,000 OR; \$47,500 G&M. Martin Ridge, Coordinator of Research Activities
Summer Humanities Seminars for the Professions
Human Genetics: Ethics and Public Policy, \$46,293, **James E. Bowman**, Pathology Department, U. of Chicago, IL
The Political Dimension of Medical and Health Care Policy, \$41,135, **Dante Germino**, Government Department, U. of Virginia, Charlottesville
The Power of the Healer: Its Nature, Sources, and Limits, \$34,081, **Kathryn M. Hunter**, U. of Rochester Medical Center, NY
Seminars for Medical and Health Care Teachers
Concepts of Health and Disease: Implications for Rights and Responsibilities, \$29,478, **Diana E. Axelsen**, Philosophy Department, Spelman College, Seminar Location: Georgia Institute of Technology, Atlanta
Ethics in Nursing: Issues and Inquiry, \$37,234, **Martin Benjamin and Joy Curtis**, Philosophy Department, Michigan State U., East Lansing
Justice and Health Care Delivery, \$32,911, **Norman Daniels**, Philosophy Department, Tufts U., Medford, MA
Medical Ethics in Comparative Perspective, \$36,793, **Robert Veatch**, Kennedy Institute of Ethics, Georgetown U., Washington, DC
Residential Fellowships for College Teachers
Science and Human Nature since the Enlight-

enment, \$52,778, **David Joravsky**, History Department, Northwestern U., Evanston, IL

Participants:

Nancy C. Gerth, Bates College, Lewiston, ME *Philosophy*

Michael Goldman, Miami U., Oxford, OH, *Philosophy*

Joseph P. Gray, North Texas State U., Denton, *Anthropology*

Yvonne H. Ochillo, Dillard U., New Orleans, LA, *English Literature*

James S. Rodgers, Lawrence Institute of Technology, Southfield, MI, *English Literature*

Viktoria Skrupskelis, Oberlin College, OH, *French Literature*

Terry L. Smith, U. of District of Columbia, Washington, DC, *Philosophy*

Lawrence D. Walker, Illinois State U., Normal, *European History*

Will H. Wright, Fort Lewis College, Durango, CO, *Sociology*

Selected Topics in Bioethics, \$38,733, **David H. Smith**, Religious Studies Department, Indiana U., Bloomington

Participants:

Anne Donchin, CUNY, Brooklyn, *Philosophy*

Helen J. John, Trinity College, Washington, DC, *Philosophy*

Donald S. Klinefelter, U. of Tennessee, Chattanooga, *Religion*

Stephen E. Lammers, Lafayette College, Easton, PA, *Religion*

Richard W. Momeyer, Miami U., Oxford, *Philosophy*

J. David. Newell, Washington College, Chestertown, MD, *Philosophy*

Robert P. Rhodes, Edinboro State College, PA, *American Studies*

Brian E. Schrag, Hampden-Sydney College, *Philosophy*

Allen D. Verhey, Hope College, Holland, MI, *Religion*

Summer Seminars for College Teachers

Afro-American Literature and the Anthropology of Art, \$62,769, **Houston A. Baker, Jr.**, English Department, U. of Pennsylvania, Philadelphia

Principles and Metaphors in Biomedical Ethics, \$50,838, **James F. Childress**, Religious Studies Department, U. of Virginia, Charlottesville

Engineers and Conflict: A Historical Analysis, \$46,264, **Eugene S. Ferguson**, History Department, U. of Delaware, Newark

Modern American Cultural Criticism, \$50,002, **Giles B. Gunn**, Religion Department, U. of North Carolina, Chapel Hill

Physicists in Historical Context, \$54,217, **Martin J. Klein**, History Department, Yale U., New Haven, CT

The Unity of Learning in the Later Middle Ages, \$54,764, **John E. Murdoch**, History of Science Department, Harvard U., Cambridge, MA

The Indian in American History, \$54,192, **Roger Nichols**, History Department, U. of Arizona, Tucson

"Folk" and "Written" Voices in Afro-American Letters, \$45,714, **Robert B. Stepto**, English and Afro-American Studies Departments, Yale U., New Haven, CT

Summer Stipends

Terrence F. Ackerman, U. of Tennessee, Center for Health Science, Memphis, *Ethics*

Mary Lynn Broe, SUNY, Binghamton, *Women's Studies*

Margaret R. Gladney, U. of Alabama, University, *American Studies*

Sondra D. Hale, Culver City, CA, *Women's Studies*

Laura Hapke, Brooklyn, NY, *American Studies*

Jenny M. Jochens, Towson State U., MD, *Women's Studies*

John W. Johnson, Clemson U., SC, *American Studies*

Neil R. McMillen, U. of Southern Mississippi, Hattiesburg, *Afro-American Studies*

Robert S. Ochsner, U. of Maryland, Catonsville, *Women's Studies*

Richard S. Slotkin, Wesleyan U., Middletown, CT, *American Studies*

Jurisprudence

Fellowships for Independent Study and Research

Ralph S. Brown, Jr., Yale U., New Haven, CT

Donald H. Regan, U. of Michigan Law School, Ann Arbor

Fellowships for College Teachers

Thomas M. Curley, Bridgewater State College, MA

Sidney L. Harring, CUNY, John Jay College of Criminal Justice

Claudine Schweber, SUNY, Buffalo

Summer Humanities Seminars for the Professions

Legal Remedies in Times of Racial Conflict: The American Experience, \$49,853, **Derrick Bell**, Dean, U. of Oregon Law School, Eugene

Theories of Adjudication, \$42,706, **Ruth Gavison**, School of Law, Hebrew U. of Jerusalem, Seminar Location: Yale Law School, New Haven, CT

Law and Social Order, \$42,085, **Lloyd L. Weinreb**, Harvard U. Law School, Seminar Location: Dartmouth College, Hanover, NH

Seminars for Law Teachers

Philosophical Underpinnings of Constitutional Interpretation, \$52,750, **Kent Greenawalt**, Columbia Law School, NYC

Economic Rights: Property and Welfare, \$35,257, **Virginia Held**, Philosophy Department, CUNY, Seminar Location: Stanford Law School, CA

