

the **KEY** reporter

volume xxxix • number one • autumn 1973

NEW OFFICERS AND SENATORS

A distinguished historian, Professor John Hope Franklin, is the newly elected president of the United Chapters of Phi Beta Kappa. President Franklin, who succeeds Dr. Rosemary Park of University of California at Los Angeles, is the John Manly Distinguished Service Professor of American History at the University of Chicago. He received his bachelor's degree from Fisk University and his master's and doctoral degrees from Harvard. He is a member of the executive council of the American Historical Association and a past president of the Southern Historical Association. Before joining the Chicago faculty in 1964, Professor Franklin taught at Brooklyn College, Howard University, North Carolina College at Durham, and St. Augustine's College.

The new president, who has served on the editorial boards of the *Journal of Negro History* and the *Journal of American History*, is the author of *From Slavery to Freedom: A History of Negro Americans; Reconstruction after the Civil War*; and *The Emancipation Proclamation*, and editor of *A Fool's Errand*; *Army Life in a Black Regiment*; and *Civil War Diary of James T. Ayers*.

Professor Franklin was one of four Lincoln Lecturers appointed in 1972 to mark the twenty-fifth anniversary of the Fulbright international exchange program. He travelled to East Asia, the South Pacific and Latin America lecturing at participating universities. During the coming year, President Franklin will be at the Center for Advanced Study in the Behavioral Sciences at Stanford, California. He will be completing two books, one on life in the North as depicted by ante bellum southern visitors, the second a biography of the Negro historian, George Washington Williams.

In his remarks upon assuming office, President Franklin noted the attendance at the Council of Theodore Currier, the delegate from Fisk University who had

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Howard Mumford Jones (center), historian, educator and author received the second Phi Beta Kappa Award for Distinguished Service to the Humanities. With Professor Jones are Dr. Rosemary Park, outgoing president of the United Chapters and Professor John Hope Franklin, newly elected president.

COUNCIL HONORS HOWARD MUMFORD JONES

Vanderbilt University was the setting for the Thirtieth Council meeting of the United Chapters on August 7-10. Over two hundred delegates from one hundred and thirty-two chapters and thirteen associations attended.

A highlight of the Council was the presentation of the Phi Beta Kappa Award for Distinguished Service to the Humanities to Howard Mumford Jones, Lawrence Lowell Professor of Humanities emeritus at Harvard University.

In accepting the award, Mr. Jones warned that freedom in the classroom or in the state must carry with it social, civic and intellectual responsibility. "In western society, from the Nazis to the Nixon administration, ethical deterioration originates somewhere. It is fatally easy to blame our failure of ethical nerve upon the church, the breakdown of the family, or lack of patriotism. I urge that these various breakdowns are really breakdowns of traditional values and traditional values are a primary responsibility of humanists. The civic duty of humanists," Mr. Jones continued, "is to insist with passion upon honesty, morality and the beauty we are bound to protect and advocate."

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NEW CHAPTERS

- ARIZONA STATE UNIVERSITY,
Tempe
- UNIVERSITY OF CALIFORNIA AT
IRVINE
- CALIFORNIA STATE UNIVERSITY
AT SAN DIEGO
- COLORADO STATE UNIVERSITY,
Fort Collins
- FURMAN UNIVERSITY, Greenville,
South Carolina
- HAMLIN UNIVERSITY, St. Paul,
Minnesota
- HOFSTRA UNIVERSITY, Hempstead,
New York
- COLLEGE OF THE HOLY CROSS,
Worcester, Massachusetts
- IOWA STATE UNIVERSITY, Ames
- KANSAS STATE UNIVERSITY,
Manhattan
- STATE UNIVERSITY OF NEW YORK
AT ALBANY
- STATE UNIVERSITY OF NEW YORK
AT STONY BROOK
- TEMPLE UNIVERSITY, Philadelphia,
Pennsylvania
- TRINITY UNIVERSITY, San Antonio,
Texas
- UNIVERSITY OF WISCONSIN —
MILWAUKEE

THE SCIENTIST AS SOCIALLY RESPONSIBLE CITIZEN

by Arthur W. Galston

The fruits of science can be bitter or sweet, and the scientist nurturing their development cannot judge their palatability until after the harvest. But the unpredictability goes further: a fruit sweet when harvested may turn noxious with the passage of time, and its seeds when planted may yield harmful progeny. What is the cultivator of such an unpredictable crop to do? Should he cease his operations because of their chancy nature?

Most scientists have not slackened the pace of their work because of worries about its social consequences. Rather, they content themselves with the generalization that the harvests of science have more often benefited than injured man. Furthermore, they see man, whether he wills it or not, as increasingly dependent on new scientific discovery for the solution of increasingly pressing social problems. Others argue that science is an inevitable consequence of man's curiosity and cannot in any event be shut off. Still others, frequently in academic work, maintain that science is an aspect of human experience that must be studied and understood by anyone wishing to be liberally educated. But whatever the justification for their activities, scientists have come increasingly to feel that they have a responsibility, because of their special knowledge, to help society direct the application of their discoveries toward the satisfaction of human needs.

The socially concerned scientist may adopt any one of a number of activist stances, and can usually find an organization to fit his approach. For example, the *Scientists' Institute for Public Information* (SIPI) considers it the scientists' duty to present relevant facts to the public; the public must then decide what to do with this information and how to do it. SIPI preserves its tax-exempt status by not endorsing candidates or particular political actions, although its magazine, *Environment*, frequently publishes articles that seem to point to a rather limited range of politically acceptable solutions. By contrast, the *Federation of American Scientists* (FAS), which calls itself "the voice of science on Capitol Hill," produces carefully reasoned position papers on controversial issues involving scientific knowledge. Based on these it then issues news releases, lobbies for its positions in Washington, and advocates the passage of particular pieces of legislation. Somewhat similar in approach to FAS are *Common Cause*, a "citizens' lobby" that includes many scientists, and *Council for a Livable World*, a Cambridge-based group that concentrates on fund raising to support desired political candidates. The latter two differ in that *Common Cause* frequently polls its members for collective advice on suggested courses of action, while the *Council* operates more inscrutably, a small "in group" making all decisions for action, which is then circulated to potential contributors. *The Society for Social Responsibility in Science* (SSRS), founded by pacifists, includes many scientists who refuse to engage in any way in research that could lead to the development of weapons of war, or to do work that they regard as ethically unacceptable. They have occasionally sponsored social action projects, such as an investigation of the use of herbicides in Vietnam, but their main activities involve education, exhortation, and a job placement service.

