

THE KEY REPORTER

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CHAPTER ACTIVITIES

Visiting Scholar Program Goes to High School

ONE day last fall the Iota Chapter of the University of Rochester initiated a pilot visiting scholar program that may be the forerunner of an augmented program next year. The visiting scholar was Hayden V. White, chairman of the department of history at the University of Rochester. And the school he visited was East High School. Dr. White spent a school day talking with students in their classes and then remaining after class hours to talk informally with interested students.

In anticipation of his meeting with the students, Dr. White met earlier with the school faculty. At that time, he discussed with them the purpose of his visit and the topics which would be most relevant to the students' course work. A library display was set up and students were given a list of resource materials to aid them in following up on the ideas discussed.

And what was the purpose of Dr. White's visit with the students? According to the committee chairman of the visiting scholar program, Mrs. Susanne Dworkin, the purpose was to "arouse a

deeper interest in the world of ideas . . . to show the excitement of learning . . . to have high school students meet a scholar and enthusiast in his field."

On the basis of evaluations made of the visit by the members of the visiting scholar committee, the principal of the school, and the students and teachers who participated in the program, the committee has decided to go ahead with plans for another visiting scholar program at another high school this spring. The second visiting scholar will be Arnold Ravin, professor of biology at the University of Rochester, who will talk to the students at Eastridge High School on creativity in science.

The visiting scholar program is one of several activities which the chapter has sponsored to stimulate wider interest among members of the community in the humanities. For several years, the chapter has sponsored Sunday afternoon coffee hours on campus and has invited men and women prominent in the community to discuss informative and provocative topics.



Dr. Hayden V. White, chairman of the department of history at the University of Rochester, talks to students at a Rochester high school. His visit was sponsored by the Iota Chapter of the University of Rochester.

Automation and the College Graduate

Gilda Linder Morse

Mrs. Morse (Cornell '54) is on the staff of the Project on the Educational Implications of Automation. The Project is sponsored by a grant from International Business Machines. The Project has considered such problems as preparation for changing skill requirements, the role of adult education, and the importance of fundamental language skills.

Many educated people, familiar with the basic principles of automation, share a conviction that they, at any rate, will never be replaced by a machine. This conviction is not universal; the average factory worker, for instance, knows that he can be and probably will be replaced. But those who bring a great deal of personal commitment to their jobs—whether as caretaker, secretary, teacher, or scientist—frequently feel that automation must necessarily stop at the rung just short of their own level of responsibility.

The school teacher, confronted by the challenge of the teaching machine, is convinced that no machine can replace him, but he nevertheless feels threatened. Hallett D. Smith's description, in the Autumn *Key Reporter*, of teaching machines in the year 2000, may not have left the teacher totally reassured, but it did lend support to his conviction that even the most advanced machines are not adequate substitutes for the human teacher. Returning to the 1960's, we know that the teaching machine, and other technical devices, can offer welcome help to teachers trying to provide individual guidance in overcrowded classrooms. Schools are also turning to computers as an administrative aid in processing attendance records, class schedules, and other administrative matters.

Similarly, other professionals have begun to look to automation as a source of help, rather than as a threat:

—Electronic data processing offers significant advantages to the librarian who is now overwhelmed by an explosion of knowledge which has led to the doubling of published information every ten
(Continued on back cover)

MAN: *The Lethal Factor*

LOREN C. EISELEY

Loren C. Eiseley is University Professor of Anthropology and History of Science and Chairman, Department of Philosophy and History of Science at the University of Pennsylvania. This abridged article is from the annual address cosponsored by Sigma Xi and Phi Beta Kappa which Mr. Eiseley delivered at the annual meeting of the American Association for the Advancement of Science, December 1962.

THE great Olduvai Gorge in East Africa has been appropriately called the Grand Canyon of human evolution. Here a million, perhaps two million years of human history are recorded in the shape of successive skulls and deposits of stone tools. The elusive story of the long road man has traveled is glimpsed momentarily in eroded strata and faded bone. Olduvai is now famous all over the world. Only to those who have the habit of searching beyond the obvious, however, may it have occurred that this precipitous rift through time parallels and emphasizes a similar rift in ourselves—a rift that lies like a defacing crack across our minds and consequently many of our institutions. From its depths we can hear the rumble of the torrent from which we have ascended, and sense the disastrous ease with which both individual men and civilizations can topple backwards and be lost.

Brooding upon the mysteries of time and change, a great and thoughtful scholar, Alfred North Whitehead, many years ago recorded his thoughts in a cryptic yet profound observation. He said, in brief, "We are . . . of infinite importance, because as we perish we are immortal." Whitehead was not speaking in ordinary theological terms. He was not concerned in this passage with the survival of the human personality after death—at least as a religious conception. He was, instead, struggling with that difficult idea which he describes as the "prehension of the past," the fact that the world we know, even as it perishes, remains an elusive unfixed element in the oncoming future.

The organic world, as well as that superorganic state which exists in the realm of thought is, in truth, prehensile in a way that the inorganic world is not. The individual animal or plant in the course of its development moves always in relation to an unseen future toward which its forces are directed: the egg is broken and a snake writhes away into the grass; the acorn seedling, through many seasons, contorts itself slowly into a gnarled, gigantic oak. Similarly, life moves against the future in another sense—an evolutionary one. The creature existing now—this serpent, this bird, this man—has only to leave progeny in order to stretch out a gray, invisible hand into

the evolutionary future, into the non-existent.