Summer Stipends

Milner S. Ball, U. of Georgia, Athens

Language & Linguistics

Fellowships for College Teachers

Eugene Garver, California State College, San Bernardino

John H. Koo, U. of Alaska, Fairbanks

Residential Fellowships for College Teachers

Composition: The Available Means of Enlightenment (Open only to two-year college teachers), \$38,165, **Dudley Bailey**, English Department, U. of Nebraska, Lincoln

Participants: **David M. Cicotello**, Eastern Wyoming College, Torrington, *Composition and Rhetoric*

David M. Cooper, Westark Community College, Fort Smith, AR, *Composition and Rhetoric*

William A. Heffernan, Saddleback Community College, Mission Viejo, CA, *Composition and Rhetoric*

Jane E. Jeffrey, Western Piedmont Community College, Morgantown, NC, *Composition and Rhetoric*

Dennis J. Konshak, U. of Hawaii-Maui Community College, Hawaii Island, *Composition and Rhetoric*

Douglas E. Lindsey, Reinhardt College, Waleska, GA, *English Literature*

David B. Lovekin, Sauk Valley College, Dixon, IL *Philosophy*

Summer Seminars for College Teachers

The Problematics of "L'écriture Féminine" from Colette to Hélène Cixous, \$56,185, **Germaine Brée**, Romance Languages Department, U. of Wisconsin, Madison

Rhetoric and Public Discourse, \$62,694, **Edward P. J. Corbett**, English Department, Ohio State U., Columbus

Language Maintenance and Shift Among American Ethnolinguistic Minorities, \$61,259, **Joshua A. Fishman**, Yeshiva U. Graduate Center, NYC

Montaigne and The Essay, \$61,791, **Donald M. Frame**, Languages Department, Columbia U., NYC

The 1890s in the German-speaking Countries, \$51,261, **Sander L. Gilman**, German Literature Department, Cornell U., Ithaca, NY

After Siegfried's Death: German Culture and Society, 1945-1980, \$50,381, **Sol Gittleman**, German Department, Tufts U., Medford, MA

Russian Literary Autobiography and the Poetics of Self-Knowledge, \$53,090, **Jane Gray Harris**, Slavic Languages Department, U. of Pittsburgh, Seminar Location: Columbia U., NYC

Chinese Literature: Major Poetry and Fiction, \$56,853, **Chih-Tsing Hsia**, East Asian Languages Department, Columbia U., NYC

Contrastive Analysis of Various Approaches to

Teaching Composition: Related Research, \$48,396, **William F. Irmischer**, English Department, U. of Washington, Seattle

Literature of the Weimar Republic, \$52,570, **Herbert Lehnert**, German Department, U. of California, Irvine

Ortega y Gasset's Idea of Art, Literature, and Literary Criticism, \$54,170, **Ciriaco Moron-Arroyo**, Romance Studies Department, Cornell U., Ithaca, NY

Semantics and the Logical Structure of Natural Language, \$46,496, **Barbara H. Partee**, Linguistics Department, U. of Massachusetts, Amherst

The Modern Spanish-American Short Story, 1900-1975, \$50,557, **Enrique Pupo-Walker**, Spanish and Portuguese Department, Vanderbilt U., of Nashville, TN

Modern Critical Theory and French Poetry, \$52,640, **Francois Rigolot**, Romance Languages Department, Princeton U., NJ

Poetry, Art and Insight, \$54,780, **John Robert Ross**, Linguistics Department, MIT, Cambridge

Italian Humanism: Latin and the Vernacular Foundations of the Renaissance, 1350-1550, \$54,968, **Aldo D. Scaglione**, Italian and Comparative Literature Department, U. of North Carolina, Chapel Hill

Linguistics, Literacy, and the Politics of Education: Selected Instances, 1960-1980, \$50,085, **James H. Sledd**, English Department, U. of Texas, Austin

Comedy in the Drama of the Spanish Golden Age, \$55,087, **Bruce W. Wardropper**, Romance Languages Department, Duke U., Durham, NC

Style and the Structure of Discourse, \$46,630, **Joseph M. Williams**, English Department, U. of Chicago, IL

Patterns in French Civilization (Open only to two-year college teachers), \$55,218, **Laurence Wylie**, Romance Languages Department, Harvard U., Cambridge, MA

Rhetoric: Modern Developments in the Art of Invention (Open only to two-year college teachers), \$52,954, **Richard E. Young**, English Department, Carnegie-Mellon U., Pittsburgh, PA

Summer Stipends

Mark R. Baltin, New York U., NYC, *Linguistics*

Brant R. Burleson, SUNY, Albany, *Communications*

Joan L. Bybee, SUNY, Buffalo, *Linguistics*

Helen Dry, U. of Texas, San Antonio, *Linguistics*

Thomas T. Field, U. of Maryland, Catonsville, *Linguistics*

Lawrence D. Green, U. of Southern California, Los Angeles, *Composition and Rhetoric*