Occasionally organizations with more limited and concrete aims appear. In all recent presidential elections, scientists have organized into groups supporting particular candidates, usu-

ally the Democratic standard bearer. *Ad hoc* groups have also formed against the supersonic transport, against chemical and biological warfare, and in support of various ecological causes. *Medical Aid to Indochina* arose to collect funds to repair hospitals and medical installations in North Vietnam damaged by the American bombardment late in 1972. Leftist scientists organized *Science for Vietnam*, a series of "collectives" who supplied scientific aid and information to the North Vietnamese.

Finally, individual scientists occasionally initiate or engage in one-man efforts that have some social consequences. One thinks in this connection of Linus Pauling's peace petition campaign, Matthew Meselson's effective behind-the-scenes instruction of Senators on chemical and biological warfare, and the James Shapiro-Jonathan Beckwith pronouncement on science and social responsibility following their successful isolation of a gene. In my own case, a sense of the need for involvement led me first to individual, then organizational action. But as often occurs, the events leading to social involvement seemed innocent of any such implications.

I have always been interested in biology, and in the course of my university and graduate study, this interest came to center on plant physiology, the study of the life processes of the plant. I became fascinated by the fact that higher plants, unlike higher animals, have no germ plasm permanently set aside and sequestered from the rest of the organism. Rather, for most of its life, the plant vegetates and grows, producing only roots, stems, and leaves. Then, at some definite, regular time, the plant growing point changes its nature and begins to produce reproductive organs, the flowers. In addition to the showy petals and sepals, the flower contains the male and female structures, the stamens and pistils. In these organs are produced, through the process of meiosis, the haploid cells that ultimately give rise to the sex cells, the sperms and eggs. The union of these cells produces the zygote, which then goes on to produce the embryo in the seed. In this way, sexual recombination and the continuity of the plant in time are made possible.

Obviously, everything depends on the decision, realized in the growing point, to differentiate flower primordia rather than ordinary vegetative organs. What controls this decision? The fact that it occurs at the same time each year, at least in wild plants, indicates the involvement of a precise regulatory mechanism. At first, a chemical time-keeping process, rather like an egg timer, was envisioned as built into the plant; when some chemical "sand" is depleted from a chamber in the timer, the plant changes its growth habit. But this theory was quickly disproved when it was noted that a given lot of seeds, when planted at different latitudes, produces plants flowering at different times. This speaks in favor of some environmental control, and about 1920, it was established that for many plants, daylength is the regulatory trigger. Some plants, like certain varieties of tobacco and soybeans, flower only when the daylength is less than a certain critical value; such plants are called short-day plants. Others, like many cereals and spinach, flower only when the daylength exceeds a certain critical value and are called long-day plants. Still others, like the tomato, are day-neutral plants and flower almost entirely by internal controls; in these, flowers appear after a certain number of vegetative nodes have been produced.

We now know that the length of day (or more properly length of night) is measured in plant leaves by a pigment

Arthur G. Galston, professor of biology at Yale University, was a 1972-73 Phi Beta Kappa Visiting Scholar.

called phytochrome. A properly stimulated leaf produces a mobile stimulus, called a flowering hormone, that migrates to the distant growing point where it induces the formation of flowers. If we knew the nature of that presumed hormone, we could probably spray it on plants at will and induce prompt blooming. What a boon that would be! Since most harvests result from the production of flower, fruit, and seed, such a chemical would greatly increase our production of food and other plant products. It could also extend useful agriculture into northerly or arid regions not now able to support crop production because of the shortness of the growing season. It is no wonder that many plant physiologists entered into a search for the flowering hormone, a search which after almost half a century is still unsuccessful. But in 1940, when I started my graduate work, I could not have known that, and chose to join the ranks of floral hormone hunters.

In my researches, I found that a chemical substance called triiodobenzoic acid (TIBA for convenience) which could cause premature flowering in the day-neutral tomato could significantly increase the number of flowers and fruits on short-day soybean plants, but only if they had first received the proper daylength stimulus. Like almost all useful chemicals, the concentration of TIBA needed to be accurately controlled, since low levels were ineffective and overly high levels caused deleterious effects including the shedding of leaves and buds. These results were sufficient to insure a thesis, and after successfully defending it, I entered into-war-related research and ultimately into military service.

When I returned and resumed academic work, I found that my thesis had produced several unanticipated sequelae. An Illinois chemical company, interested in the possibility of improving soybean yields during a time when soybean acreage was expanding rapidly, found that TIBA could produce the desired result under a sufficient number of conditions as to make a patent and commercial exploitation feasible. For more than a decade, TIBA was sold for this purpose, until supplanted by improved chemicals. And at Frederick, Maryland, the Army Chemical Corps laboratories, noting that higher concentrations of TIBA could cause the premature shedding of leaves, investigated its possible use as a defoliating agent for jungle warfare. Although it was never employed as a military agent, studies of its action helped pave the way for the development of the superior agents that ultimately found such widespread use in the Indochina war, especially in South Vietnam. In that conflict, more than 6 million acres of forest and crop lands, an area about the size of Massachusetts, were defoliated by more than 100 million pounds of chemicals. About $\frac{2}{3}$ of the forests of South Vietnam were affected and about 6 pounds of noxious chemicals were dropped for every man, woman, and child in the country.

