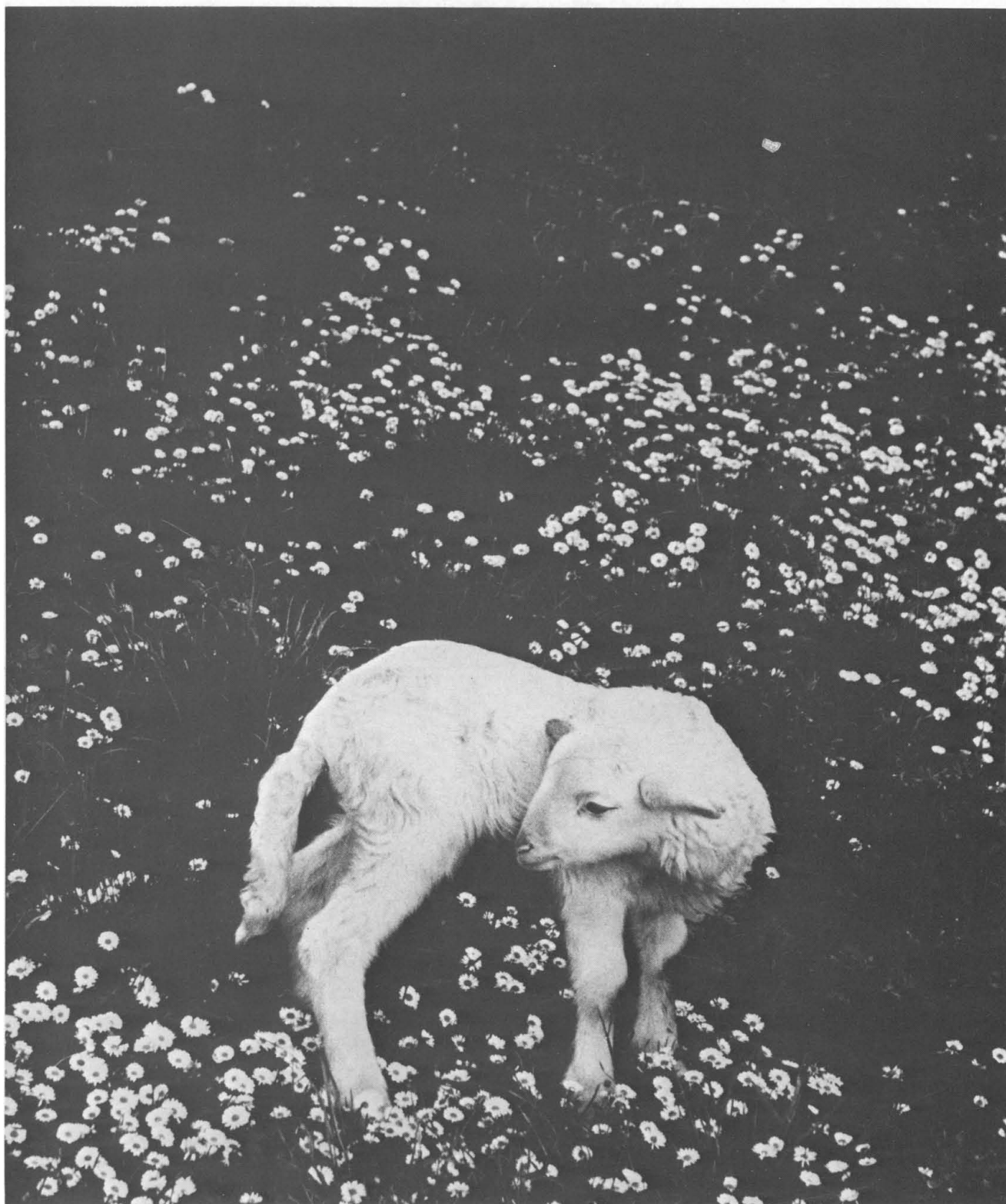


SCIENCE

28 March 1969

Vol. 163, No. 3874

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE



Index Issue

This new Amino Acid Analyzer is now running sample #72

(The operator hasn't been needed since the start of #1)

And when she comes back she'll appreciate again just how complete a job we've done on the new Beckman Model 121 Automatic Amino Acid Analyzer. We figured that, since our Analyzers are already in a class by themselves, our *fully automatic* version should be something special. It is.

