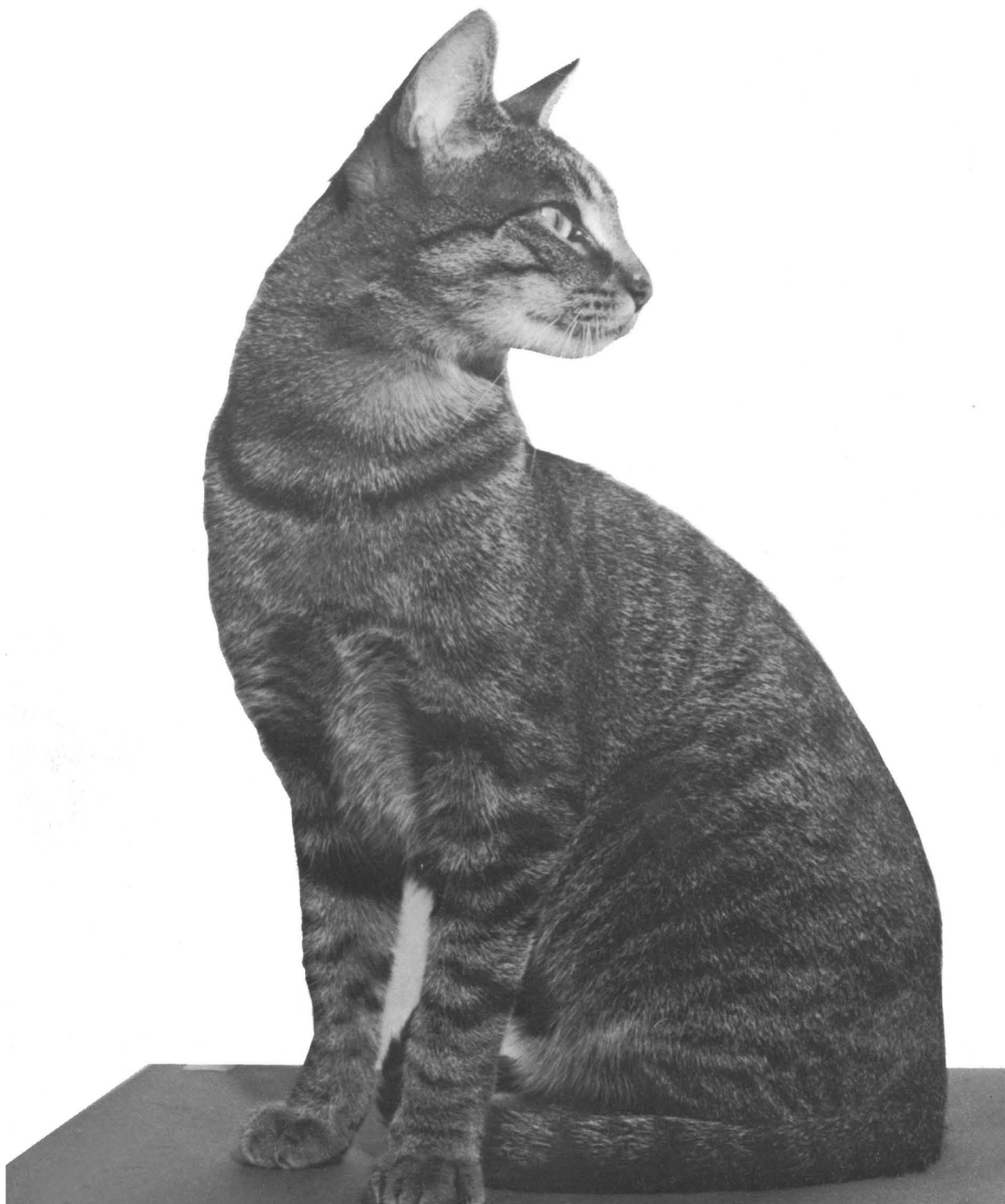


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