The object of this military use of herbicidal chemicals was twofold. First, a forest stripped of its leaves is not so hospitable a hiding place for infiltrating guerrillas; trails become visible to aerial observation, and the movement of men and equipment can be more easily monitored and interdicted. Secondly, the selective destruction of food crops such as rice destined primarily for guerrilla use could interfere significantly with the operation of isolated, semiautonomous military units. It is hard to know whether herbicides actually afforded much of a military advantage in Vietnam. They were probably effective along the estuaries, where a single aerial spray could effectively kill the mangroves lining a waterway and thus cut down on the incidence of ambushes to patrol and cargo vessels. In the forests, however, defoliation of the upper canopy of vegetation provided new light sources for forest floor vegetation, which proceeded to spread into previously barren areas. Among such volunteer plants were the various kinds of bamboo, whose dense growth and insensitivity to

herbicides paradoxically sometimes created an even better milieu for guerrilla operations than existed previously. So far as the crop-killing campaign is concerned, the selective aerial spraying of isolated upland rice plantings, presumably the source of guerrilla nutrition, was probably misguided: such fields were probably the property of Montagnards, an ethnically distinct population of Vietnamese "hillbillies." Deprived of their food, the Montagnards were forced into the lowland settlement centers, and for many of them, age-old life patterns were permanently disrupted. Given the deleterious effects of herbicidal sprays, the overall balance sheet does not show a strong surplus of benefits, and many military men as well as scientists have come to question the entire operation.

Why were biologists especially concerned by this practice? In an era of increasing attention to environmental quality it seemed paradoxical that vast acreages of Vietnamese forest should be deliberately destroyed. How replaceable is this resource? Several studies have put timber export high on the list of possible trade items for a postwar Vietnam. It is clear that repeated spraying has killed a good part of the exportable hardwood, and the invasion of valuable teak and other hardwood land by less valuable timber and scrub bamboo may be irreversible. The economic blow to Vietnam is certainly serious. Even more important may have been the depletion of mineral resources from the forest ecosystem. In tropical forests, a good part of the usable mineral and organic resources are in the stands of trees. This is the basis for "slash and burn" agriculture widely used by some forest peoples; the operation leads to the return of minerals to the soil, which can then be used to grow food crops for several years. When the soil is again exhausted by repeated plantings, the land is allowed to return spontaneously to forest, the roots of the new growth once more mobilize new mineral resources from rock and deep soil, and the cycle is repeated. Sudden defoliation, especially in an area of monsoonal rains, can lead to irreversible leaching and loss of essential minerals. Furthermore, tropical soil, highly leached and high in clay content, is stabilized only by the continued contribution of organic matters from the roots of the existing forests. Thus, killing the trees may lead these lateritic soils to become indurated into brick-like masses, possibly permanently altered into a substratum incapable of supporting any plant growth whatsoever. Such transformations have occurred in cleared jungle land in South America, and similar changes could occur under similar conditions in Southeast Asia.

While forest trees subjected to a single defoliation operation usually recover partially, the mangrove swamps lining the estuaries turned out to be unpredictably sensitive, and entire areas were killed after a single spraying as early as 1961. Such areas have shown little or no recovery more than a decade later, and even optimistic estimates of recovery times indicate twenty-five years as a minimum; more realistic estimates might double that time, if recovery occurs at all. In the meantime, what will happen to the area occupied by the mangroves? These extraordinary plants live in saline waters that would kill most other plants; perhaps their surprising sensitivity to the defoliating chemicals is related to that fact. Normally, the estuarine zone, where nutrient-laden freshwater streams dump their contents into saline waters, is a richly productive habitat, and the plants that live there are the base for a vast pyramid of life forms, including many fish and shellfish important in the Vietnamese diet. With the mangrove communities now nonproductive, it is to be expected that the fish and shellfish populations will move elsewhere. Such a dislocation could produce deleterious effects on the Vietnamese food supply.

As the military use of herbicides in Vietnam increased year by year, scientists aware of the possible ecological backlash of this practice mounted a program of alerting their col-

leagues, fellow citizens, the Congress, and the President to the dangers. During the peak years of the Vietnam war few sympathetic ears could be found. Arguments based on a possible ecological catastrophe in Vietnam were ineffectual while considerable American blood was being spilled on Vietnamese soil. A critical turn in events came when laboratory investigations forced by critics of the herbicide program revealed that these agents, previously considered without deleterious consequences to man or animals, could cause significant damage to mice and rats, and by inference, to men also. When added to the diet of pregnant female laboratory animals at moderate levels, one of the agents used in Vietnam, known as 2,4,5-T, caused a variety of malformations in embryos developing *in utero*, including cleft palate, cystic kidneys, blindness, anencephaly, and sometimes death. If the same dosages were considered effective in humans, then at the known rates of herbicide application and assumed rainfall, Vietnamese drinking water contained enough 2,4,5-T to cause hazards for pregnant women who had consumed as little as two liters per day. Faced with the possibility that our supposedly innocuous herbicides were poisoning Vietnamese babies, the then Presidential Science Adviser ordered a termination of the use of the offending chemical. The use of the chemical in this country was also severely restricted.

These frightening implications are not much altered by the fact that pure 2,4,5-T was found not to be the offending agent; the blame was assigned instead to a class of impurities called dioxins, which are formed under certain conditions of synthesis of 2,4,5-T. Although the chemical companies can now apparently insure that 2,4,5-T can be synthesized substantially free of dioxins, the millions of pounds of 2,4,5-T used in Vietnam did contain dioxins, and samples of fish harvested from sprayed areas have been shown to contain significant quantities of these materials. Thus, we are faced with the possibility that American chemical warfare against plants has resulted in increased infant mortality and embryonic malformations. This point is difficult to prove, because of both the lack of reliable baseline statistics and the continuing military operations that make field investigations risky or impossible.