The 121 uses all the basic "innards" of the proven Model 120C, but does 2½ to 3 times as many analyses. It can use any methodology — single or multi-column.

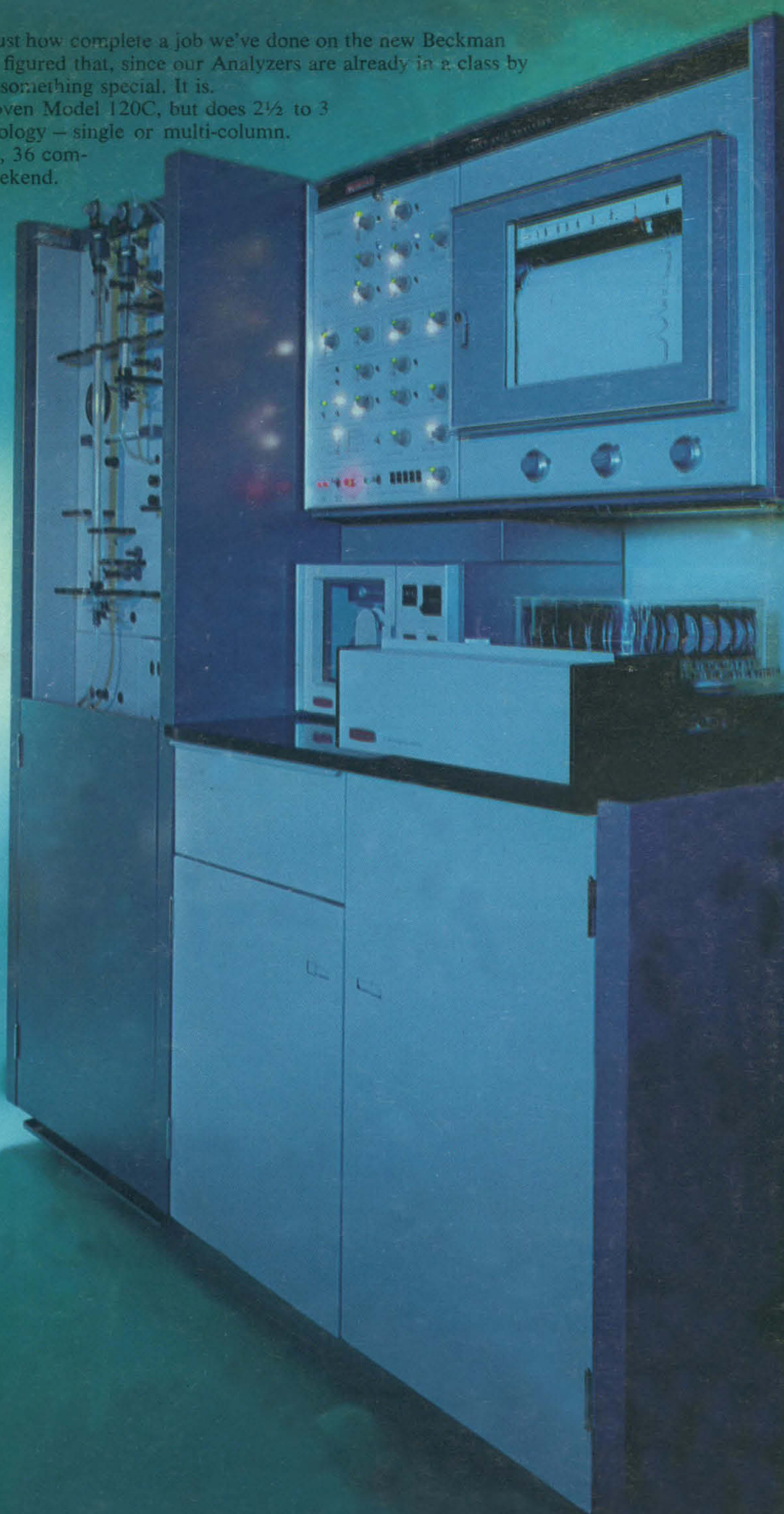
With the two-column protein hydrolyzate method, 36 complete analyses (72 samples) can be run over a weekend.

The programmer is so versatile that you can change from one method to a completely different one in seconds.

With the 121, you also get the finest field service in the instrumentation field and access to a cadre of knowledgeable applications research people to call on for any answers you need. We work hard to make the finest amino acid analyzers in the world, and we work hard to back them up.