With time, the bony fin is transformed into a paw, a round, insectivore eye into the near-sighted gaze of a scholar. Moreover, all along this curious animal extension into time, parts of ourselves are flaking off, breaking away into unexpected and unforeseen adventures. One insectivore fragment has taken to the air and become a vampire bat, while another fragment draws pictures in a cave and creates a new prehensile realm where the shadowy fingers of lost ideas reach forward into time to affect our world view, and with it, our future destinies and happiness.

Thus, since the dawn of life on the planet, the past has been figuratively fingering the present. There is, in reality, no clearly separable past and future either in the case of nerve and bone or within the less tangible but equally real world of history. Even the extinct dead have plucked the great web of life in such a manner that the future still vibrates to their presence. The mammalian world was, for a long time, constricted and impoverished by the dominance of the now vanished reptiles. Similarly, who knows today what beautiful creature remains potential only because of our continued existence; or what renewed manifestations of creative energy our own presence inhibits or has indeed destroyed forever.

As the history of the past unrolls itself before the eye of both paleontologist and archaeologist, however, it becomes evident, so far as the biological realm is concerned, that by far the greater proportion of once living branches of the tree of life are dead, and to this the archaeologist and historian must add dead stone, dead letters, dead ideas, and dead civilizations. As one gropes amid all this attic dust it becomes ever more apparent that some lethal factor, some arsenical poison seems to lurk behind the pleasant show of the natural order or even the most enticing cultural edifices that man has been able to erect.

In the organic world of evolution three facts, so far as we can perceive, today seem to determine the death of species: (1) the irreversibility of the organic process in time; (2) high specialization which, in the end, limits new adaptive

possibilities; (3) the sudden emergence of spectacular enemies or other environmental circumstances which overwhelm or ambush a living form so suddenly that the slow adjustive process of natural selection cannot be made to function. This third principle, one could say, is the factor which, given the other two limitations upon all forms of life, will result in extinction. As a drastic example one could point to the destruction of many of the larger creatures as man has abruptly extended his sway over both hemispheres and into many different environmental zones.

The past century has seen such great accessions of knowledge in relation to these natural events, as well as a growing consciousness of man's exposure to similar dangers, that there is an increasing tendency to speculate upon our own possibilities for survival. The great life web which man has increasingly plucked with an abruptness unusual in nature shows signs of "violence in the return," to use a phrase of Francis Bacon's. The juvenile optimism about progress which characterized our first scientific years was beginning to be replaced early in this century by doubts which the widely circulated *Decline of the West* by Oswald Spengler documents only too well. As the poet, J. C. Squire says, we can turn:

*the great wheel backward until Troy
unburn,
. . . and seven Troys below
Rise out of death and dwindle . . .*

We can go down through the layers of dead cities until the gold becomes stone, until the jewels become shells, until the palace is a hovel, until the hovel becomes a heap of gnawed bones.

Are the comparisons valid? The historians differ. Is there hope? A babble of conflicting voices confuses us. Are we safe? On this point I am sure that every person of cultivation and intelligence would answer with a resounding "No!" Spengler, and not the optimists, was right when he prophesied that this century would be one marked by the rise of dictators, great wars, and augmented racial troubles. Whether he was also right in foreseeing our century as the onsetting winter of western civilization is a more difficult problem.

Faustian, space-loving man still hurls his missiles skyward. His tentacular space-probes seem destined to palpate the farthest rim of the solar system. Yet honesty forces us to confess that this effort is primarily the product of conflict, that millions are now employed in the institutions erected to serve that conflict, that government and taxes are increasingly geared to it, that in another generation, if not now, it will have become traditional. Men who have spent their lives in the service of these institutions will be reluctant to dissolve them. A vested interest will exist on both sides of the iron curtain. The growing involution of this aspect of western culture may well come to resemble the ingrowth and fantasies of that ritualized belief in *mana* which characterized late Polynesian society.

It is upon this anthropological note that I should like to examine the nature of the human species—the creature who at first glance appears to have escaped from the specialized *cul de sac* which has left his late existing primate relative, the gorilla, peering sullenly from the little patch of sheltered bush which yet remains to him. I have said that some lethal factor seems to linger in man's endeavors. It is for this reason that I venture to speak to you from a discipline which has long concerned itself with the origins, the illusions, the symbols, the folly as well as the grandeur of civilizations whose records are lost and whose temples are fallen. Yet the way is not easy. As Herman Melville has written in one great perceptive passage:

*By vast pains we mine into the pyramid;
by horrible gropings we come to the
central room; with joy we espy the
sarcophagus; but we lift the lid—and no
body is there!—appallingly vacant, as
vast, is the soul of man!*

I have spent a sizable number of my adult years among the crude stones of man's Ice Age adventurings. The hard, clean flint in the mountain spring defines and immortalizes the race that preceded us better than our own erratic fabrications distinguish our time. There is as yet no sharp edge to our image. Will it be, in the end, the twisted gantrys on the rocket bases, or telephone wires winding voiceless through the high Sierras, or will it be the glass from space-searching observatories pounded into moonstones in the surf on a sinking coast?