The battle to halt the wartime use of herbicides had international implications far beyond Vietnam. In using these agents, the United States became the first country to reintroduce massive chemical warfare since the gas warfare of World War I. The Geneva Gas Protocol of 1925, written but never ratified by the United States in the postwar rejection of Wilsonian doctrines, calls for the signatories to abjure the use in war of "poisonous or other gases, and of all analogous liquids, materials or devices." The Protocol, now signed by eighty-four nations, and reendorsed at the United Nations by many nations including the United States, is credited with having played some role in dissuading nations from the use of chemical agents. When President Nixon announced his intention in 1968 to submit the treaty to the Senate for ratification, the effort faltered because the President included an "understanding" that two kinds of chemicals used in Vietnam, herbicides and riot control agents, would be excluded from control because they had not existed at the time the original treaty was written. The Senate Foreign Relations committee wisely concluded that U.S. ratification with such exclusions would weaken rather than strengthen the treaty; it therefore quietly killed the President's request. There the matter rests for the moment.

In the political fight against the military use of herbicides, the voices of scientists were extremely important. They had the knowledge that Congress and even the Presidential Science Adviser lacked, and their repeated testimony and lobbying in Washington were critical. But one should not assume that

science spoke with a unified voice on this issue. It is, in fact, astounding how few scientists were crucially involved. Outstanding among them were Matthew Meselson of Harvard, Arthur Westing of Windham College, and E. W. Pfeiffer of the University of Montana. All three visited Vietnam personally, gathered data on the spot and returned to spread their findings by the written and spoken word. Some scientific societies responded by resolutions supporting an end to chemical warfare; the American Association for the Advancement of Science, goaded by Pfeiffer, established a Herbicide Assessment Commission headed by Meselson and staffed by Westing and gave it \$80,000 for investigations. But many other relevant societies took no action at all. For example, in spite of all the recent excitement about preservation of the environment, no ecological society has explicitly concerned itself with the destruction of the Vietnamese vegetation, and my own organization, the American Society of Plant Physiologists, refused even to place the item on the agenda of a business meeting in 1966. Indeed, it is fair to say that most scientists have been either unaware of, unconcerned with, or hostile to the efforts of the small minority of activists to introduce the subject and to organize scientists into groups to take political action. Thus, when a small group formed the *Scientists' Committee on Chemical and Biological Warfare* and placed a full page advertisement in *Science* calling for adherence and contributions, the returns failed even to cover the initial cost of the ad. If those favoring action against our government's policies had become disheartened because of their failure to attract widespread support amongst their colleagues, their fight would have been lost. As it was, enough concerned individuals persisted to see the successful conclusion — a total ban on herbicide use late in the Indochina war.

While involvement in social concerns can be satisfying to the scientist, it is not without its frustrations and negative aspects. As everyone knows, science is a difficult business, and it is hard enough to keep a research program going in the midst of everyday duties and distractions without adding endless hours for social agitation. Some scientists who plunge into political activity suffer in terms of their productivity and ultimately, ability. They may accordingly lose credibility among their scientific colleagues, and find themselves without a suitable forum. The job thus becomes a delicate balancing of duties and responsibilities, all competing for a finite budget of time, energy, and creativity.

There is no universal guide for the perplexed concerned scientists, only sets of individual case histories. For me, the guiding generalizations are relatively few. One cannot avoid involvement in the antisocial consequences of science simply by eschewing projects that appear to be directed toward destructive ends, since almost any scientific finding can be perverted under appropriate economic and social pressures. The only recourse is to follow a discovery until the end, wherever that happens to be. Responsibility does not always cease with the publication of a scientific paper; if a discovery is translated into some impact on the world outside the laboratory, the scientist should remain aware of its applications to see that it is used for constructive rather than antihuman purposes. No moral imperative can be invoked here. Some individuals feel moved to respond to such a social challenge, while others shun such activity, either through timidity, aversion to political argumentation, or a feeling that others "whose business it is" should handle the social spillover. At the very least, the reluctant social warriors should feel responsible enough to stimulate appropriate politicians or social scientists into activity. Neglect of even this responsibility could further turn public goodwill and financial support away from science. Social concern is thus both good ethics and good business for the scientist.

reading *recommended by the book committee*

humanities

GUY A. CARDWELL, ROBERT B. HEILMAN,
FREDERICK J. CROSSON

social sciences

EARL W. COUNT, RICHARD BEALE DAVIS,
LEONARD W. DOOB, ANDREW GYORGY,
MADELINE R. ROBINSON, VICTORIA SCHUCK,
J. RAYMOND WALSH

natural sciences

J. T. BALDWIN, JR., KIRTLEY F. MATHER

ROBERT B. HEILMAN

Metaphors of Self: The Meaning of Autobiography. James Olney. Princeton. \$12.50.

A belated note on an original and well-written book. Treating a man's writings—the corpus or key works—as his autobiography, Olney presents perceptive studies of seven figures as diverse as Montaigne (essays), Jung (his works as a whole), and Eliot (the Quartets).

Jean Racine: Dramatist. Martin Turnell. New Directions. \$17.75.

Turnell writes an easy, many-sided criticism that combines professional competence with informality and vivacity. He looks at characterization, structure, and style in forming a rounded estimate that places each drama with respect to others and to European drama generally.

The Impossible Friendship: Boswell and Mrs. Thrale. Mary Hyde. Harvard. \$7.50.

The primary materials on this relationship are scanty, and Ms. Hyde amplifies them with a full account of the interesting personal and social orbits of these rival Johnson admirers and biographers.

Happy Rural Seat: The English Country House and the Literary Imagination. Richard Gill. Yale. \$9.75.