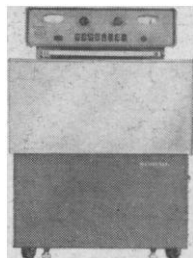
For full information on the 121, the 120C and the modular 116, write Spinco Division, Palo Alto, Calif. 94304 for brochure SB-333.

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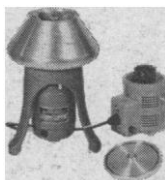


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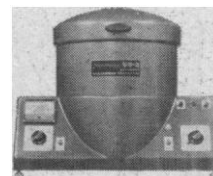
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RC2-B AUTOMATIC SUPERSPEED REFRIGERATED CENTRIFUGE — 20,000 RPM — 49,500 x G with 24 x 15 ml SM-24 Rotor — 48,200 x G with standard 8 x 50 ml SS-34 Rotor — Capacity to 3,000 ml with GS-3 Rotor. Eight Angle and Horizontal Rotors. Automatic with all Rotors.



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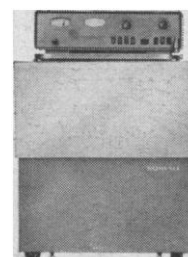
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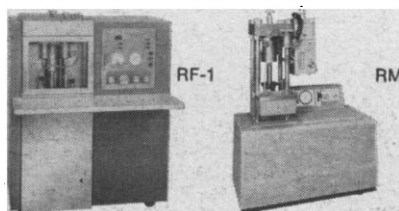
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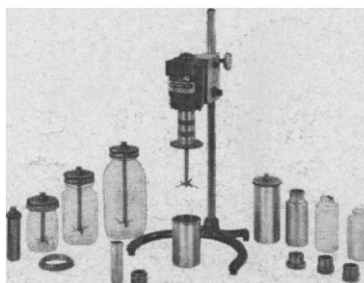
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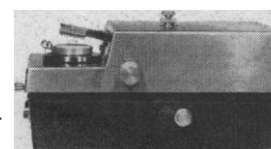
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28 March 1969