IN one of those profound morality plays which C. S. Lewis is capable of tossing off lightly in the guise of science fiction, one of his characters remarks that in the modern era the good appears to be getting better and the evil more terrifying. It is as though two antipathetic elements

in the universe were slowly widening the gap between them. Man, in some manner stands at the heart of this growing rift. Perhaps he contains it within himself. Perhaps, as we have remarked, he feels the crack slowly widening in his mind and his institutions. He sees the finest intellects which, in the previous century, concerned themselves with electric light and telephonic communication devote themselves as wholeheartedly to missiles and supersonic bombers. He finds that the civilization which once assumed that only barbarians would think of attacking helpless civilian populations from the air has, by degree, come to accept the inevitability of such barbarism.

Hope, if it is expressed by the potential candidates for mass extermination in this age of advanced destruction, is expressed, not in terms of living, but in those of survival, such hope being largely premised on the confidence in one's own specialists to provide a nuclear blanket capable of exceeding that of the enemy. All else gives way before the technician and the computer specialist running his estimates as to how many million deaths it takes, and in how many minutes, before the surviving fragment of a nation—if any—sues for peace. Nor, in the scores of books analyzing these facts, is it easy to find a word spared to indicate concern for the falling sparrow, the ruined forest, the contaminated spring—all, in short, that spells a life in nature still to man.

As one of these technicians wrote in another connection involving the mere use of insecticides, and which I here shorten and paraphrase: "Balance of nature? An outmoded biological concept. There is no room for sentiment in modern science. We shall learn to get along without birds if necessary. After all, the dinosaurs disappeared. Man merely makes the process go faster. Everything changes with time." And so it does. But let us be as realistic as the gentleman would wish. It may be we who go. I am just primitive enough to hope that somehow, somewhere, a cardinal may still be whistling on a green bush when the last man goes blind before his man-made sun. If it should turn out that we have mishandled our own lives as several civilizations before us have done, it seems a pity that we should involve the violet and the tree frog in our departure.

To perpetrate this final act of malice seems somehow disproportionate, beyond endurance. It is like tampering with the secret purposes of the universe itself and involving not just man but life in the final holocaust—an act of petulant deliberate blasphemy.

It is for this reason that Lewis's remark about the widening gap between good and evil takes on such horrifying

significance in our time. The evil man may do has just this added significance about it—it is not merely the evil of one tribe seeking to exterminate another. It is, instead, the thought-out willingness to make the air unbreathable to neighboring innocent nations, and to poison in one's death throes, the very springs of life itself. No greater hypertrophy of the institution of war has ever been observed in the West. To make the situation more ironic, the sole desire of every fifth-rate nascent nationalism is to emulate Russia and America—to rattle rockets and, if these are too expensive, then at least to possess planes and a parade of tanks. For the first time in history a divisive nationalism, spread like a contagion from the West, has increased in virulence and blown around the world.

A multitude of states are now swept along in a passionate hunger for arms as the only important symbol of prestige. Yearly their number increases. For the first time in human history the involitional disease of a single modern civilization, that of the West, shows signs of becoming the disease of all contemporary societies. Such, it would appear, is one of the less beneficial aspects of the communications network which we have flung around the world. The universal understanding which has been the ultimate goal sought by the communications people, that shining Telstar through which we were to promote the transmission of wisdom, bids fair, instead, to promote unsatisfied hunger and the enthusiastic reception of irrationalities that enbed themselves all too readily in the minds of the illiterate.

Man may have ceased to teeter uncertainly upon his hind legs, his strange physical history may be almost over. But within his mind he is still hedged about by the shadows of his own fear and uncertainty; he still lingers at the borders of his dark and tree-filled world. He fears the sunlight, he fears truth, he fears himself. In the words of Thomas Beddoes who looked long into that world of shadows:

*Nature's polluted,
There's man in every secret corner of
her
Doing damned wicked deeds. Thou art,
old world
A hoary, atheistic, murdering star.*

This is the dark murmur that rises from the abyss beneath us, and that draws us with uncanny fascination.

If one were to attempt to spell out in a sentence the single lethal factor at the root of declining or lost civilizations up to the present, I would be forced to say adaptability. I would have to remark, paradoxically, that the magnificent specialization of gray matter which has

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opened to us all the climates of the earth, which has given us music, surrounded us with luxury, entranced us with great poetry, has this one flaw: it is too adaptable. In breaking free of instinct and venturing naked into a universe which demanded constant trial and experiment, a world whose possibilities were unexplored and unlimited, man's hunger for experience became unlimited also. He has the capacity to veer with every wind, or stubbornly, to insert himself into some fantastically elaborated and irrational social institution only to perish with it.

It may well be that some will not call this last piece of behavior adaptation. Yet it is to be noted that only extreme, if unwise, adaptability would have allowed man to contrive and inhabit such strange structures. When men in the mass have once attached themselves to a cultural ex-crescence which grows until it threatens the life of the society, it is almost impossible to modify their behavior without violence. Yet along with this, fervid waves of religious or military enthusiasm may sweep through a society and then vanish with scarcely a trace.