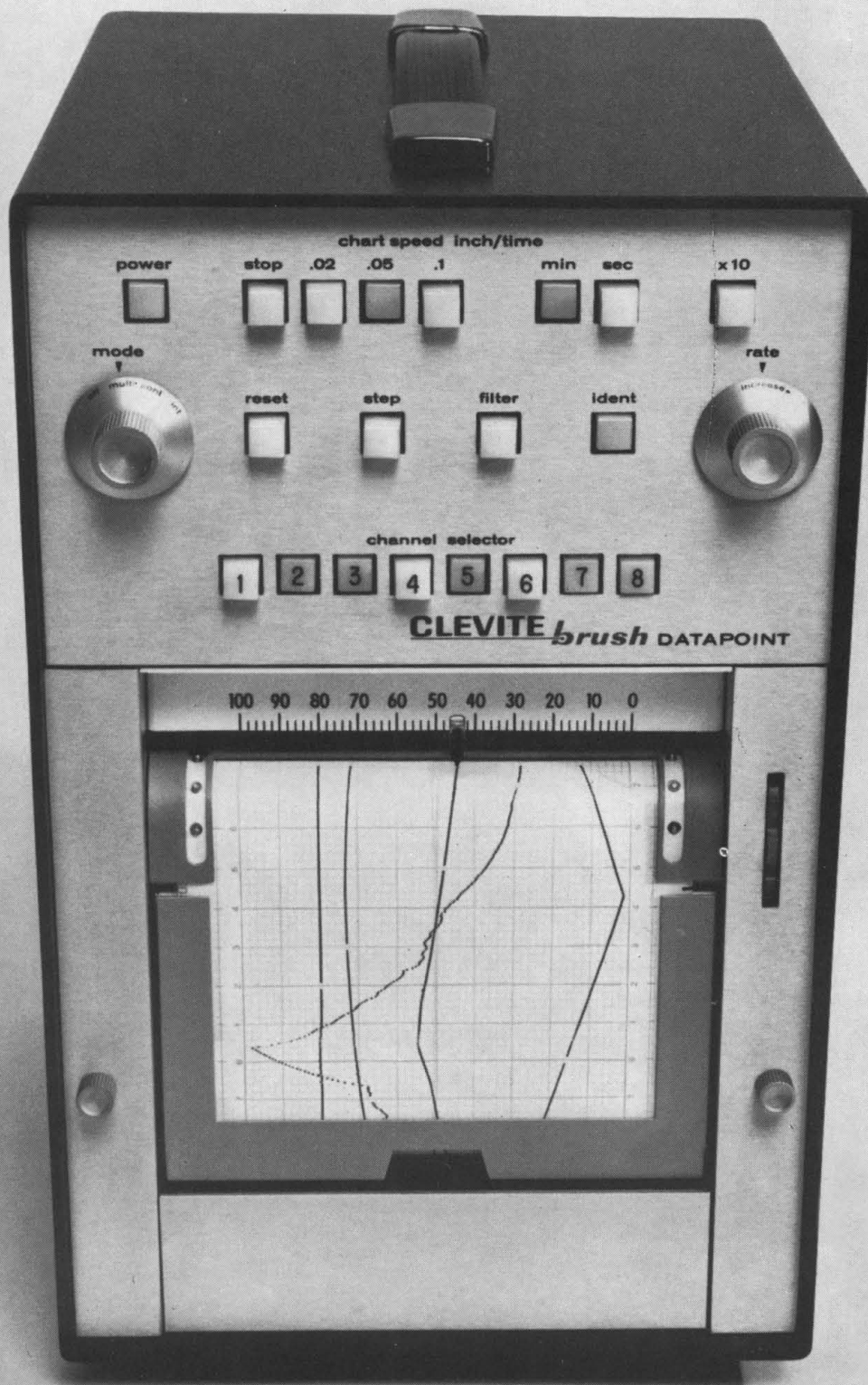
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Vol. 164, No. 3885