George L. Huttar, U. of Texas, Arlington, *Linguistics*

James E. Murphy, Southern Illinois U., Carbondale, *Communications*

Literature

Fellowships for Independent Study and Research

John J. Allen, U. of Florida, Gainesville, *Spanish*

Elizabeth M. Ammons, Tufts U., Medford, MA, *American*

Judith H. Anderson, Indiana U., Bloomington, *English*

Martha Banta, U. of Washington, Seattle, *American*

Benjamin F. Bart, U. of Pittsburgh, PA, *French*

Barbara C. Bowen, U. of Illinois, Urbana, *Italian*

Elizabeth J. Burns, U. of North Carolina, Chapel Hill, *French*

Robert W. Buttel, Temple U., Philadelphia, PA, *English*

Yu-Shih Chen, SUNY, Albany, *Asian*

Mary L. Cozad, U. of Virginia, Charlottesville, *Spanish*

Carl Dawson, U. of New Hampshire, Durham, *English*

Frank A. Doggett, Atlantic Beach, FL, *English*

Susan S. Friedman, U. of Wisconsin, Madison, *American*

Diane H. George, Pennsylvania State U., Erie, *English*

Susan D. Gubar, Indiana U., Bloomington, *English*

W. Speed Hill, CUNY, *English*

Carroll B. Johnson, U. of California, Los Angeles, *Spanish*

David M. Kalstone, Rutgers U., New Brunswick, NJ, *English*

Alvin B. Kernan, Princeton U., NJ, *Eng-*

lish

Arthur F. Kinney, U. of Massachusetts, Amherst, *English*

David E. Laurence, SUNY, Stony Brook, *American*

Ruth S. Luborsky, Drexel U., Philadelphia, PA, *English*

Nadia Margolis, Amherst College, MA, *French*

Paul L. Mariani, U. of Massachusetts, Amherst, *American*

Richard C. McCoy, CUNY Queens College, Flushing, NY, *English*

Mark J. Mirsky, CUNY, *English*

C. Enrique Pupo-Walker, Vanderbilt U., Nashville, TN, *Spanish*

Elias L. Rivers, SUNY, Stony Brook, *Spanish*

Thomas J. Roberts, U. of Connecticut, Storrs, *American*

Roberta Rubenstein, American U., Washington, DC, *English*

Edward W. Said, Columbia U., NYC, *English*

Hansjoerg R. Schelle, U. of Michigan, Ann Arbor, *German*

Robert C. Spires, U. of Kansas, Lawrence, *Spanish*

Robert B. Stepto, Yale U., New Haven, CT, *American*

Lars E. Troide, McGill U., Canada, *English*

Karolyn Waterson, Dalhousie U., Canada, *French*

James A. Winn, Yale U., New Haven, CT, *English*

Mary Beth Winn, SUNY, Albany, *French*

Fellowships for College Teachers

Murray Baumgarten, U. of California, Santa Cruz, *American*

Linda Ben-Zvi, Colorado State U., Fort Collins, *English*

Richard B. Bizot, U. of North Florida, Jacksonville, *English*

Lois E. Bueler, Winona State U., MN, *English*

Raquel Chang-Rodriguez, CUNY, *Latin American*

Samuel C. Coale, Wheaton College, Norton, MA, *American*

Verena A. Conley, Miami U., Oxford, OH, *French*

Richard C. DeAngelis, Fairfield U., CT, *Asian*

Claire L. Dehon, Kansas State U. of Agric. & Applied Sci., Manhattan, *French*

Ulla E. Dydo, CUNY, Bronx, *American*

John C. Elder, Middlebury College, VT, *English*

Margaret P. Feeley, U. of Wisconsin, Whitewater, *English*

Peter A. Fritzell, Lawrence U., Appleton, WI, *American*

Robert F. Garratt, U. of Puget Sound, Tacoma, *English*

Carol W. Gelderman, U. of New Orleans, LA, *American*

Renny K. Harrigan, U. of Wisconsin, Milwaukee, *German*

M.T. Hester, North Carolina State, Raleigh, *English*

Arlene M. Jackson, Saint Joseph's U., Philadelphia, PA, *English*

Rachel Jacoff, Wellesley College, MA, *Italian*

Regina M. Janes, Skidmore College, Saratoga Spings, NY, *English*

Francis E. Kearns, CUNY, Bronx, *American*

Ellen M. McCracken, U. of Massachusetts, Amherst, *Comparative*

Lucy McDiarmid, Swarthmore College, PA, *English*

Barbara H. Meldrum, U. of Idaho, Moscow, *American*

Nancy A. Metz, Virginia Polytechnic Inst. & State U., Blacksburg, *English*

Michel Monnot, Carleton College, Northfield, MN, *French*

John J. Murphy, Merrimack College, North Andover, MA, *American*

Sarah E. Newton, California State U., Chico, *American*

Sharon J. O'Brien, Dickinson College, Carlisle, PA, *American*

Eira Patnaik, Frostburg State College, MD, *Comparative*

Mary L. Poovey, Swarthmore College, PA, *English*

Robert E. Proctor, Connecticut College, New London, *Italian*

Ricardo J. Quinones, Claremont Men's College, CA, *Comparative*

Mary E. Ragland-Sullivan, U. of Illinois, Chicago, *French*

John F. Reichert, Williams College, Williamstown, MA, *English*

Peter R. Schroeder, California State College, San Bernardino, *English*

Robert C. Schweik, SUNY, Fredonia, *Eng-*

lish
Ronald A. Sharp, Kenyon College, Gambier, OH, *English*
Constance C. Shaw, Agnes Scott College, Decatur, GA, *Spanish*
Clyde R. Taylor, Mills College, Oakland, CA, *English*
Cynthia G. Tucker, Memphis State U., TN, *Comparative*
Summer Humanities Seminars for the Professions
The Function of Literature in a Democratic Society: The American Experience, \$52,114, **Larzer Ziff**, English Department, U. of Pennsylvania, Philadelphia
Residential Fellowships for College Teachers
Genre-Theory and the Development of Genres in the English Renaissance, \$57,927, **Barbara K. Lewalski**, English Department, Brown U., Providence, RI
Participants:
Ann E. Imbrie, Vassar College, Poughkeepsie, NY, *English Literature*
John N. King, Bates College, Lewiston, ME, *English Literature*
William J. Lewis, U. of Puerto Rico, Rio Piedras, *English Literature*
Paul W. Miller, Wittenberg U., Springfield, OH, *English Literature*
George E. Rowe, Jr., Wichita State U., KS, *English Literature*
Kenneth W. Shipps, Trinity College, Deerfield, IL, *British History*
The Narrative of America, \$45,043, **Roberto Gonzalez-Echevarria**, Spanish and Portuguese Department, Yale U., New Haven, CT
Participants:
Alicia G. Andreu, Middlebury College, VT, *Spanish*
Carmen M. Carney, Missouri Southern State College, Joplin, *Latin American*
James R. Green, U. of Wisconsin, Milwaukee, *Spanish*