It would take volumes to chronicle the many facets of this problem. It is almost as though man had at heart no image, but only images, that his soul was truly as vacant and vast as Melville intimated in the passage I have earlier quoted. Man is mercurial and shifting. He can look down briefly into the abyss and say, smiling, "We are beasts from the dark wood. We will never be anything else. We are not to be trusted. Never on this earth. We have come from down there." This view is popular in our time. We speak of the fossil ape encrusted in our hearts.

This is one image of many that man entertains of himself. There is another left by a man who died a long time ago. I have spoken earlier of the collective symbol a civilization sometimes leaves to posterity and the difficulty one has with our own because of the rapidity with which our technology has altered, and the restless flickering of our movement from one domain of life to another.

A few months ago I read casually in my evening newspaper that our galaxy is dying. That great wheel of fire of which our planetary system is an infinitesimal part was, so the report ran, proceeding to its end. The detailed evidence was impressive. Probably, though I have not attempted to verify the figures, the spiral arm on which we drift is so vast that it has not made one full circle of the wheel since the first man-ape picked up and used a stone.

Now I saw no use in whispering behind my hand at the Club next morning, "They say the galaxy is dying." I knew well enough that man, being more perishable than stars, would be gone billions of years before the edge of the Milky Way grew dark. It was not that aspect of the human episode that moved me. Instead it was the sudden realization of what man could do on so gigantic a scale even if, as yet, his personal fate eluded him. Out there millions of light years away from earth, man's hands were already fumbling in the coal-scuttle darkness of a future universe. The astronomer was foreshortening time—just as on a shorter scale eclipses can be foretold, or an apparently empty point in space can be shown as destined to receive an invisibly moving body. So man, the short-lived midge, is reaching into and observing events he will never witness in the flesh. In a psychological second, on this elusive point we call the present, we can watch the galaxy drift into darkness.

The materiality of the universe, Whitehead somewhere remarks, is measured "in proportion to the restriction of memory and anticipation." With consciousness, memory, extended through the written word and the contributions of science, penetrates farther and farther into both aspects of time's unknown domain, that is, the past and the future. Though individual men do not live longer, we might say that the reach of mind in the universe and its potential control of the natural order is enormously magnified.

Material substance no longer dominates the spiritual life. There is not time here to explore all aspects of this fascinating subject, nor the paradoxes with which our burgeoning technology have presented us. This strange capacity of the mind upon which we exercise so little thought, however, means that man both remains within the historical order and, at the same time, passes beyond it.

We are present in history, we may see history as meaningless or purposeful, but as the heightened consciousness of time invades our thinking, our ability to free our intellects from a narrow and self-centered immediacy should be intensified. It is this toward which Whitehead was directing his thought: that all responsible decisions are acts of compassion and dis-interest; they exist within time and history but they are also outside of it—unique and individual and, because individual, spiritually free. In the words of Erich Frank, "History and the world do not change, but man's attitude to the world changes."

A number of years ago in a troubled period of my life I chanced to take a cab from an airport outside a large eastern city. The way to the address I gave lay through the back streets of a run-down area of dilapidated buildings. I remember we passed a pathetic little cemetery whose smudged crosses, dating from another era, were now being encroached upon and overshadowed by the huge gray tanks of an oil refinery. The shadow of giant machines now fell daily across the hill of the dead. It was almost a visible struggle of the symbols to which I have earlier referred—the cross that marks two thousand years of western culture, shrinking, yet still holding its little acre in the midst of hulking beams and shadows where now no sunlight ever fell.

I felt an unreasoned distaste as we jounced deeper into these narrow alleyways, or roared beneath giant bridges toward a distant throughway. Finally, as we cut hastily through a slightly more open section, I caught a glimpse of a neighborhood church—a church of evident poverty, of a sect unknown, and destined surely to vanish from that unsavory spot. It was an anachronism as doomed as the cemetery. We passed, and a moment later, as though the sign had been hanging all that time in the cab before me, instead of standing neatly in the yard outside the church, my conscious mind unwillingly registered the words:

*Christ died to save mankind.
Is it nothing to you, all ye that pass by?*

I looked at that invisible hanging sign with surprise, if not annoyance. By some I have been castigated because I am an evolutionist. In one church where I had attended as the guest of a member not long before, I had been made the covert object of a sermon in which I had recognizably played the role of a sinning scientist. I cannot deny that the role may have fitted me, but I could not feel that the hospitality, under the circumstances, was Christian. I had seen fanatical sectarian signs of ignorant and contentious sects painted on rocks all over America, particularly in desert places. I had gazed unmoved on them all.

But here on a plain white board that would not remove itself from my eyes, an unknown man in the shadow of one of the ugliest neighborhoods in America had in some manner lifted that falling symbol from the shadow of the refinery tanks and thrust it relentlessly before my eyes. There was no evading it. "Is it nothing to you?" I was being asked—I who passed
(Continued on page 7)

HUMANITIES

(Philosophy, Literature, Fine Arts)

Guy A. Cardwell
Robert B. Hellman

John Cournos
George N. Shuster

SOCIAL SCIENCES

(History, Economics, Government, Sociology, Education)

Robert C. Angell
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Frederick B. Artz
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NATURAL SCIENCES

Ralph W. Gerard

Kirtley F. Mather

**Recommended
by the
Book Committee**

GEORGE N. SHUSTER

Modern Islam: The Search for Cultural Identity. By G. E. von Grunebaum. California. \$7.50.