A relaxed survey of the country house as symbol, once of paradise or prison, more recently of values that survive or decay, above all of "community." Henry James gets fullest treatment.

The Sinner from Toledo and Other Stories. Anton Chekhov. Translated by Arnold Hinchliffe. Fairleigh Dickinson. \$8.

Twenty stories, eight untranslated before, show Chekhov's wide range in his 20s: trick endings, psychological farce, folk tales, pathos, black comedy, and ironic complications that anticipate the major plays.

Getting Married. August Strindberg. Translated from the Swedish, edited and introduced by Mary Sandbach. Viking. \$7.95.

Some thirty stories and sketches about married and sexual life, not really misogynic, but critical of liberationist extremes. Despite thematic and tonal sameness, they easily maintain interest by passionate conviction, keen perception of reality, and tart and ironic observation.

English Drama 1900-1930: The Beginnings of the Modern Period. Allardyce Nicoll. Cambridge. \$49.50.

A rare combination of encyclopedic expertise, critical acuteness and detachment, and stylistic grace. The immense "Hand-

List" is of great historical utility. The descriptions and judgments of plays survey a pivotal theatrical period fascinatingly.

The Life of Ivy Compton-Burnett. Elizabeth Spriggs. Braziller. \$7.95.

What holds the reader here is not the un-spectacular surface events of a life, but the portrayal of the singular mind and personality that lie behind a great series of witty, penetrating comic novels, always imaginative, often fantastic and ruthless.

Modern Heroism: Essays on D. H. Lawrence, William Empson, and J. R. R. Tolkien. Roger Sale. California. \$10.

The definition of a hero—a man who, resisting both the cliché of the lost Eden and his own inner pressures, makes affirmative perceptions that can create community—is the key to fresh and enlightening explanations of an unexpected trinity.

North of Jamaica. Louis Simpson. Harper & Row. \$6.95.

Less a formal autobiography than a series of impressions related to the major experiences of Simpson as a student, combat infantryman, teacher, and man of letters. Often passionate or witty, at times prejudiced, always perceptive.

RICHARD BEALE DAVIS

Days of Sadness, Years of Triumph: The American People 1939-1945. Geoffrey Perrett. Coward, McCann & Geoghegan. \$10.

A fascinating, complex, terse, sweeping account of the American people in an era the author suggests may have marked the peak of their accomplishment.

Perspectives in Early American History: Essays in Honor of Richard B. Morris. Edited by Alden T. Vaughan and George A. Billias. Harper & Row. \$10.

History and American Society: Essays of David M. Potter. Edited by Don E. Fehrenbacher. Oxford. \$10.

Essays on the American Revolution. Edited by Stephen G. Kurtz and James H. Hutson. North Carolina. \$12.50.

Collections of essays by distinguished historians relate to various elements which prepared for and formed the Revolution, to historians and historiography of the early period, and to one recently deceased scholar's evaluations of national character and of other historians. For this reader the two most interesting essays were those in the Vaughan-Billias volume on Becker by Klein and on Gipson by Morris.

Frederick Jackson Turner, Historian, Scholar Teacher. Ray A. Billington. Oxford. \$17.50.

Comprehensive, emphasizing Turner's significance in many branches of history other than frontier, this sympathetic biography convinces the reader that the subject was indeed one of America's half-dozen really influential historians.

Edgar Allan Poe, A Phenomenological View. Davis Halliburton. Princeton. \$15.

Poe in Northlight: The Scandinavian Response to his Life and Work. Carl L. Anderson. Duke. \$5.75.

Edgar Poe: Seer and Craftsman. Stuart Levine. Everett/Edwards. \$13.

The Levine and Halliburton studies rightly concentrate on Poe's work, and despite the provocative title of the latter, are down-to-earth, perceptive critical appraisals well worth the attention of anyone wishing to understand this writer's work. Levine concentrates on prose, Halliburton covers it all and is especially good on the poems. Anderson's much-needed study shows the critical reception of Poe in a group of nations which have considered him a major writer for a long time, and at the same time presents a significant essay by a Scandinavian translated and presented to the English-speaking public for the first time.

Tidewater Towns: City Planning in Colonial Virginia and Maryland. John W. Reys. Colonial Williamsburg Foundation. \$15.

The Flower World of Williamsburg. Joan Parry Dutton. Colonial Williamsburg Foundation. \$5.95.

Mr. Jefferson, Architect. Desmond Guinness and Julius T. Sadler, Jr. Viking. \$14.95.

The Harpsichord or Spinnet Miscellany. Robert Bremner. Colonial Williamsburg Foundation. \$5.95.

Four charming books concerned with the fine arts in early America, most of them illustrated profusely in color. The architectural and music volumes contain much new and revealing material.

Political Justice in a Republic: James Fenimore Cooper's America. John P. McWilliams, Jr. California. \$10.75.

Nathaniel Hawthorne: A Reference Bibliography 1900-1971. Beatrix Ricks, Joseph D. Adams, and Jack O. Hazelrig. G. K. Hall. \$16.50.

The Man of Letters in New England and the South: Essays on the History of the Literary Vocation in America. Lewis P. Simpson. Louisiana. \$10.

Despite some disturbing awkwardness in style, McWilliams' is the best book to date on Cooper's political ideas and idealism. Simpson's collection considers some eminent and once-eminent figures and is especially stimulating in the southern-subject pieces such as "O'Donnell's Wall" and "The Southern Novelist and Southern Nationalism." The Hawthorne bibliography will be indispensable to the literary student.

FREDERICK J. CROSSON

The Politics of Motion. Thomas A. Spragens, Jr. Kentucky. \$7.75.