John S. Incledon, Albright College, Reading, PA, *Latin American*
Melinda G. Kirkpatrick, U. of Arkansas, Fayetteville, *Spanish*
Kathleen McNerney, West Virginia U., Morgantown, *Spanish*
Stacey Schlau, Lafayette College, Easton, PA, *Comparative*
Shirley A. Williams, Ohio State U., Lima, *Latin American*
Summer Seminars for College Teachers
Fiction and Autobiography, \$55,489, **Robert B. Alter**, Comparative Literature Department, U. of California, Berkeley
Early History of Interpretation: Socrates to Spinoza, \$47,836 **Gerald L. Bruns**, English Department, U. of Iowa, Iowa City
Rhetorical Readings, \$56,806, **Paul M. de Man**, Comparative Literature Department, Yale U., New Haven, CT
Women in Medieval Life and Literature, \$55,444, **Joan M. Ferrante**, English Department, Columbia, U., NYC
Literary Townscape, \$61,217, **Avrom Fleishman**, English Department, Johns Hopkins U., Baltimore, MD
Shakespeare's Plays as Scripts, \$50,703, **Miriam Gilbert**, English Department, U. of Iowa, Iowa City
Feminism, Modernism, and Feminist Criticism, \$49,683, **Sandra M. Gilbert**, English Department, U. of California, Davis
Modern Drama: Studies in the Major Texts, \$55,851, **Michael P. Goldman**, English Department, Princeton U., NJ
Toward a Theory of Modernism: An Interdisciplinary Approach, \$53,716, **Harvey S. Gross**, Comparative Literature Department, SUNY, Stony Brook
The Woman as Hero: Studies in Female Selfhood in British and American Fiction, \$53,952, **Carolyn Heilbrun**, English Department, Columbia U., NYC
Laughter in America: A Multicultural Response (Open only to two-year college teachers), \$50,148, **Hamlin Hill**, English Department, U. of New Mexico
Late Medieval Fictions, \$60,791, **Donald R. Howard**, English Department, Stanford U., CA
Literature as a Social Institution, 1750 to Present, \$60,466, **Alvin B. Kernan**, English Department, Princeton, NJ
Metaphoric Transformations of Experience: England, 1350-1600, \$50,016, **Elizabeth D. Kirk**, English Department, Brown U., Providence, RI
Shakespeare and Human Experience, \$50,125, **Arthur Kirsch**, English Department, U. of Virginia, Charlottesville
South Asian Literature: Classical Texts in Western Perspective, \$56,156, **Barbara S. Miller**, Oriental Studies Department, Columbia U., NYC

English Literature and Art, 1660-1760, \$52,237, **Robert E. Moore**, English Department, U. of Minnesota
Autobiography: A Trans-Disciplinary Approach, \$47,753, **James Olney**, English Department, North Carolina Central U., Seminar Location: U. of N. Carolina, Chapel Hill
The French and American Novel, 1950-1980, \$50,711, **Neal Oxenhandler**, Comparative Literature Department, Dartmouth College, Hanover, NH
American Literary Naturalism, \$49,664, **Donald Pizer**, English Department, Tulane U., New Orleans, LA
Theory Implicit in Poetic Practice, with Special Attention to Modern British and American Poetry, \$57,511, **M. L. Rosenthal**, English Department, New York U., NYC
The American Playwright, \$51,199, Howard Stein, Drama Department, Yale U., New Haven, CT
Summer Stipends
Elizabeth F. Abel, U. of Chicago, IL, *English*
Kathleen M. Ashley, U. of Southern Maine, Portland, *English*
Lee C. R. Baker, Greensboro, NC, *English*
Oscar S. Brooks, William Jewell College, Liberty, MO, *Comparative*
Steven R. Carter, U. of North Carolina, Wilmington, *American*
John O. Cech, U. of Florida, Gainesville, *American*
Kevin Clark, Amherst College, MI, *French*
George W. Coats, Lexington Theological Seminary, KY, *Ancient*
Elizabeth A. Daniels, Vassar College, Poughkeepsie, NY, *English*
Thadious M. Davis, U. of North Carolina, Chapel Hill, *American*
Jeffrey M. Duban, Georgia State U., Atlanta, *Classical*
John I. Fischer, Louisiana State U. & A&M College, Baton Rouge, *English*
Ann W. Fisher, U. of La Verne, CA, *American*
Barbara C. Foley, Northwestern U., Evanston, IL, *American*
Edward H. Friedman, Arizona State U., Tempe, *Spanish*
Christine Gallant, Virginia Commonwealth U., Richmond, *English*
Barbara T. Gates, U. of Delaware, Newark, *English*
John K. Gillespie, Carbondale, IL, *Russian*
Susan M. Greenstein, Western Washington U., Bellingham, *English*
Elaine T. Hansen, Haverford College, PA, *English*
Burney J. Hollis, Morgan State U., Baltimore, MD, *American*
Linda K. Hughes, U. of Missouri, Rolla, *English*
Mary Lynn Johnson, Iowa City, IA, *English*
Herbert Josephs, Michigan State U., East Lansing, *French*
Renu Juneja, Valparaiso U., IN, *English*
Bruce Kellner, Millersville State College, PA, *American*
Anne S. Kimball, Randolph-Macon Women's College, Lynchburg, Va, *French*
Sherron E. Knopp, Williams College, Williamstown, MA, *English*
John R. Kucich, Horace H. Rachman School of Graduate Studies, Ann Arbor, MI, *English*
Mary H. Lusky, Wellesley College, MA, *Latin American*
Phyllis I. Lyons, Northwestern U., Evanston, IL, *Asian*
Scott M. MacDonald, Utica College of Syracuse U., NY, *American*
Wilson Martins, New York U., NYC, *Latin American*
John J. McKernan, Marshall U., Huntington, WV, *English*
Mozella G. Mitchell, Norfolk State U., Virginia Beach, *English*
Jane M. Moss, Colby College, Waterville, ME, *French*
William M. Moss, Wake Forest U., Winston-Salem, NC, *American*
Barbara Mossberg, U. of Oregon, Eugene, *American*
Felicity A. Nussbaum, Syracuse U., NY, *English*
Marilyn A. Olsen, U. of Nebraska, Lincoln, *Spanish*
Edward J. O'Shea, Oswego, NY, *English*
Constantinos A. Patrides, H.H. Rackham School of Graduate Studies, Ann Arbor, MI, *English*
Sheryl S. Pearson, U. of Michigan, Dearborn, *English*
José L. Ramos-Escobar, Inter-American U. of Puerto Rico, Ponce, *Comparative*
Michael S. Reynolds, North Carolina