This collection of essays, which the author attributes to "a sustained concern with the structure of the Islamic community," combines cultural history with a contemplative review of selected current trends. It is written not merely with authority but with unusual distinction.

Portrait of a Philosopher: Morris R. Cohen in Life and Letters. By Leonora Cohen Rosenfield. Harcourt, Brace & World. \$10. Perhaps the most widely acclaimed American teacher of philosophy in his time and akin to Santayana in quality of thought, though not of style, Cohen is also presented here as the friend of Einstein and the counselor of many in a troubled world. The daughter-author's heart is on display, but the book is a sound and valuable commentary on a life and a period.

Preface to Plato. By Eric Havelock. Harvard. \$5.75.

This original and captivating essay, certain to be widely commented upon, suggests that Plato's attack on the poets was caused by the inadequacy of the "oral tradition" stored in Homer as a basis for Greek popular education.

The Novelist as Philosopher. Edited by John Cruickshank. Oxford. \$5.

A collection of essays by divers authors about equally diverse novelists of the contemporary period in France, this book is remarkably even in quality. It discusses writers as different in orientation as Bernanos and Queneau, without departing too flagrantly from its alleged philosophic purpose.

Freedom in the Ancient World. By Herbert J. Muller. Harper. \$7.50.

An interesting and learned treatise on the development of freedom in the classical period, which, while not lacking in imaginative but perhaps sometimes challenging generalizations, has considerable charm. In particular, the description of life in the Roman Empire makes beguiling reading.

A History of Zen Buddhism. By Heinrich Dumoulin. Translated by Paul Peachey. Pantheon. \$6.

This translation of a widely acclaimed historical study by a German Jesuit teaching in Tokyo is accurate and readable. Though the book closes with a fervent affirmation of the Christian faith, it is a remarkably objective and sympathetic review of doctrine and practice developed in Japan on the basis of Chinese experience.

The Cambridge Movement: The Ecclesiologists and the Gothic Revival. By James F. White. Cambridge. \$6.

A badly needed and competent study of the concern for liturgical architecture which flourished in England simultaneously with the Oxford Movement. The Ecclesiological Society, which the author describes in fulsome detail, seems to have been a redoubtable and influential institution.

The Evolution of Medieval Thought. By David Knowles. Helicon. \$5.95.

A succinct account of the development of medieval thought written from a contemporary Catholic point of view.

Unity and Reform: Selected Writings of Nicholas De Cusa. Edited by John P. Dolan. Notre Dame. \$6.50.

Father Dolan introduces at some length selected writings of a notable Renaissance churchman.

NORMAN J. PADELFORD

The Age of Overkill: A Preface to World Politics. By Max Lerner. Simon and Schuster. \$5.95.

Believing that the balance of power principle has been replaced by a tenuous balance of terror equilibrium that may soon be overthrown as others gain nuclear weapons, Mr. Lerner argues that a new framework must be found which will subordinate aggressive national and ideological power to collective world security. A provocative confrontation with disturbing choices.

World Without Want. By Paul G. Hoffman. Harper & Row. \$3.50.

A dynamic appeal for support of the \$8 billion needed over each of the next seven years to raise the income level of developing countries sufficiently to offset the inroads of hunger, poverty, disease, and ignorance. Worthwhile reading.

THE REPORTER

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Borderlands. By Delia and Ferdinand Kuhn. Knopf. \$6.75.

On-the-spot reporting from six out of the way frontier regions—Hokkaido, the Sulu Sea Islands and North Borneo, the Shan States of Burma, Sikkim, northeastern Afghanistan and easternmost Turkey. Fascinating reading. A valuable storehouse of information on areas that could become world danger spots.

Missiles and the Revolution in Warfare. By Nels A. Parsons, Jr. Harvard. \$5.75.

Expert descriptions of the capabilities and significance of modern weapons systems in terms the layman can comprehend.

The Community of Europe. By Richard Mayne. Norton. \$4.

A timely, informative survey of the progress and perplexities of the Common Market and Britain's relationship to it. Sets today's stalemate in fine perspective.

Latin America: Diplomacy and Reality. By Adolf A. Berle, Jr. Harper. \$2.95.

An authoritative description of Latin American trends and inter-American relations for the lay reader.

Congo, My Country. By Patrice Lumumba.

Edited and with a biographical introduction by Colin Legum. Praeger. \$5.95.

Belated publication of a 1956 political tract, appealing for Belgian-Congolese cooperation to hasten reform and democratization. The beguilingly moderate tone of the call for a "policy of prudence" deepens the mystery about the true character of Lumumba.

Pearl Harbor: Warning and Decision. By Roberta Wohlstetter. Stanford. \$7.50.

Painstaking reconstruction of the events and intelligence surrounding the Japanese attack points to confused signals and lack of adequate analysis at the top as the principal cause of the American disaster. Disturbing questions are raised about responses to comparable dangers in the nuclear age.