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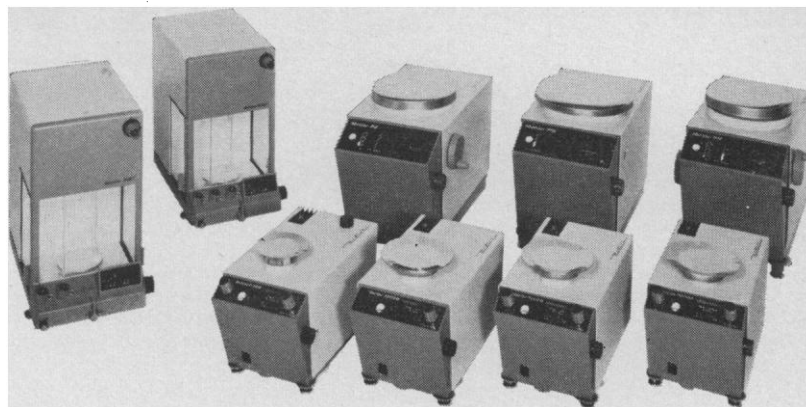
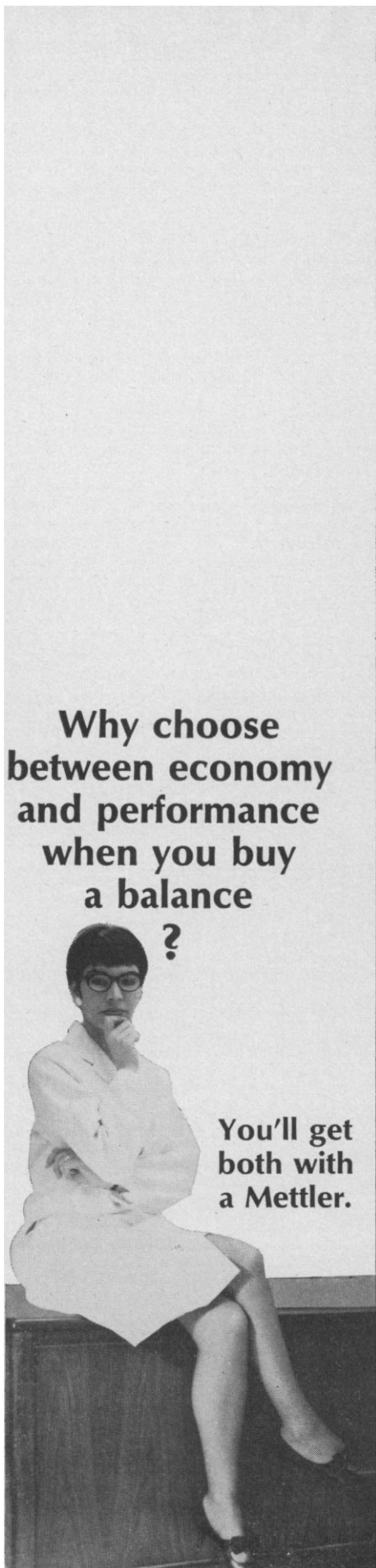
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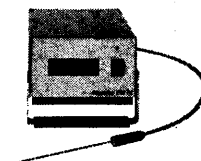
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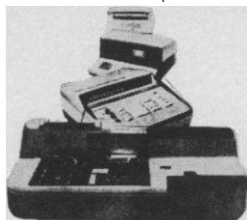
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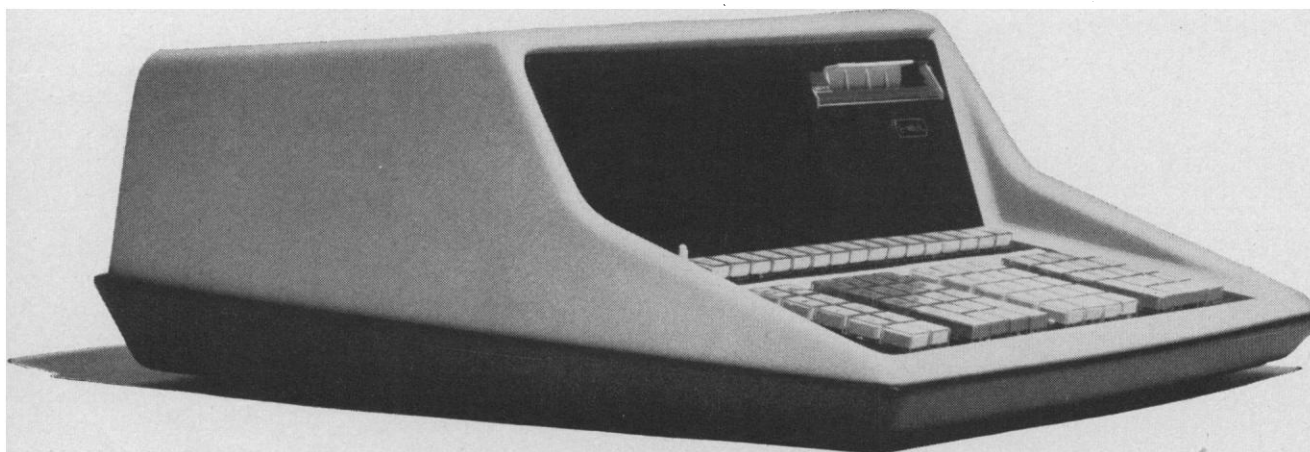
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House cat (*Felis domestica*) before being fed "catnip" (*Nepeta cataria*). *cis, trans*-Nepetalactone is the major constituent of the volatile "oil of catnip" and is metabolized to dihydro-nepetalactone and α -nepetalinic acid. Cats usually respond by sniffing *N. cataria* leaves, rubbing against a plant, and finally ingesting the leaves. Some cats become somewhat intoxicated after smelling the oil or eating the leaves. See page 1281. [Paul McCrary, Oklahoma State University Photo and Graphic Arts Center]