State U., Raleigh, *American*
David C. Riede, U. of Rochester, NY, *English*
Fred C. Robinson, Yale U., New Haven, CT, *English*
Christiane Z. Romero, Tufts U., Medford, MA, *German*
Charles S. Ross, Purdue U., W. Lafayette, IN, *English*
Michel Rybalka, Washington U., St. Louis, MO, *French*
Henry M. Sayre, Corvallis, OR, *American*
Elaine Showalter, Rutgers U., New Brunswick, NJ, *English*
Astrid B. Stahnke, Collinsville, IL, *Classical*
Edward F. Stanton, U. of Kentucky, Lexington, *Spanish*
Judith P. Stanton, U. of Wisconsin, Eau Claire, *English*
Ronald A. Sudol, Oakland U., Rochester, MI, *American*
Ronald E. Surtz, Princeton U., NJ, *Spanish*
Carolyn R. Swift, Rhode Island College, Providence, *English*
Judith Tschann, U. of Redlands, CA, *English*
Noël M. Valis, U. of Georgia, Athens, *Spanish*
Joseph S. Viscomi, Virginia Polytechnic Inst. & State. U., Blacksburg, *English*
Merrill D. Whitburn, Rensselaer Polytechnic Institute, Troy, NY, *English*
Andrew O. Wiget, Dartmouth College, Hanover, NH, *American*
Peter D. Wiggins, College of William and Mary, Williamsburg, VA, *Comparative*
George T. Wright, U. of Minnesota, Minneapolis, *English*
Pauline R. Yu, U. of Minnesota, Minneapolis, *Comparative*

Philosophy

Fellowships for Independent Study and Research
John B. Brough, Georgetown U. Washington, DC
Christopher G. Cherniak, Tufts U., Medford, MA
Philippa R. Foot, U. of California, Los Angeles
Philip P. Hallie, Wesleyan U., Middletown, CT
Joel J. Kupperman, U. of Connecticut, Storrs
Gerald E. Myers, CUNY, Queens College, Flushing
Edmund L. Pincoffs, U. of Texas, Austin
George E. Smith, Tufts U., Medford, MA
Leslie H. Tharp, U. of Illinois, Chicago
Fellowships for College Teachers
Harold G. Alderman, Sonoma State U., Rohnert Park, CA
James G. Blight, Grand Valley State Colleges, Allendale, MI
David O. Butcher, Hamilton College, Clinton, NY
Rosemary M. Desjardins, Swarthmore College, PA
William F. Frank, Oregon State U., Corvallis
Marvin C. Henberg, U. of Idaho, Moscow
Tziporah F. Kasachkoff, CUNY
Michael W. Martin, Chapman College, Orange, CA
Joseph Runzo, Chapman College, Orange, CA
Frederick M. Stoutland, Saint Olaf College, Northfield, MN
A. Donald VanDeVeer, North Carolina State U., Raleigh
Howard K. Wettstein, U. of Minnesota, Morris
Kathleen R. Wright, Haverford College, PA
Gerald E. Zuriff, Wheaton College, Norton, MA
Summer Humanities Seminars for the Professions
Individual Values and Professional Responsibilities: Value Conflicts in Contemporary Society, \$49,305, **Richard T. De George**, Center for Humanistic Studies, U. of Kansas, Lawrence
Institutional Ethics and Responsibility: Their Place in Contemporary Society, \$40,714, **Robert J. Fogelin**, Philosophy Department, Dartmouth College, Hanover, NH
Competing Rights Claims in A Complex Society: Who Should Win—And Why?, \$35,443, **Laurence Thomas**, Philosophy Department, U. of North Carolina, Chapel Hill
Summer Seminars for College Teachers
Reasons, Justification, and Knowledge, \$46,317, **Robert N. Audi**, Philosophy De-

partment, U. of Nebraska, Lincoln
The Self in Recent Philosophy, \$66,028, **Roderick M. Chisholm**, Philosophy Department, Brown U., Providence
Foucault and Heidegger: Interpretative Study of Human Beings, \$51,268, **Hubert L. Dreyfus**, Philosophy Department, U. of California, Berkeley
Moral Principle and Public Policy, \$50,446, **Gertrude Ezorsky**, Philosophy Department, Hampshire College, Amherst, MA
The Right to Privacy, \$50,805, **Alfred R. Louch**, Philosophy Department, Claremont Graduate School, CA
History of Moral Philosophy: Theories of the Virtues in Fourth-Century Athens and Eighteenth-Century Scotland, \$54,135, **Alasdair C. MacIntyre**, Philosophy Department, Wellesley College, MA
Leibniz Among the Rationalists, \$48,440, **Robert C. Sleight, Jr.**, Philosophy Department, U. of Massachusetts, Amherst
The Philosophy of Socrates, \$55,255, **Gregory Vlastos**, Philosophy Department, U. of California, Berkeley
Summer Stipends
Ronald A. Amundson, U. of Hawaii, Hilo, *Philosophy*
David L. Balás, U. of Dallas, Irving, TX, *History of Philosophy*
Howard R. Bernstein, Guilford, CT, *History of Philosophy*
Michael E. Bratman, Stanford U., CA, *Ethics*
Robert C. Cummins, U. of Wisconsin, Milwaukee, *Philosophy*
Stephen H. Daniel, Spring Hill College, Mobile, AL, *History of Philosophy*
Steven M. DeLue, U. of North Florida, Jacksonville, *Public Administration*
Richard F. Foley, U. of Notre Dame, IN, *Epistemology*
Dean R. Fowler, Marquette U., Milwaukee, WI, *Philosophy of Religion*
Michael B. Green, U. of Texas, Austin, *Philosophy of Science*
Thomas P. Kasulis, Northland College, Ashland, WI, *Non-Western Philosophy*
Michael E. Levin, CUNY, *Metaphysics*
Richard Lichtman, Wright Institute, Berkeley, CA, *Epistemology*
Bernd Magnus, U. of California, Riverside, *History of Philosophy*
Almer J. Mandt, Wichita State U., KS, *History of Philosophy*
Robert E. Meagher, Hampshire College, Amherst, MA, *Philosophy of Religion*
James R. Mensch, Santa Fe, NM, *Phenomenology-Existentialism*
William H. Oman, Slippery Rock State College, PA, *Philosophy*
Eileen F. Serene, Yale U., New Haven, CT, *History of Philosophy*
Lorenzo C. Simpson, U. of Richmond, VA, *Philosophy*
Arthur A. Smith, Iowa State U. of Science & Technology, Ames, *Philosophy*
Kenneth P. Winkler, Wellesley College, MA, *History of Philosophy*
Michael E. Zimmerman, Tulane U., New Orleans, LA, *Metaphysics*