The United States and the Sino-Soviet Bloc in Southeast Asia. By Oliver E. Clubb, Jr. Brookings. \$3; Paper, \$2.


The Politics of Foreign Aid: American Experience in Southeast Asia. By John D. Montgomery. Praeger. \$6.50.

Constructive studies of the issues and alternatives confronting United States policy in Southeast Asia.

Also Recommended:

The Challenge of Africa. By K. A. Busia. Praeger. \$4; Paper, \$1.75.

The Politics of Disarmament: A Study in Soviet-American Gamesmanship. By John W. Spanier and Joseph L. Noguee. Praeger. \$5.75; Paper, \$1.95.

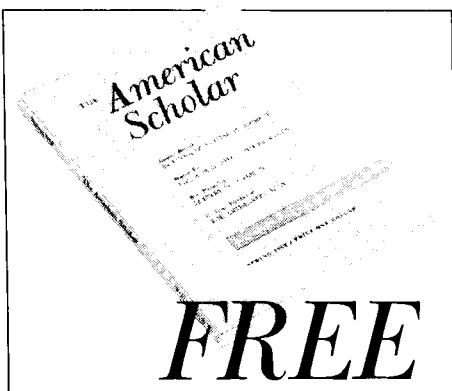


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You will also find the regular columns of Joseph Wood Krutch and Benjamin DeMott, poems and book reviews by such distinguished writers as Dudley Fitts, August Heckscher, Louis Simpson, Merle Fainsod, Richard Mooney and Paul Sears.

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ROBERT B. HEILMAN

The Odes of Horace: A Critical Study. By Steele Commager. Yale. \$8.50.

The Art of Vergil: Image and Symbol in the Aeneid. By Viktor Pöschl. Translated by Gerda Seligson. Michigan. \$3.95.

Both writers effectively apply modern critical methods to the classics. Commager exhibits wide learning, good taste and judgment, and a fluent, lucid, and often witty style. Pöschl attacks the critical blindness of the old philology, asserts the reliance of content on form, and analyzes style and structure in the *Aeneid*.

The Golden Labyrinth: A Study of British Drama. By G. Wilson Knight. Norton. \$6.

A history given special coloring by Knight's own perceptions and views, especially his theory of a recurrent bisexual ideal and other sexual notions rooted in Nietzsche's Dionysus-Apollo opposition.

The Letters of Oscar Wilde. Edited by Rupert Hart-Davis. Harcourt, Brace & World. \$15.

An extraordinarily diligent, encyclopedic edition (almost 900 pages) of letters covering the last twenty-five years of Wilde's life. Though a few are trivial, the main sequence has almost the continuity of fiction, not to mention great intensity at the time of scandal and disaster.

Chekhov: A Biography. By Ernest J. Simmons. Little, Brown. \$10.

A 650-page record that combines forward movement with a novelistic fullness of detail. Chekhov's personality is fully recreated in a study at once scholarly and readable.

Poet's Choice. Edited by Paul Engle and Joseph Langland. Dial. \$6.95.

One hundred poets (oldest: Frost) each pick a favorite or representative poem, offer a comment (shortest, one line; longest, over two pages), provide an autograph, and receive a biographical note.

The Magic Lantern of Marcel Proust. By Howard Moss. Macmillan. \$3.50.

An excellent analysis, well documented but not pedantic, of Proust's novel in terms of its dominant symbols and structural repetitions.

Margin Released: A Writer's Reminiscences and Reflections. By J. B. Priestley. Harper & Row. \$4.95.

Blunt, candid, not always ingratiating, in criticism or defense of himself and others; many barbs for generals, broadcasters, the English mind, literary critics; rather dour insistence on sweetness as a literary virtue.

Avant-Garde: The Experimental Theater in France. By Leonard C. Pronko. California. \$4.75.

Postwar British Fiction: New Accents and Attitudes. By James Gindin. California. \$4.95.

Two useful guides, one to French drama, the other to English fiction, of the 1950's. Pronko concentrates on Beckett and Ionesco but describes various predecessors. Gindin discusses themes and methods in a score of novelists and several dramatists.

Also Recommended:

Essays on English and American Literature. By Leo Spitzer. Princeton. \$6.

Oxford Addresses on Poetry. By Robert Graves. Doubleday. \$3.95.

Ford Madox Ford's Novels: A Critical Study. By John A. Meixner. Minnesota. \$5.50.

RALPH W. GERARD

Nutrition in a Nutshell. By Roger J. Williams. Doubleday. 95¢.

An authoritative and clear exposition of human nutrition, with some healthy asides at extremists in diet, pest and drug control. Good food advice.

Silent Spring. By Rachel Carson. Houghton Mifflin. \$5.

The author turns from exposition to exhortation. Man notoriously has tinkered with nature; Miss Carson doesn't like his performance with pesticides. A pointed more than a rounded presentation.

The Fishes. By Url Lanham. Columbia. \$5. A most satisfying presentation of the kinds of fishes, how they got that way, where and how they function. Some fine photographs.

Secrets of the Animal World. By F. J. Pootman. Fleet. \$5.

Vivid descriptions of animal behavior— anecdotal and experimental. Many photographs.

The Unseen World. By René J. Dubos. Oxford. \$4.75.