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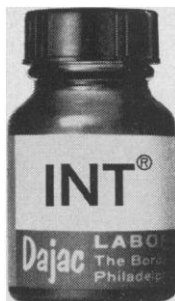
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not presented in sufficient detail to be sure. The proportion of the increased salaries to be given to officers is only 5 to 10 percent of the total increase, so is not as critical.
3. See W. L. Hansen and B. A. Weisbrod [*Quart. J. Econ.* 81, 395 (1967)] for a discussion of the implicit economic transfer from draftees to the public at large.

Arbiters of the Pesticides

Robert van den Bosch's opinion of toxicologists and chemical company sales personnel is noted (Letters, 2 May). But surely the highly trained and well-informed research and extension personnel of the many experiment stations and universities are the ones who decide what pesticides are applied, and where, in the United States. Wouldn't it be fair to state then that these people, together with the huge block of competent scientists in the USDA, "dominate" the pest control field?

... The members of the pesticide industry are painfully aware of the ecological disasters which can go hand-in-hand with their profession [see the fine paper on this whole subject by Hennberry, *Bull. Entomol. Soc. Amer.* 14, No. 3 (1968)]. To label most toxicologists and pest control salesmen as being either ignorant of or indifferent to ecological problems is foolish! These men have been trained in the biological sciences and in most, perhaps all, cases have had at least a basic course in both ecology and applied entomology. In fact to become a salesman (the term Field Technical Representative is preferred) with most reputable companies today, one must have a Ph.D. in entomology or some related field. . . .

H. DESMOND BYRNE

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Does "the Gap" Really Exist?

Margaret Mead in "The generation gap" (11 Apr., p. 135) asserts, "Nowhere in the world are there any elders who know what their children know." This is the sort of craven, trumped up assertion that leads the new generation to despise their elders. In many years of the practice of medicine I have had to encounter issues of life and death and make decisions affecting them. My husband, as a war correspondent, entered Hiroshima 30 days after the bomb fell. Our children have had nothing of this kind of experience with the

real issues of life. They are content in knowing that we know far more than they and are in fact the happier for it. They are aware that their turn will come.