Religion

Fellowships for Independent Study and Research
Catherine L. Albanese, Wright State U., Dayton, OH
Ann Feldhaus, Fordham U., Bronx, NY
Paul M. Minus, Methodist Theological School, Delaware, OH
Jill Raitt, Duke U., Durham, NC
Laurence J. Silberstein, U. of Pennsylvania, Philadelphia
Robert L. Wilken, U. of Notre Dame, IN
C. Conrad Wright, Harvard Divinity School, Cambridge, MA
Fellowships for College Teachers
James G. Biechler, La Salle College, Philadelphia, PA
Carol P. Christ, San Jose State U., CA
Kendall W. Folkert, Central Michigan U., Mt. Pleasant
Theodore M. Ludwig, Valparaiso U., IN
Gilbert C. Meilaender, Oberlin College, OH
Leonard L. Thompson, Lawrence U., Appleton, WI
Hans O. Tiefel, College of William and Mary, Williamsburg, VA
Summer Seminars for College Teachers
Theory of Religious Studies, \$50,437, **Walter H. Capps**, Religious Studies Department, U. of California, Santa Barbara
The Journey in Medieval Christian Mysticism, \$47,509, **Ewert H. Cousins**, Theology De-

partment, Fordham U. Bronx, NY
Outside the "Mainline Churches": Religious Diversity in Nineteenth- and Twentieth-Century America, \$49,001, **Laurence R. Moore**, History Department, Cornell U., Ithaca, NY
Religion and Society in Ancient Israel, \$44,009, **Robert R. Wilson**, Religious Studies Department, Yale U., New Haven, CT
Summer Stipends
David L. Balch, Linfield College, McMinnville, OR
Hugh S. Barbour, Earlham College, Richmond, IN
James J. Buckley, Loyola College, Baltimore, MD
Sam D. Gill, Arizona State U., Tempe
Donald J. Heinz, California State U., Chico
Beulah S. Hostetler, Willow Grove, PA
Walter L. Humphreys, U. of Tennessee, Knoxville
P. Kyle McCarter, Jr., U. of Virginia, Charlottesville
Richard H. Shek, California State U., Sacramento

Social Science

Fellowships for Independent Study and Research

Dante L. Germino, U. of Virginia, Charlottesville, *Political Science*
Richard A. Joseph, Dartmouth College, Hanover, NH, *Political Science*
Anne F. Thurston, Cambridge, MA, *Political Science*
Fellowships for College Teachers
Larry L. Adams, CUNY, *Political Science*
James W. Anderson, Williams College, Williamstown, MA, *Psychology*
John R. Bokina, U. of Detroit, MI, *Political Science*
Charles P. Bosserman, Salisbury State College, MD, *Sociology*
James P. Brady, U. of Massachusetts, Boston, *Sociology*

Warren R. Brown, U. of New Hampshire, Durham, *Political Science*
Arlene F. Gallagher, Our Lady of Elms College, Chicopee, MA, *Education*
Sugwon Kang, Hartwick College, Oneonta, NY, *Political Science*
Robert P. Kraynak, Colgate U., Hamilton, NY, *Political Science*
Jake C. Miller, Bethune-Cookman College, Daytona Beach, FL, *Political Science*
Carl F. Pinkele, Ohio Wesleyan U., Delaware, *Political Science*
Jan Rosenberg, SUNY, Old Westbury, *Sociology*
Lester B. Rowntree, San Jose State U., CA, *Geography*
Nancy L. Schwartz, Wesleyan U., Middletown, CT, *Political Science*
Clarice Stasz, Sonoma State U., Rohnert Park, CA, *Sociology*
Sally J. Vasicko, Ball State U., Muncie, IN, *Political Science*
NEH Fellowships at Centers for Advanced Study

Council on Foreign Relations, NYC; \$200,000 G&M. Alton Frye, Director
Summer Humanities Seminars for the Professions

Is There an International Morality?, \$44,646, **Brian Barry**, Political Science Department, U. of Chicago, Seminar Location: Williams College, Williamstown, MA
Employers, Workers, and the State: Shifting Power Relationships in Modern America, \$44,579, **Melvyn Dubofsky**, History Department, SUNY, Binghamton
Justice and Equality: The Philosophical Foundations of Public Policy, \$43,696, **Isaac Kramnick**, Government Department, Cornell U., Ithaca, NY
Federalism in Perspective: Constitutional Ideals and Modern Governmental Practices, \$41,959, **Harry N. Scheiber**, History Department, U. of California, San Diego
Residential Fellowships for College Teachers

The Culture of Narcissism: Myth or Reality? (Open only to two-year college teachers), \$47,298, **Remi Clignet**, Family Relations and Community Development Depart-

ment, U. of Maryland, College Park
Participants:
Margaret S. Cullen, Middlesex County College, Edison, NJ, *Sociology*
Donald R. Gregory, Northern Virginia Community College, Annandale, *Sociology*
Cheri L. Jennings, U. of Hawaii-Kauai Community College, Lihue, *Political Science*

Carol F. Kessler, Pennsylvania State U., Mont Alto, *American Studies*
Ronald M. Larson, Wytheville Community College, VA, *Sociology*
Phyllis Mael, Pasadena City College, CA, *Comparative Literature*
Laura K. Noell, Northern Virginia Community College, Annandale, *Comparative Literature*