The first Rockefeller Institute Christmas Lectures, bringing science to young people. Microbes presented in historical perspective and current understanding. Beautifully told, illustrated, and printed.

The World of Leonardo da Vinci: Man of Science, Engineer, and Dreamer of Flight. By Ivor B. Hart. Viking. \$7.95.

The life and times of Leonardo, emphasizing the scientific and engineering (including human flight) insights of his great notebooks. Richly illustrated.

Life in the Universe. By Patrick Moore and Francis Jackson. Norton. \$3.95.

The problem of extraterrestrial life, presented with dashes of history, astronomy, chemistry, and biology. Wide swings from the elementary to the technical but much timely information.

Address Changes

Because of a recent increase in postal rates for second-class mail, it now costs Phi Beta Kappa ten cents for each change of address notice. On a yearly basis, this means more than one thousand dollars. It is important, therefore, that members promptly notify the United Chapters of a change of residence. Please use a KEY REPORTER stencil if possible. Otherwise, the address to which Phi Beta Kappa mail was previously sent, as well as chapter and year of initiation, should be included in the notice. This information should be directed to Phi Beta Kappa, 1811 Q Street, N.W., Washington 9, D. C.

Arms Control: Issues for the Public. By The American Assembly. Edited by Louis Henkin. Prentice-Hall. \$3.50; Paper, \$1.95. Authoritative and important articles on this vital subject.

American Scientists and Nuclear Weapons Policy. By Robert Gilpin. Princeton. \$6.95.

A fascinating history and analysis of the rise of scientific influence in national policy. The great issues of atomic war are well exhibited.

ROBERT C. ANGELL

The Organizational Society: An Analysis and a Theory. By Robert Presthuis. Knopf. \$6. Recent research is analyzed to support the contention that large organizations are manned by a few adapted "upward-mobiles," by a great majority who are indifferent to their work, and by a creative minority of ambivalents who would like to contribute but are alienated by red tape.

The Feminine Mystique. By Betty Friedan. Norton. \$5.95.

The thesis: Freud has led post-Depression woman up the garden path of marriage and motherhood to non-fulfillment as a person; only a complementary career can save her.

The Twilight of Cities. By E. A. Gutkind. Free Press. \$5.

The New Exploration: A Philosophy of Regional Planning. By Benton MacKaye. Illinois. \$1.75.

Reissued after thirty-four years, MacKaye's critique of our metropolitan way of life is still fresh and valid. Gutkind carries the argument to a more radical solution—clearing city centers and dispersing metropolitan populations into small communities throughout a broad region.

The Violent Gang. By Lewis Yablonsky. Macmillan. \$4.95.

On the basis of four years experience as director of a project dealing with gangs in New York, the author concludes that the violent gang is unique in type and structure, requiring unique methods of treatment.

Growing Up In River City. By Comm. on Human Development, Univ. of Chic.: Robert J. Havighurst [others]. Wiley. \$4.50.

Data on four hundred children, followed for eight years from the sixth grade, yield valuable conclusions on factors making for adult competence, and wise suggestions for avoiding maladjustment.

Suburbia's Coddled Kids. By Peter Wyden. Doubleday. \$3.50.

An always witty and often perceptive discussion of how you give children a sense of what's on the other side of the tracks when there are no tracks.

The Dilemma of the Modern Jew. By Joachim Prinz. Little, Brown. \$4.50. After Zionism, what? The author believes world Jewry must strengthen its ties of faith and common identification while remaining politically disparate.

LAWRENCE A. CREMIN

Popular Education and Democratic Thought in America. By Rush Welter. Columbia. \$8.50.

An able and engaging history of the relationship between American political and educational thought, from the time of Jefferson to the present. Professor Welter reaches two somewhat disparate conclusions: first, that Americans have been rather naive in their traditional assumption that most social problems can be solved through popular education; and second, that granting this, the recent loss of confidence in popular education strikes at the heart of American democratic theory.

Education and the New America. By Solon T. Kimball and James E. McClellan. Random House. \$6.75.

An anthropologist and a philosopher go beyond the stale cliches of recent debate in education to reiterate two fundamental questions: what sorts of commitments are demanded of those who would live fruitfully in modern corporate society; and what sorts of education will nurture those commitments. The result is a thoroughgoing reformulation of the now-traditional Deweyan analysis.

The Production and Distribution of Knowledge in the United States. By Fritz Machlup. Princeton. \$7.50.

An imaginative economic analysis of America's "knowledge industries": the schools and colleges; the media of communication; research and development agencies; and information services. Professor Machlup advances a number of novel recommendations, among them a controversial plan for intensifying elementary and secondary education with a view to pushing high school graduation ahead to age fifteen.

Education and the Cult of Efficiency. By Raymond E. Callahan. Chicago. \$5.50.

A provocative history of the effort to apply Frederick Taylor's principles of "scientific management" to school administration, an effort which Professor Callahan views as "an American tragedy in education."

The Censors and the Schools. By Jack Nelson and Gene Roberts, Jr. Little, Brown. \$4.50.

A lively study of political attacks on American school textbooks, and of the resultant blandness of teaching materials in history and the social sciences.