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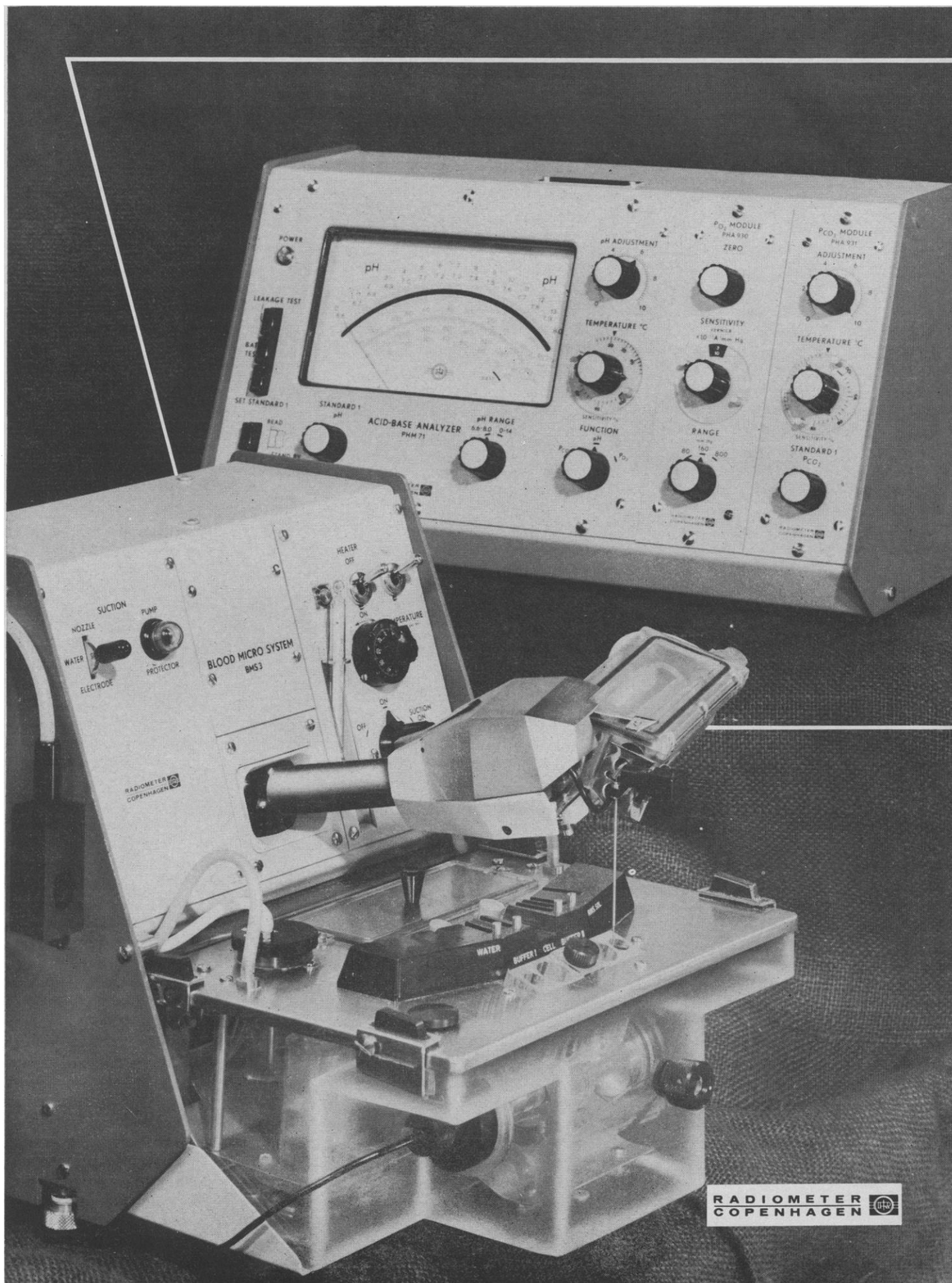
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