Mead states that all of us who grew up before the war are "immigrants in time." Of course. And so are our children, and so will be their children. For if we are not to regard life as but a treadmill, then it must be a pilgrimage with fresh encounters at every turn. The judgment upon us is the degree to which we meet these encounters with poise, courage, wit, determination, and steadfast faith. To be an "immigrant in time" is nothing new. It is common to all generations.

My husband and I and our children simply do not experience "the generation gap" and neither, I suspect, do many others. One reason is that we are one in our understanding that disappointment, sorrow, conceit, frustration are but a few among the evidences of human frailty. But there is also our common joy, which is our strength. For if human frailty is a universal . . . it can be celebrated with laughter, especially at ourselves. Laughter is a healing, conciliatory grace among all generations.

"We have to realize that no other generation will ever experience what we have experienced," Mead intones. So, history will cease to repeat itself! That is something new! How can one refute what is so obviously false?

Mead's major weakness is that she fails to take into account a radical distinction between adolescence and maturity. There are qualities in maturity that stand over, above, and beyond time, place, and culture; they are valid for all generations. To assign them a value equivalent to adolescent potherings is to betray maturity.

GUILA F. BEATTIE

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Some of us who were involved in the public school education of this "new generation" might remember the group as being rather spoiled. At the time, this was somewhat understandable largely because their parents wanted them to have everything they didn't have as children. However, the very bothersome question to me now concerns the children of this rather spoiled generation. What real chance do they have?

NORMAN R. MOLLOY

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Margaret Mead must know more history than her editorial reflects. "No generation has ever known, experienced, and incorporated such rapid changes, watched the sources of power, the means of communication, the definition of humanity, the limits of their explorable universe, the certainties of a known and limited world, the fundamental imperatives of life and death—all change before their eyes" [since 1939]. Really. Did no earlier generation observe a change from wood to coal and coal to oil power? From mail to telegraph, radio, and telephone communication? From Catholic to Protestant and from Medieval to Copernican, Darwinian, and Freudian definitions of humanity? See the limits of the known and habitable world vastly extended by the great explorers and pioneers? The certainties of limited rural, aristocratic, and Victorian worlds shattered? And just what "imperatives of life and death" has this generation discovered that were unknown at Golgotha, during the Black Death, at Sevastopol or Verdun? Mead seems to think that death (or, even more incomprehensibly, life) began at Auschwitz or Hiroshima. She should reread *Urne-Buriall* (1).

HAROLD ORLANS

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Reference

1. T. Browne, *Hydriotaphia, Urn-Burial* (Charles Brome, London, 1686); ———, *Urne-Buriall and Garden of Cyrus*, J. Carter, Ed. (Cambridge Univ. Press, New York, 1958).

"In the past there were always some elders who knew more—in terms of experience—than any children. Today there are none . . . There are no elders who know what those who have been reared in the last 20 years know about what the next 20 years will be."

It is obvious, therefore, that the children who alone know both the present and future should be the professors, and the professors who do not know should certainly sit under them as students. Since Mead herself is clearly included in her all-inclusive group of elders, we expect to hear no more from her since she admits that all children know more than she does. Goodbye, Margaret.

I cannot believe that Mead is correct. Perhaps I, a scientist, cannot bridge C. P. Snow's gap between the scientists and the humanists. If so, then Mead and other humanists who have

related to the extremist "children" of our student population may be correct. Perhaps all children know more than any elder, as many outspoken students claim . . . but if I saw any evidence that such a conclusion is correct, I would resign my professorship, re-matriculate, and study under new, young, sophomoric "children" professors.