Analyses of Hobbes have tended either to trace his politics to his physics or to view the latter as a retrospective rationale for an already determined theory of politics. Spragens' clear and well-argued book lays

out a middle way which takes the idea of (Galilean) motion as primary, but concedes the impossibility of any logical derivation of a politics. Rather he shows that Hobbes' thought emerges in the context of an Aristotelian conceptual framework, once the idea of motion is changed, and by way of a highly systematic transformation of that framework.

Ego and Archetype. Edward F. Edinger. C. G. Jung Foundation. \$12.50.

Developing Jung's conclusion that it is impossible to distinguish empirically between symbols of God and symbols of the self, this profusely illustrated study moves between modern dreams and historical texts, myths and illustrations of archetypal images to draw the congruence. The process of individuation depends on the religious function of the psyche, which is to come to terms with that unconscious part of the self which is expressed and addressed in the archetypal God-images. While Jung cautiously formulated this identity as extensional, Edinger appears to reduce theology to psychology, or at least to ignore any conceivable distinction between them.

The Planetary Man. Wilfred Desan. Macmillan. \$9.95.

This is a quite original attempt to think through systematically the form in which problems of knowledge and ethics are cast if one begins at the opposite pole from Descartes, and indeed from virtually all of the philosophical tradition. Its starting point is not the individual but the *iotum humanum* in space and time, and Desan's effort is to sustain the perspective of an outside observer who regards the whole of mankind and its history at once. The ghost of Hegel lies close to the surface at times, despite Desan's determination to exorcise it by rejecting any privileged moment of historical completion. The light in which he analyzes a number of classical issues brings stimulating insights.

Agape. Gene Outka. Yale. \$11.

Since Anders Nygren distinguished and opposed *agape* and *eros* forty years ago, the literature on the subject has been immense. This volume, recommended for its organization and conceptual precision, aims to sort out the issues which have proven pivotal to understanding love of neighbor. Those issues are of concern to anyone who reflects on how far his responsibility for his fellow human beings lays claim on him. Though the topic derives from theology, Outka's treatment is a model of philosophical analysis, and much indebted to contemporary moral philosophy.

The Philosophical Traditions of India. P. T. Raju. Pittsburgh. \$7.95.

Intended as an introduction for those who know little or nothing about Indian philosophy, this is the best of its kind which I have seen. It is careful about substituting Western notions for Indian ones, yet the author (of three other volumes on comparative philosophy) is familiar enough with Western thought to locate the similarities and differences in a reasonably common logical space. Indian philosophy he aptly characterizes as a series of footnotes to the Upanishads, and after an initial section on the texts of the

Vedas and Upanishads, his organization is logical rather than historical, distinguishing six fundamental schools.

Good Tidings: The Belief in Progress from Darwin to Marcuse. W. Warren Wager. Indiana. \$11.50.

An urbane, competent and well-written history of the waxing and waning of the idea of progress from 1880 through the trauma of the first World War to its contemporary resurgence. Wager is curiously reticent to affirm any other than a personal belief in the reality of any progress.

J. T. BALDWIN, JR.

The Carnivores. R. F. Ewer. Cornell. \$21.50. The author is Lecturer in Zoology, University of Ghana. She attempted — with fairly high degree of success — to make a wide synthesis of the anatomy, physiology, ecology, and behavior of many of the carnivores of the world; she reports upon two hundred thirty-nine species, though, admittedly, specific and even generic lines are in many instances not easily defined. Scattered literature, a frequent lack of data, limitations of time and publication space prevented the carrying-out of the plan in its entirety. Moreover, full consideration of all facets of the study as mentioned would have led away "from the animals themselves and their adaptations, which constitute the main theme of the book." Indeed, the title is too broad; the subject encompasses too much for a single volume. In consequence, the author has largely followed her own interests.

Trees of Pennsylvania. Hui-Lin Li. Pennsylvania. \$17.50.

The author describes and illustrates one hundred eighteen kinds of trees (including some of the bigger shrubs) — all the trees that are native to Pennsylvania and a few introduced species now naturalized. The student on various levels of training can easily identify the plants from drawings and photographs and from the descriptions or resort to keys based on summer or winter characteristics. Several pages treat the structural elements of trees; a glossary explains essential terms, though technicalities are kept to a minimum; a bibliography directs the student to literature in which he may pursue his interest in more detail than presented in Li's simple and useful book.

Reflections of a Rubber Planter. W. E. Klippert. Vantage. \$5.95.

The Rubber Tree in Liberia. K. C. McIndoe. John McIndoe Ltd., New Zealand. Privately distributed: 1022 Love's Point Drive, Leesburg, Florida 32748.

At the age of twenty-two Klippert began various foreign assignments for the Good-year Rubber Company and on occasion was on loan to the United States Government for rubber work; in these capacities he saw much of the world. The result is a document, moving in its modesty, common-sense, zest, sentimentality, and adventurousness. Klippert's understanding of natural rubber and of its interplay with the politics of various governments has been of immense significance in war and peace.

Surely one who reads this little book (76 pages) will realize that Doctor McIndoe is

one of the giants in the history of plantation rubber, for he contributed largely to the success of the Firestone Rubber Plantations in Liberia — perhaps the best such plantation in the world. Trained under the genius of Professor E. C. Stakman, University of Minnesota, young McIndoe went in 1931 to Harbel, Liberia, to be the Research Department and effectively transformed the plantings from seedlings to clones, thus insuring the economic growth of Firestone's investments and improving the financial status of the country.

Born To Sing. Charles Hartshorne. Indiana. \$10.

For a professor of philosophy to publish books in his field and, contemporaneously, write ornithological papers in not really surprising, but for him — Professor Hartshorne of the University of Texas — to produce likewise a book subtitled *An Introduction and World Survey of Bird Song* is, in truth, extraordinary. Surely, there are few qualified biomusicologists — and each of them need seek help, I suspect, for the field is so broad, and most probably none other than Hartshorne is a philosopher.