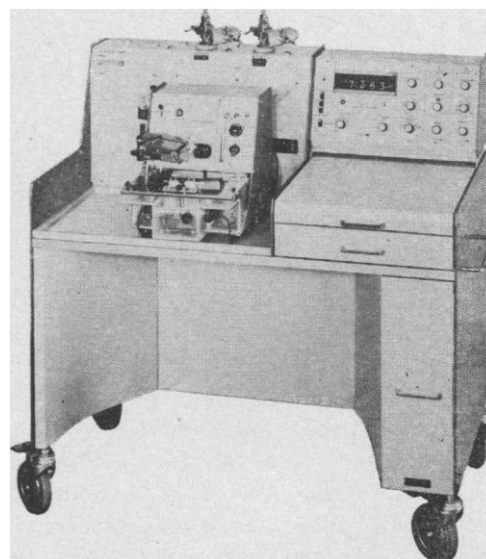
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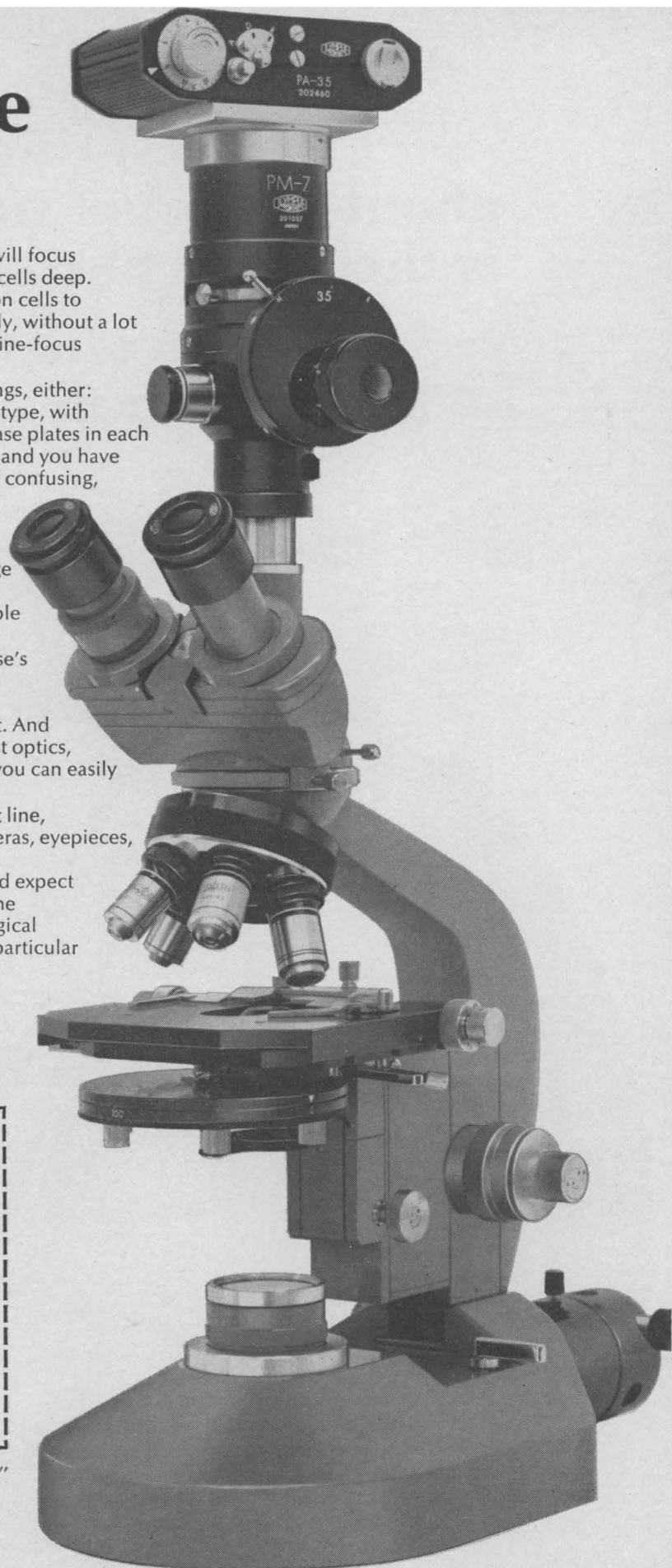