Perhaps, on the other hand, Mead and other humanists who agree with the vocal sophomoric element of our college and university nonstudents (in the classical sense) represent the frustration of classical humanism. Perhaps professional philosophers, literary intellectuals, cultural anthropologists, and others, have at last been forced intuitively to realize the futility of personal opinion (all they have to work with). In such a domain, it is conceivable that a bright sophomore might be able to convince the professor that the child is the more knowledgeable.

I doubt if any true scholar could make such a statement as Mead's. Scientific knowledge, for example, is only in part personal opinion; therefore it is not subject to debate in the sense of a discussion about student rights on the campus where anyone's opinion is as good as anyone else's. True scholars are sure that they know more than their "children" students and they (and I'm sure Mead speaks for few humanists, too) know that their knowledge is reliable and meaningful.

WALTER V. BROWN

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My commentators illustrate my point too well. I might add, however, that the editorial in *Science* was only a small section, selected by the editors of *Science*, from a series of lectures to be published as *Culture and Commitment* by the Natural History Press in the autumn. These lectures relate my conclusions from 44 years of fieldwork and analysis of field materials, something rather different from "personal opinion," better than a few paragraphs can do. I might also add that I am not a humanist and that I certainly intend to continue learning from my students.

It would have been interesting to have had some comments from the younger generation.

MARGARET MEAD

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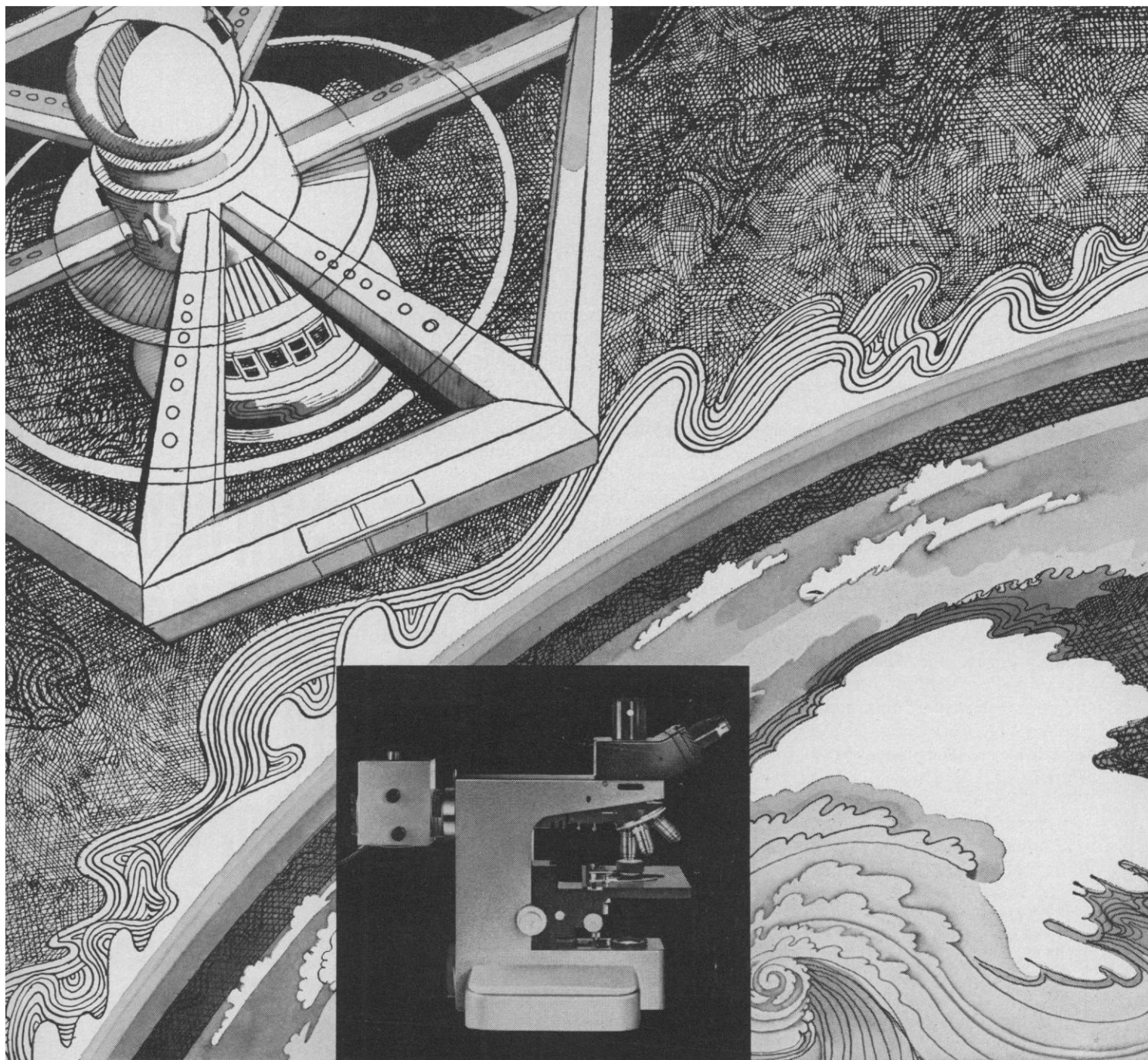
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Contamination from the Moon