The writing and thinking of this book are in the pattern of the philosopher: To understand fully ourselves or other animals we must "see that all activity is motivated by the sense of possible harmonies and by the flight from the twin evils of discord and monotony," and: "The main theme of this book is the possible scientific uses of the *aesthetic analogy* (my italics) between other animals, especially birds, and man with respect to music."

To maintain territory is the chief function of bird song, as related to mating, nesting, warnings, integrity of flock. Birds often "sing" — 5,000 (1,000, more or less) species do, of which the author has surveyed ca. 200 kinds with highly differentiated songs.

ANDREW GYORGY

The Communist States in Disarray 1965-1971. Adam Bromke and Teresa Rakowska-Harmstone. Minnesota. \$4.95.

This survey of six turbulent years in the history of World Communism is part of the Carleton University series in Soviet and East European Studies. Particularly significant are treatments of the Sino-Soviet conflict and the spread of nationalism in the Communist world, especially in Eastern Europe. An invaluable addition to the literature of Communism dealing with individual countries as well as functional topics.

The Foreign Policy Research Institute of the University of Pennsylvania recently had three important publications added to its Research Monograph Series. These are: *Aden and British Strategy 1839-1968*, No. 12; *The Impact of President Nixon's Visit to Peking on International Politics*, No. 13; and *The United States and the Demands of Detente Diplomacy*, No. 14. Of particular significance is William Kintner's thoughtful and well-informed study since he is the new United States Ambassador to Thailand.

Memoir of a Revolutionary. Milovan Djilas. Harcourt Brace Jovanovich. \$12.

This is the second volume in the life story of

a distinguished champion and critic of the ideology of Communism who is both a professional revolutionary and an incurable idealist. The book is especially interesting in recreating the atmosphere of the University of Belgrade in the 1930's.

Jewish Nationality and Soviet Politics: The Jewish Sections of the CPSU, 1917-1930. Zvi Y. Gitelman. Princeton. \$20.

Professor Gitelman of the University of Michigan has written a most illuminating account of the evolution of the Jewish sections of the Communist Party in the Soviet Union. This scholarly work is brilliantly documented and lucidly written.

The Anglo-Soviet Accord. Richard H. Ullman. Princeton. \$17.50.

This microscopically-detailed analysis of early Anglo-Soviet diplomatic, military and economic relations is the third volume in Professor Ullman's scholarly series on the entire sweep of British-USSR relations. Part III, dealing with the Anglo-Russian rivalry in the East, is most timely.

Enemy at the Gates: The Battle for Stalingrad. William Craig. Reader's Digest Press. E. P. Dutton. \$10.

An exceptionally well documented historical study of one of the great turning points in world history. It is also well written in a breezy journalistic style. The long siege of Stalingrad emerges with great clarity and in frightening detail. The book unfortunately is marred by many typographical errors.

Witness to History 1929-1969. Charles E. Bohlen. Norton. \$12.50.

One of the most distinguished career ambassadors in American diplomatic history, a top American specialist on the Soviet Union, reminisces over a period of 40 years. This book is most meaningful when describing Bohlen's long tenure as U.S. Ambassador in Moscow. Interesting footnotes to history are offered in the chapters on "Exile in Manila," "The Cuban Missile Crisis," and "A Last Look at Moscow."

Twice Through the Lines. Otto John. Harper & Row. \$8.95.

These are the memoirs of a leader of the anti-Nazi German resistance, the record of a life of "conspiracy, danger, frustration and failure," as observed by Hugh Trevor-Roper. An exciting story of a man who first opposed Hitler, then was a famous spy for England in World War II and finally was kidnapped by the Russians after the War.

Interest Groups in Soviet Politics. Edited by H. Gordon Skilling and Franklyn Griffiths. Princeton. \$3.95.

This major contribution to a better understanding of Soviet domestic politics is finally published in paperback edition. Important chapters deal with the Security Police, the Military, the Economists and the Writers.

LEONARD W. DOOB

Religion, Altered States of Consciousness, and Social Change. Edited by Erika Bourguignon. Ohio State. \$12.50.

A splendidly unified collection of essays by a septet of anthropologists, sociologists, and one linguist who examine both broadly and

deeply trances and other forms of possession attributed to spirits which are observable in a variety of traditional and non-traditional societies and which are not necessarily induced by drugs. Heroic intellectual efforts are made, usually successfully, to relate the genesis of these very personal, "sacred" phenomena to conditions within the social milieu and to indicate their effects upon change or non-change. Promising overall hypotheses are probed. A superficial, irrelevant question cannot be squashed: what significance should be attached to the fact that all the authors of this book happen to be women?

Body Consciousness: You Are What You Feel. Seymour Fisher. Prentice-Hall. \$5.95, p. \$2.45.

Documented, and, more frequently than not, shrewdly undocumented assertions concerning the role of the physical body in man's consciousness and — yes — unconscious view of himself and others. The author's perspective is largely ethnocentric, as perhaps it must be if he is to ask neosensible questions like this one: "Why should women be more comfortable than men about tuning in on their body sensations?" The thesis suggested by the smarty subtitle (for which we charitably blame the publisher) of course is an exaggeration, any Freudian or Marxist must assert, but it does suggest 2.4 grains of truth.

Hallucinogens and Shamanism. Edited by Michael J. Harner. Oxford. \$8.50.

A dispassionate report on the effects hallucinogenic drugs actually or allegedly have or have had upon heterogeneous groups: Indians in the Upper Amazon who lead traditional lives, American Indian whose patterns obviously have been disrupted, Europeans in the Middle Ages who plagued themselves with witchcraft, and 35 modern Chileans who participated in an experiment. Most of the young contributors to this compact, factual volume report their own sensations after ingesting a drug during their field work. Drug-users customarily seek to foretell the future, cure illness, or combat spirits, especially evil ones. Startlingly similar effects appear under diverse cultural circumstances; an expression containing the word "trip," for example, has designated the subjective consequence of a drug-taking both in an Amazon rain forest and the U.S.