Summer Seminars for College Teachers

Freedom and Responsibility in the American Tradition: Two Centuries of Constitutional Government (Open only to two-year college teachers), \$56,049, **Henry J. Abraham**, Government and Foreign Affairs Department, U. of Virginia, Charlottesville
Distributive Justice: Economic and Philosophical Aspects, \$52,008, **Royall Brandis**, Economics Department, U. of Illinois, Urbana
Ethnic Groups and the State, \$51,562, **Paul R. Brass**, Political Science Department, U. of Washington, Seattle

Unequal Races: Political and Moral Choice in Arms Control, \$51,739, **Stephen P. Cohen**, Political Science Department, U. of Illinois, Chicago

Politics in Aesthetic Perspective, \$48,364, **Henry S. Kariel**, Political Science Department, U. of Hawaii, Honolulu

Presidential Power and Democratic Constraints, \$55,234, **Louis W. Koenig**, Politics Department, New York U., NYC
State and Society in Empirical Democratic Theory, \$54,534, **Eric A. Nordlinger**, Center for International Affairs, Harvard U., Cambridge, MA

The Comparative Study of Slavery, \$54,771, **Orlando H. Patterson**, Sociology Department, Harvard U., Cambridge, MA
Concepts of Total Domination in Political Thought, \$56,376, **Melvin Richter**, Politi-

cal Science Department, CUNY
Art and Society: Primary and Secondary Images of Sacred Order, \$69,239, **Philip Rieff**, Sociology Department, U. of Pennsylvania, Philadelphia
Human Rights and Discrimination, \$57,808, **Vernon Van Dyke**, Political Science Department, U. of Iowa, Iowa City

Summer Stipends
Charles A. Barone, Dickinson College, Carlisle, PA, *Economics*
Pao-yu Chou, Marygrove College, Detroit, MI, *Economics*

Helen M. Hacker, Adelphi U., Garden City, NY, *Sociology*
Kathleen J. Hartford, Amherst, MA, *Public Administration*

Thomas A. Horne, Columbia U., NYC, *Public Administration*
Joy Huntley, Ohio U., Athens, *Political Science*

Joan B. Landes, Hampshire College, Amherst, MA, *Public Administration*
Robert H. Lauer, Southern Illinois U., Edwardsville, *Sociology*

T. Gordon O. Lloyd, U. of Redlands, CA, *Public Administration*
Elizabeth Long, Rice U., Houston, TX, *Sociology*

Maureen A. Mahoney, Hampshire College, Amherst, MA, *Psychology*
T. Dunbar Moodie, Hobart-William Smith Colleges, Geneva, NY, *Sociology*

E. Ann Neel, U. of Puget Sound, Tacoma, WA, *Sociology*
Beverly T. Springer, American Graduate School of International Mgt., Glendale, AZ, *Public Administration*

Dale Story, U. of Texas, Arlington, *International Relations*
Joan C. Tonn, U. of Massachusetts, Boston, *Psychology*

Mary Roth Walsh, U. of Lowell, MA, *Psychology*
Stephen K. White, U. of Hartford, CT, *Public Administration*

Paul D. Wiebe, Bethel College, St. Paul, MN, *Sociology*
Jovita R. Zimmerman, U. of Hawaii, Honolulu, *Public Administration*

Exhibition Openings

On Common Ground: The Boston Jewish Experience, 1649-1980/American Museum of Immigration at the Statue of Liberty, NYC/May 12-July 31

Voices from the Turtle Islands/Native American Center for the Living Arts, Niagara Falls, NY/a permanent exhibit opening May 17

Islamic Bindings and Bookmaking/Oriental Institute Museum, University of Chicago, IL/May 18-August 18

Copan, Ancient City of the Maya/Science Museum of Boston, MA/May 20-September 6, 1982

Hawaii: The Royal Isles/Seattle Museum of Art, WA/June 3-July 26

Shakespeare, the Globe and the World/American Museum of Natural History, NYC/June 18-September 20

Research Conferences

American Indian Historians: The Changing Historiography/Davenport Hotel, Spokane, WA/May 6-9/contact Clifford E. Trafzer (509)335-8676

Russian Literature in Emigration: The Third Wave/U. of Southern California, Los Angeles/May 14-16/contact Olga Matich (213)743-2878

Near V. Minnesota: A 50th Anniversary Symposium/U. of Minnesota, St. Paul/May 28-30/contact Donald Gillmor (612)373-3171

International Symposium on Louis Adamic: His Life, His Works, His Influence/International Institute of Minnesota, St. Paul/May 29-30/contact Rudolph J. Vecoli (612)373-5581

The Issue of Divestiture of Research Materials from Rare Book and Special Collections Libraries/Brown U., Providence, RI/June 11-12/contact Thomas R. Adams (401)863-2725

Chicano English/U. of Texas, El Paso/June 11-13 (tentative)/contact J. Ornstein-Galicia (915) 532-7825

Classics and Semiotics/Vanderbilt U., Nashville, TN/June 18-20/contact D. Patte (615)322-4884

Individualism and Wholism: The Confucian and Taoist Philosophical Perspective/Bowdoin College, York, ME/June 24-29/contact Donald Munro (313)763-3493



Courtesy of the Oriental Institute, U. of Chicago

Articles in "Islamic Bindings and Bookmaking," an exhibition opening next month at the Oriental Institute Museum in Chicago, are noted not only as precursors of all European bookmaking but also as objects of delicate beauty.

1982 NEH Budget Goes to Congress

Ed. note: NEH has received many calls about its FY '82 budget. The following is an explanation of the revised NEH budget and how the budget works.

The Endowment's fiscal year (FY) 1982 budget request will soon begin the lengthy process of formal review in the Congress, with House and Senate subcommittee hearings scheduled for the end of April.

In the first phase of the Congressional review process, the House Appropriations Subcommittee on Interior and Related Agencies and the Senate Subcommittee on Interior will hear testimony on the Administration's FY '82 budget request for NEH.

In February, President Reagan proposed a FY '82 Budget Reform Program for the Federal government. The President's revised budget requests an appropriation of \$85 million in FY '82 for the NEH. The original FY '82 budget request, submitted in January, was \$169.4 million.