Recently a few scientists, as well as the *New York Times*, have questioned the adequacy of procedures attending the return of astronauts and samples from the moon. They suggest that forms of life resident there might contaminate the earth catastrophically. This is extremely unlikely.

Molecules such as H₂O, N₂, and CO₂ disappear rapidly once they reach the atmosphere. The unprotected surface of the moon, where the astronauts will touch down, is bombarded by the solar wind, x-rays, and ultraviolet light, and the temperature varies between about 100° and 400°K. Because of radiation and thermal degradation, nucleic acids and proteins would not remain intact very long. The environment beneath the surface of the moon is less harsh but still not conducive to life. At depths of a meter or more the temperature always remains much below the melting point of H₂O. Near the surface there is a level where temperatures vary above and below the freezing point in response to the influence of the lunar cycle. In this region, however, free H₂O, O₂, and CO₂ quickly diffuse to the surface. Without renewable energy sources, life perishes, for the degradation of organic matter proceeds slowly but inexorably even at 273°K.

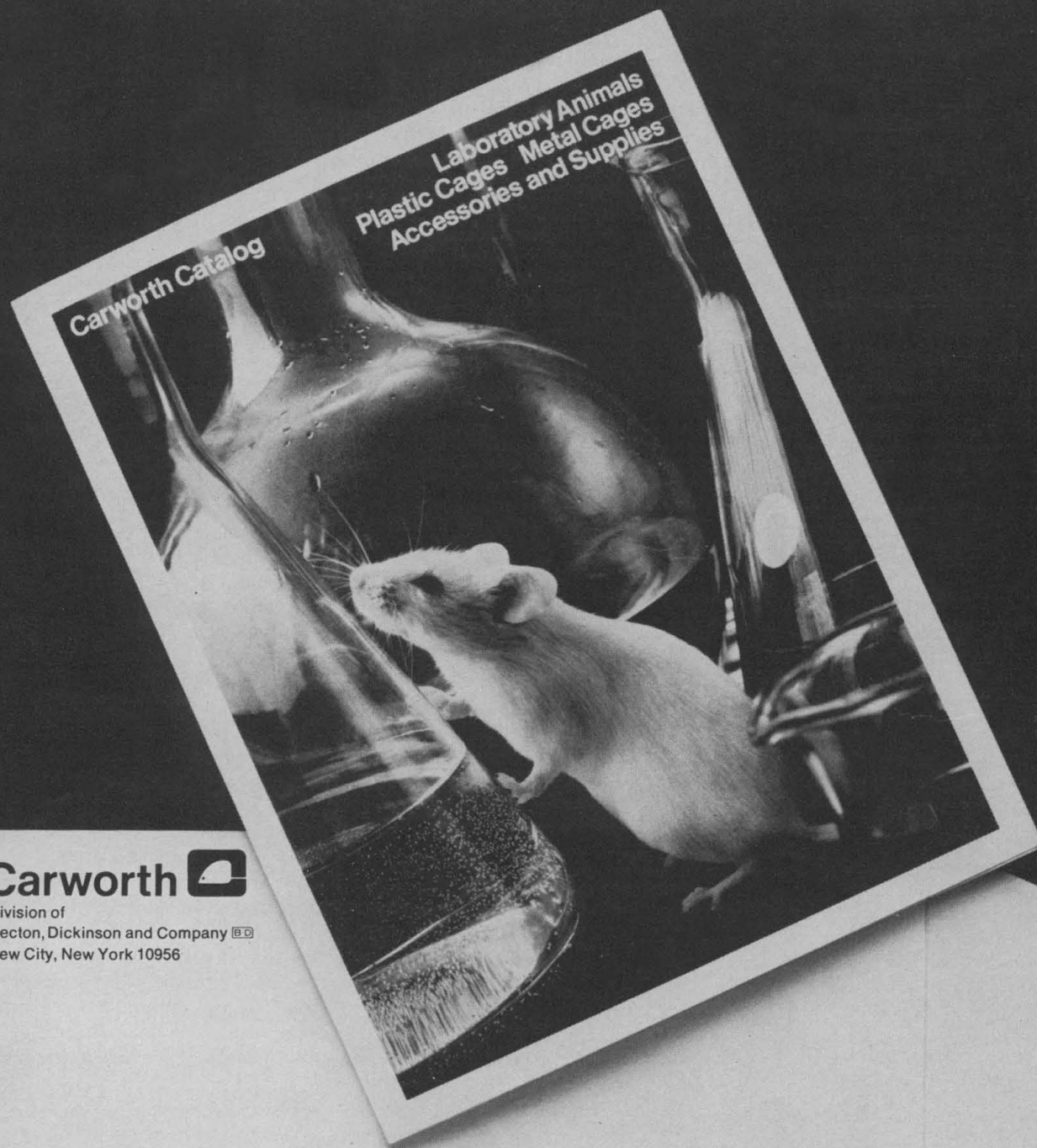
There remains, of course, a formidable collection of hobgoblins. They include such types as life based on silicon and living forms as yet undescribed. Given the vague nature of such organisms, logic is a poor weapon. You can't prove a negative. One argument is that a form of life adapted to the absence of H₂O, O₂, and organic compounds could scarcely be expected to survive on earth, much less infect earth's creatures. The most compelling argument, however, is that the lunar-return experiment has been conducted many times in the past. It has been estimated that millions of tons of unsterilized lunar material have reached the earth as a consequence of meteor impact.


Once the specter of contamination from the moon had been raised, quarantine procedures were inevitable and justifiable. The Public Health Service, the Department of Agriculture, and the Department of the Interior are charged with protecting humans, agriculture, and wild life. For example, "Whereas the unregulated movement of means of conveyance, their stores, . . . earth, stone and quarry products . . . into . . . the United States from places outside thereof . . . may disseminate plant pests. . . . No soil shall be moved . . . into the United States except as authorized. . . ."


A large number of scientists have devoted much effort to the quarantine problem during the past 5 years. Sterile containment of lunar specimens during the journey to Houston is assured. At Houston a Lunar Receiving Laboratory (*Science*, 3 February 1967) has been specially constructed to house astronauts during a 3-week quarantine period and to facilitate extended examination of the lunar samples. Attempts will be made to culture organisms on many different media, and various living forms will be exposed to powdered portions and extracts of the returned samples.

Procedures involving the astronauts are more controversial. Careful effort to keep to a minimum the amount of adventitious material returned to earth is a substantial factor in the procedures that have been adopted. The astronauts face a difficult and dangerous mission. Were their procedures to be made even more complex because of panicky, last-minute objections, their chances of a safe return could be needlessly jeopardized.—PHILIP H. ABELSON

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