Also Recommended:

The Education of Man: The Educational Philosophy of Jacques Maritain. Edited by Donald and Idella Gallagher. Doubleday. \$3.95.

The Southern Case for School Segregation. By James Jackson Kilpatrick. Crowell-Collier. \$3.95.

Are you seeking a quiet, restful and inexpensive vacation spot? Come this year to our 4-acre wooded island in beautiful Trout Lake. Housekeeping cottages, \$35-\$45 weekly. D. C. Barnes (ΦBK), Ompah, Ontario. Address until June 10: 35 E. 94th Street, Brooklyn 12, New York.

MAN (Continued from page 4)

by, who had indeed already passed, and would again ignore, much more sophisticated approaches to religion.

But the symbol, one symbol of many in the wilderness of modern America, still exerted its power over me—a dozen lines of thinking, past and present drew in upon me. Nothing eventful happened in the outside world. Whatever took place happened within myself. The cab sped on down the throughway.

But before my mind's eye, like an ineradicable mote, persisted the vision of that lost receding figure on the dreadful hill of Calvary who whispered with his last breath, "It is finished." It was not for Himself he cried—it was for man against eternity—for us of every human generation who perform against the future, the acts which justify creation or annul it. This is the power in the mind of man—a mind print, if you will—an insubstantial symbol which holds like a strained cable the present from falling into the black abyss of nothingness. This is why, if we possess great fortitude, each one of us can say against the future he has not seen, "It is finished."

At that moment we will have passed beyond the reach of time into a still and hidden place where it was said, "He who loses his life will find it." And in that place we will have found an ancient and an undistorted way.

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AUTOMATION AND THE COLLEGE GRADUATE (Continued)

years. Just last year the Council on Library Resources completed a five-year study on the use of technical devices to store, classify, and retrieve library materials. Some library schools are now offering courses in data processing and computers.

—The lawyer, faced with a similar problem of finding his way among diffuse and rapidly growing sources of information, will find electronic information retrieval a considerable boon. Research carried out in this field reveals problems of classification as well as technology.

—In medicine, computers can now diagnose diseases, read laboratory findings, and read and interpret electrocardiographs. Computers can aid diagnosis by correlating symptoms and diseases, bringing to bear on a particular case all relevant programmed medical knowledge. For the physician, as for the lawyer, widespread use of computers will enable an individual practitioner to consult, by means of electrically stored information, the best minds in his field.

Can the machines which now help the professional eventually replace him? The unique feature of automation is, after all, that it substitutes in part for human memory and analysis. It was engineers, not laborers, who were replaced by the first electronic computer. This computer solved a problem in atomic physics in two weeks that would have taken a hundred engineers a year to complete. Nevertheless, automation and other technological advances have thus far greatly increased the need for highly educated people, rather than decreased it. Automation has created totally new functions, with new and somewhat unfamiliar job titles such as systems analyst, operations researcher, and programmer.

The programmer, although not quite representative of professionals in general, provides an excellent example of the diffi-

culties inherent in forecasting occupational trends. Fifteen years ago no one trained to be a programmer; the occupation was unknown. Then, rather quickly, people were needed to analyze and plan the input for computers and a large new job market opened up. The typical, newly hired programmer is a college graduate, who may have been tested for certain aptitudes rather than for specific knowledge, before being trained by the employer or by the manufacturer of computers. The demand for programmers continues, but new technological advances make it difficult to predict the demand beyond the next few years. Machines are now being developed to set up programs for the computer, that is, to translate verbal questions and problems into instructions the computer can handle. The outlook for programmers depends on when the machines will be marketed in substantial quantity, how efficient and economical they will be for prospective purchasers, and how much of the programmer's job they will be able to perform.

Occupational forecasts depend on unpredictable scientific breakthroughs; they also depend on human needs and reactions which may or may not be predictable. Because most of us do not like the idea of a doctor-machine or a lawyer-machine, it is likely that doctors and lawyers, like teachers and other professional men and women performing personal services, will find that their roles will change but will not disappear.

On the other hand, there is considerable speculation about the future status of many middle level management positions. Some authorities, such as Donald N. Michael, have gone so far as to predict

that these positions will be largely eliminated as automation spreads to new areas. The vulnerable position of middle management stems from the growing use by large firms of central computer systems that control and coordinate detailed operating information for an entire firm. Consider this description from the *New York Times*:

Production is planned to meet sales requirements. Sales are forecast on the basis of production capabilities, orders are confirmed on the basis of delivery schedules, inventories are analyzed carefully for good customer service.

Some years ago this might have described the duties performed by a regional manager or traffic manager in a manufacturing firm. In this instance, it describes just one part of the functions performed by a new central management information center which employs a sophisticated computer system and eighty people, and is linked by teletype to all other sections of a national textile firm. The center makes both short-range and long-range operating decisions for the entire firm.

Automation makes continued learning a necessity for most people, for no job and no role will remain untouched by the new technology. Just as the lawyer and physician will need increased understanding of computers and other technological advances, the citizen who watches his government depend increasingly on computer-based decisions will want and need to gain greater understanding of the processes involved.

Automation and rapid technological change give new meaning and emphasis to the favorite cliché of commencement speakers—that graduation means not the end of education but the beginning.

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