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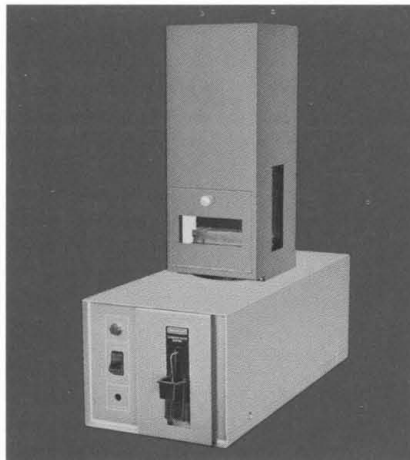
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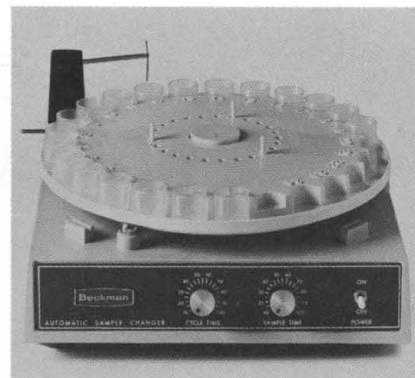
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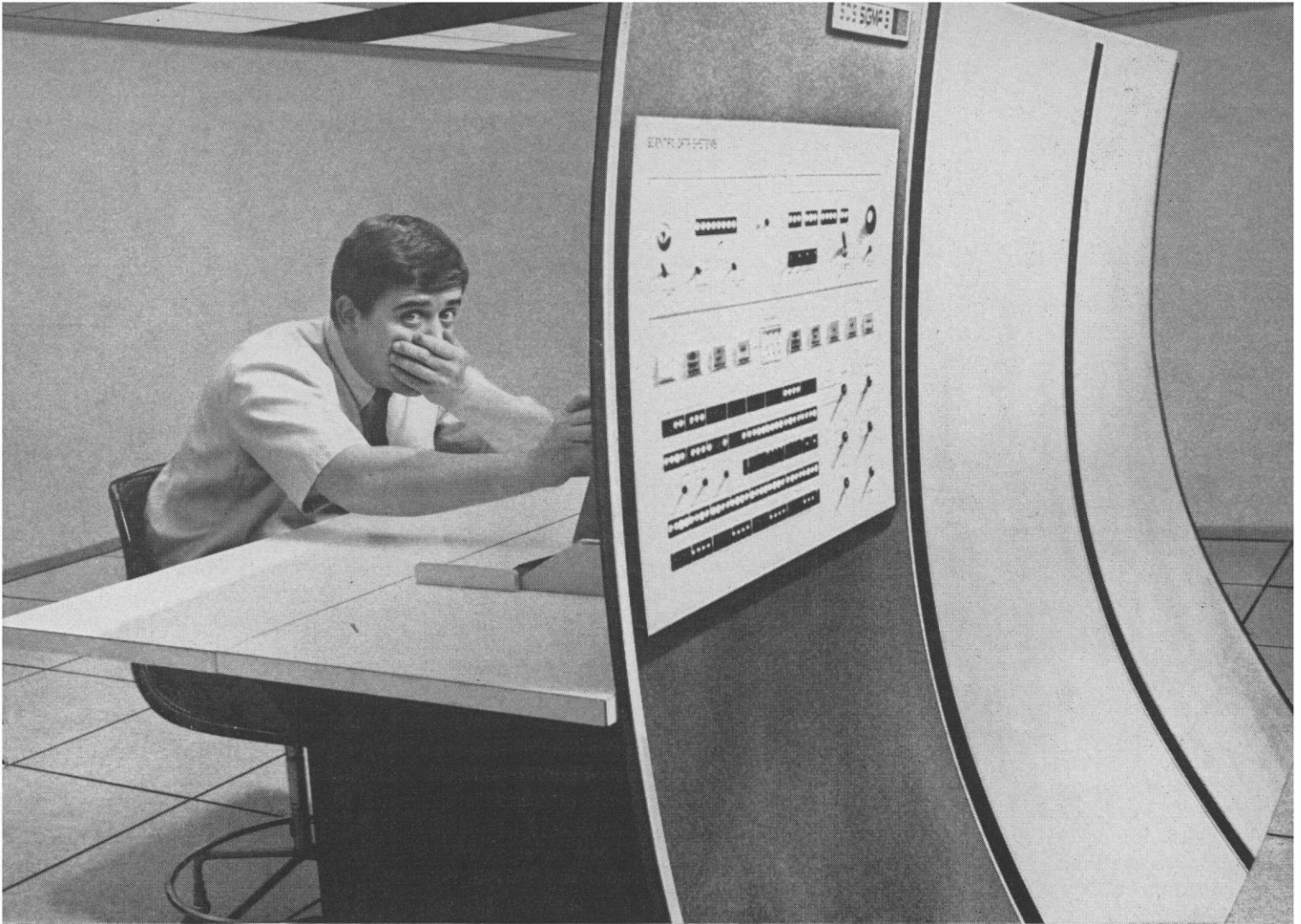
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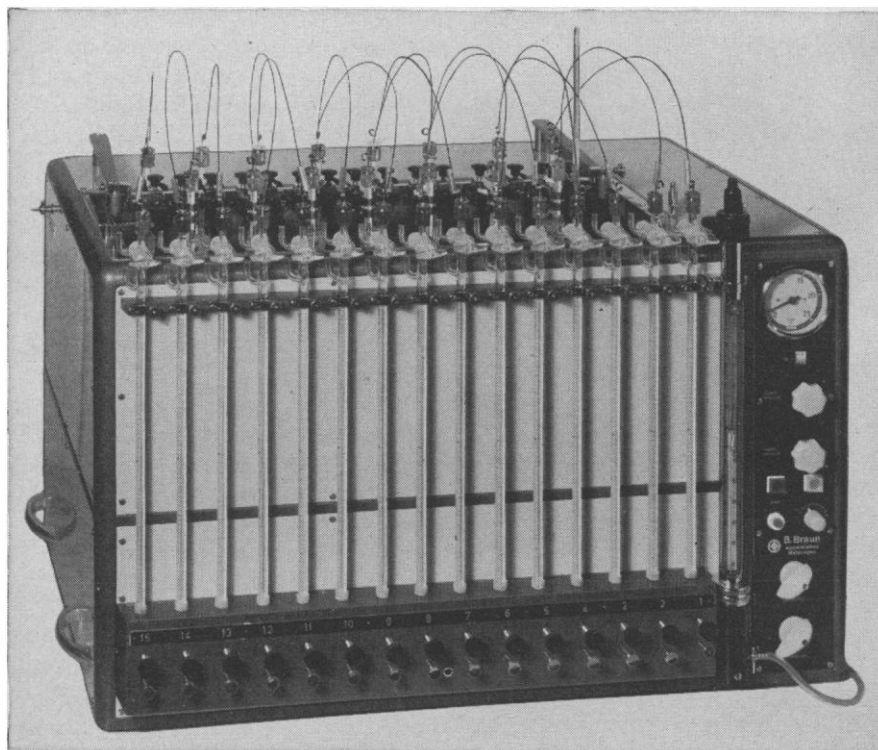
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professionals, mostly in the officer corps, attracted to the services largely by their desire to serve their country. Some of these come from military schools; some are trained by the ROTC at our colleges and universities. An army which might be called mercenary would probably attract fewer of these. In addition, in a wholly professional army, the rank and file at least would include many misfits, outcasts, and adventurers. The attraction of a monetary reward has greatly decreased in a state in which society assures the livelihood of everyone.