At the Congressional subcommittee hearings, NEH officials will testify in support of the current budget request and make recommendations for its distribution among agency divisions

and programs. The House and Senate subcommittees will also hear testimony on the NEH budget from interested and knowledgeable individuals outside the agency.

All appropriation bills originate in the House. Therefore, after debate on and possible revision of the President's request, the House subcommittee will submit its recommendations to the House Appropriations Committee. Further debate and revision may occur in the full committee before it sends an omnibus appropriation bill for the Department of Interior and Related Agencies (including NEH) to the floor of the House.

There is again the opportunity for discussion, negotiations, and alterations by the Representatives in full session, although committee recommendations are usually accepted. A majority vote in favor of the appropriation bill will send the measure to the Senate, where it will undergo a similar review. Based on recommendations from the Senate Subcommittee on the Interior, the Senate Appropriations Committee will report out an appropriation bill for debate and passage by the full Senate.

Should the appropriation bills passed by the House and Senate differ, they will be reviewed by a joint conference committee. The committee will then send a compromise bill to the two chambers for passage.

The resulting appropriation bill on the Interior and Related Agencies, which may differ from the Administration's request, will then be sent to the President for approval. The President has the options of signing, vetoing, or not acting on the bill.

The first budget resolution for all Federal departments and agencies is scheduled to be adopted by the Congress on May 15, 1981. After further review, a second and final resolution is expected to be passed by September 15.

The approved FY '82 budget will cover the period October 1, 1981 to September 30, 1982, the Federal government's 1982 fiscal year.

The NEH budget for the current fiscal year, FY '81, has not been revised and remains at the approved level of \$151,299,000.

—John Lippincott

Mr. Lippincott is an Endowment staff member

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About the authors . . .

Annette C. Baier studied philosophy at the University of Otago, New Zealand and at Oxford, England. She taught at the Universities of Aberdeen, Auckland, and Sydney before coming to the United States. Her first

teaching assignment in this country was at Carnegie Mellon University, where she helped to create a program in philosophy. Now a professor in philosophy at the University of Pittsburgh, Professor Baier has published in philosophy of mind and action, in ethics and moral psychology, and is at present writing about David Hume's philosophy of mind and society. **Page 14.**



William F. May is the Joseph P. Kennedy, Sr. Professor of Christian Ethics at the Kennedy Institute of Ethics, Georgetown University. He was an undergraduate at Princeton University, and received his

graduate degrees from Yale. Professor May was the first chairman of the department of religious studies at Indiana University, and also served as chairman of the religion department at Smith College. A former president of the American Academy of Religion, he serves on the board of directors of the Society for Values in Higher Education and on the Board of Counselors of Smith College. May is a Founding Fellow of the Hastings Center and cochairs its research group on death and dying. **Page 15.**



Barbara Delman Wolfson attended the Bronx High School of Science, Vassar College and Columbia University, where she received

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WHY GREECE AND ROME CONTINUE TO EXCITE, with

HELEN NORTH, Centennial Professor of Classics and chairperson of the classics department at Swarthmore College, on the resurgence of student interest in Western classical civilization;

KARL GALINSKY, professor of classics and chairperson of the classics department at the University of Texas, Austin, on building support for a large classics department (the largest in the country); and

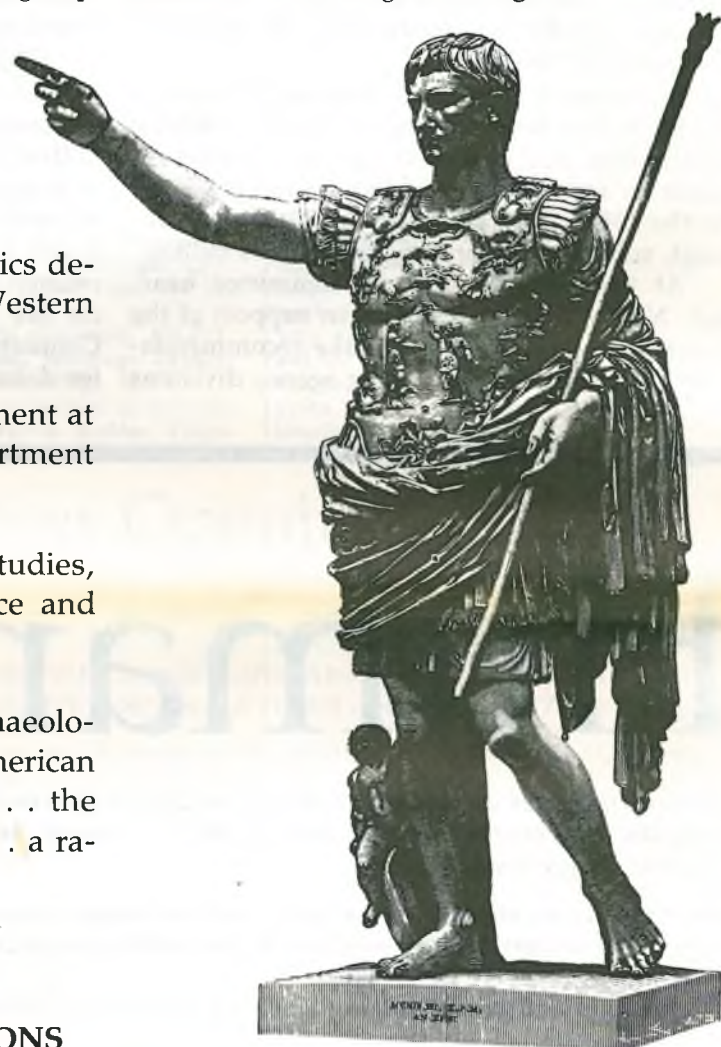
SARAH POMEROY, associate professor of classics and director of women's studies, Hunter College, City University of New York, on women in ancient Greece and Rome, *and*

News from the Agora, Metaponto, and Nemea—freshly dug by teams of archaeologists . . . the meaning of Pompeii . . . a new study of Heraclitus . . . the American Academy in Rome and the American School of Classical Studies at Athens . . . the Latin explosion in Philadelphia . . . the culture of Greece through its vases . . . a radio dramatization of the *Odyssey*, *and*

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