Towards an African Literature: The Emergence of Literary Form in Xhosa. A. C. Jordan. California. \$6.

A historical account, by an African speaker of the language who was also a skilled linguist and scholar, of the traditional and modern forms of literary expression in a southern African society. "Xhosa," when properly pronounced, contains a startling click which should warn Westerners that these varied forms have strange, subtle meanings and functions. "The elephant does not die of one broken rib" — the proverb perhaps suggests that this culture will survive. A line from a praise poem to Britain in 1925: "She sent us the Bible, and barrels of brandy."

Few Comforts or Surprises: The Arkansas
(continued on back cover)

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a top administrator of a leading university, under the pseudonym "Pandarus," reveals what goes on behind the ivied walls in "One's Own Primer of Academic Politics," which appears in the new Autumn issue of *The American Scholar*.

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BOOK REVIEWS

(continued)

Delta. Eugene Richards. M.I.T. \$9.95.

A collection of moving, horrifying photographs depicting the cruelty inflicted upon the people of this delta area, largely black, by the natural environment and especially by other human beings, largely white. The text ("Why did the policeman have to shoot him, Why twice under his arm and through his chest?") and the captions are equally biting.

NEW SIBLEY FELLOW

Elizabeth Asmis, assistant professor of classics at Cornell University, has been awarded the 1973 Mary Isabel Sibley Fellowship in Greek studies. The \$6,000 grant will enable Miss Asmis to prepare a comprehensive study of early stoic ethics. Miss Asmis, a Canadian citizen, received first class honors for her undergraduate work at the University of Toronto. She completed her doctorate at Yale University.

Next year the Fellowship will be offered for French language and literature studies. Candidates must be unmarried women between 25 and 35 years of age who hold the doctorate or who have fulfilled all the requirements for the doctorate except the dissertation. They must be planning to devote fulltime work to research during the fellowship year, which begins September 1, 1974. Further information and applications may be obtained by writing to the Mary Isabel Sibley Fellowship Committee, Phi Beta Kappa, 1811 Q Street, N.W., Washington, D. C. 20009.

ELECTIONS (continued from page 1)

been John Hope Franklin's teacher of history and had made possible his student's graduate work at Harvard. Professor Franklin is married to the former Aurelia E. Whittington. They have one son, John Whittington, a graduate student in anthropology and education at Stanford.

The Council chose as vice president Robert M. Lumiansky, Avalon Professor of the Humanities at the University of Pennsylvania. Vice president Lumiansky is a graduate of The Citadel and holds a master's degree from the University of South Carolina and a doctorate from the University of North Carolina. He taught at Tulane University, where he was dean of the Graduate School for nine years, and at Duke University before joining the English Department at Pennsylvania as chairman in 1965. A noted Chaucerian scholar, Mr. Lumiansky is chairman of the board of directors of the American Council of Learned Societies and Fellow of the Medieval Academy of America.

Twelve Senators were elected for the term 1973-79. The new Senators are: Robert B. Heilman, professor of English, University of Washington; Rosemary Park, professor of higher education, UCLA; Edgar F. Shannon, professor of English and president, University of Virginia; Catherine Strateman Sims, dean and professor of history and political science, Sweet Briar College; Hallett D. Smith, professor of English, California Institute of Technology and Senior Research Associate, Henry E. Huntington Library; Fritz Stern, Seth Low professor

of history, Columbia University; Howard Robert Swearer, president, Carleton College; Carolyn Eisele, professor of mathematics, emeritus, Hunter College; Douglas W. Steeples, professor of history, Earlham College; Neal W. Klausner, F. Wendell Miller professor of philosophy, Grinnell College; J. D. Williams, professor of political science and director of the Hinckley Institute of Politics, University of Utah; and Robert M. Lumiansky. Philip H. Abelson, president of the Carnegie Institution, was elected for a three-year term to complete the term of a Senator who had resigned.

COUNCIL (continued from page 1)

In her presentation to Professor Jones, Dr. Rosemary Park said that he was being honored for a life-time of devotion to literature, philosophy, and the fine arts. She noted too, "his humanistic attention to the sciences and unquenchable curiosity about areas of human experience not ordinarily associated with polite letters." Another of Howard Mumford Jones' many distinctions, she said, "is that he rescued the word 'education' from its dolorous associations by writing hundreds of lively and passionate pages defining humanistic education.

Discussion at Council business sessions centered upon the establishment of new chapters and the report of the Committee on the Role of Phi Beta Kappa. The report was received with commendation by the Council and the chapters and associations were urged to give its recommendations serious consideration in the new triennium. However, lack of a quorum precluded a vote on the proposed new model chapter constitution. Consequently the current model chapter constitution remains in force.

the **KEY** reporter

volume xxxix • number one • autumn 1973

Editor: Evelyn L. Greenberg
Consulting Editor: Carl Billman

Editorial Committee: Irving Dilliard, William F. Hahnert, Robert H. Irrmann, Raymer McQuiston.

Published quarterly (Autumn, Winter, Spring, and Summer) by the United Chapters of Phi Beta Kappa at the Garamond/Pridemark Press, Baltimore, Maryland. Send all change-of-address notices to *The Key Reporter*, Phi Beta Kappa, Editorial and Executive offices, 1811 Q Street, N. W., Washington, D. C. 20009. No responsibility is assumed for views expressed in articles published.

Advertising rates upon application. Single copies 20¢, ten or more copies 10¢ each. Subscription \$1.00 for one year, \$2.00 for two years, \$3.00 for five years. Second class postage paid at Washington, D. C.

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THE KEY REPORTER
PHI BETA KAPPA
1811 Q Street, N.W.
Washington, D. C. 20009
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