As a result, the military would no longer be tied to the country by the same emotional bonds which now unite the citizens with their army; the army would form an alien body in the society. It might even become a weapon for an attempt to establish a totalitarian rule, as it has in many other countries. This danger would be particularly great in an emergency: the army would be less wholeheartedly supported by the people than a citizen's army and would feel justified in adopting desperate measures.

How would a purely professional army fight when the chips are down? Would it not shrink rather than grow in size when an emergency menaces? Our history books are full of the stories of people who did not want to fight in their own defense but tried to buy their defense on the market. Do we want to join Athens, Rome, and Byzantium, which at certain points in their history—at the end of their history—tried to have others defend them?

EUGENE P. WIGNER

*Department of Mathematical Physics,
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The preceding seven letters together make nearly as strong a case as can be made against abolishing the draft. They reinforce my conclusion that "the case against the draft... is... about as lopsided a case as one ever meets in questions of public policy."

Most of the arguments made in favor of the draft, here and elsewhere, say that the alternative of volunteer military forces is objectionable for one or more of the following reasons. (1) Not enough volunteers could be obtained for a major war. (2) Volunteers are ineffective. (3) Volunteer forces constitute a threat to freedom and democracy. (4) If the military were volunteers, the general population would be less concerned with foreign policy than when the military are con-

scripts. (5) Volunteers would be predominantly the poor and Negroes.

1) No one has seriously proposed relying on volunteers during a major war. The idea might be worth studying, for it is not so clearly impractical or undesirable as the letters imply, but my editorial referred only to conditions since 1945. It argued that the draft can be abolished even if as many men are kept under arms as now and even while the Vietnam war continues; but it did not imply that the armed forces should be as large as they are now. One important effect of the draft, in fact, is that the armed forces are larger than they need to be for their present effectiveness, because (i) the military, like anybody privileged to purchase a service or commodity at bargain prices, is uneconomical in its use of manpower, and (ii) the 2-year tours of draftees are much less efficient than the longer tours of volunteers. Proposals to abolish the draft contemplate retaining for emergencies the present Selective Service registration system, and the present system of reserves.

2) As to the charge that volunteers are ineffective militarily—tell it to the Marines, who are almost all volunteers. Or listen to Housman's 1915 "Epitaph on an Army of Mercenaries":

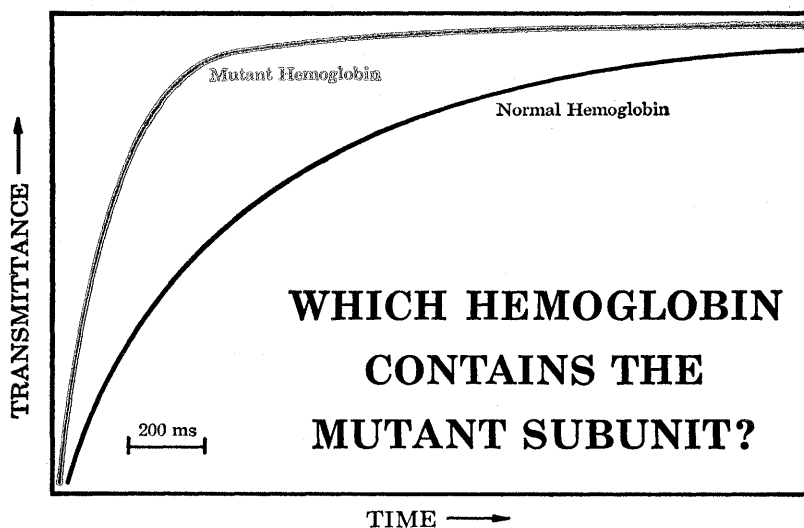
Their shoulders held the sky suspended;
They stood, and earth's foundations stay;
What God abandoned, these defended,
And saved the sum of things for pay.

3) To the extent that a military force endangers freedom and democracy, the danger comes from the higher ranks of commissioned officers, all of whom are volunteers, as are most of the lower ranks of officers and all of the higher ranks of noncommissioned officers. Using conscripts instead of volunteers in the lowest enlisted grades, and those are the only ranks in which we use appreciable proportions of conscripts, is no protection—as was illustrated by recent coups in Greece and South America.

4) As a device for interesting the population in foreign affairs, the draft has the weakness that it affects so few people—and most of those who are directly affected, the draftees themselves, are not voters. A volunteer force affects every taxpayer, though each is affected less intensely than is a draftee or his parents. While the risk of being drafted may tend to sharpen interest in foreign policy, there is no basis for hoping that it also imparts the information, perspective, and ob-

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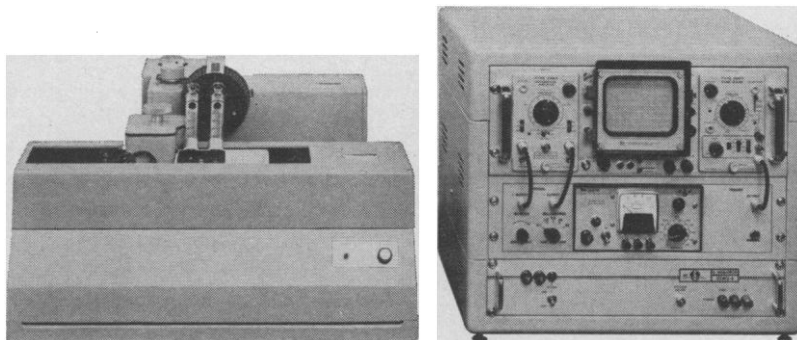


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jectivity necessary for wise judgments about the national interest. In any case, there are disturbing ethical implications in using the draft as an instrument in the battle for public opinion. If this use is accepted, would it not be proper to double or quadruple the number drafted in order to have a greater impact on public opinion?

5) Men are more attracted to hazardous work—whether in the military, police and fire forces, professional boxing, construction, coal mining, university administration, testing aircraft, auto racing, or treating contagious disease—if they do not have opportunities for equally rewarding but less dangerous work. We all regret that inequalities of opportunities exist; but it is hardly fair to deprive a man of the opportunity he considers best among those available to him, simply because we regret that he does not have better opportunities or does not rank differently the opportunities he has. That is what we are doing if we refuse to pay (in money and in nonpecuniary advantages) to attract enough volunteers, but rely on conscription instead.

To pursue these subjects, I recommend the documents relating to S. 503 inserted by Senator Hatfield in the *Congressional Record* for 22 January (S. 691) and especially the article by Walter Oi inserted on 23 January (S. 831) and taken from *Current History*, July 1968.

W. ALLEN WALLIS
*University of Rochester,
Rochester, New York 14627*

Flying Beetles

Because of an observation I made many years ago, I was particularly interested in the paper by Silberglied and Eisner ("Mimicry of Hymenoptera by Beetles with Unconventional Flight," 31 Jan., p. 486) regarding cetoniid Scarabaeidae which fly with the elytra closed.

The fig eater (*Cotinus nitida*) does this. I discovered this several years ago in Arkansas when I found hundreds of these beetles flying around a tree in what composed a kind of "living cylinder." Since then I have often observed these beetles flying and found that the elytra are always closed. Incidentally, I have no explanation for the beetles circling the tree.

CYRIL E. ABBOTT
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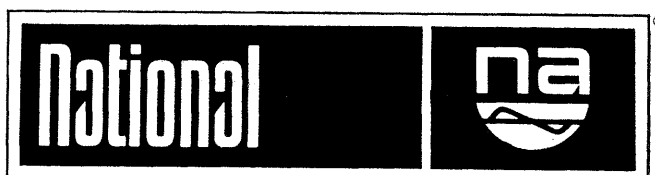
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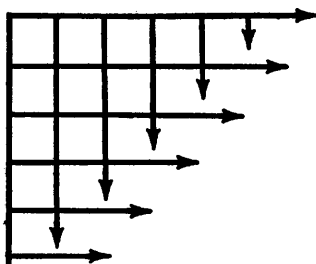
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Difficult Times in Higher Education

The academic year 1967-68 will surely prove to have been one of the most difficult in the history of higher education. Unpleasant, demanding, and accusatory attitudes were in evidence on many campuses. The sobriety of the scholar and the would-be scholar, celebrated in all previous ages, seemed simply to vanish. In some places the spirit of reasonableness, and the desire to achieve understanding with common courtesy, were actually sneered at and contemned.

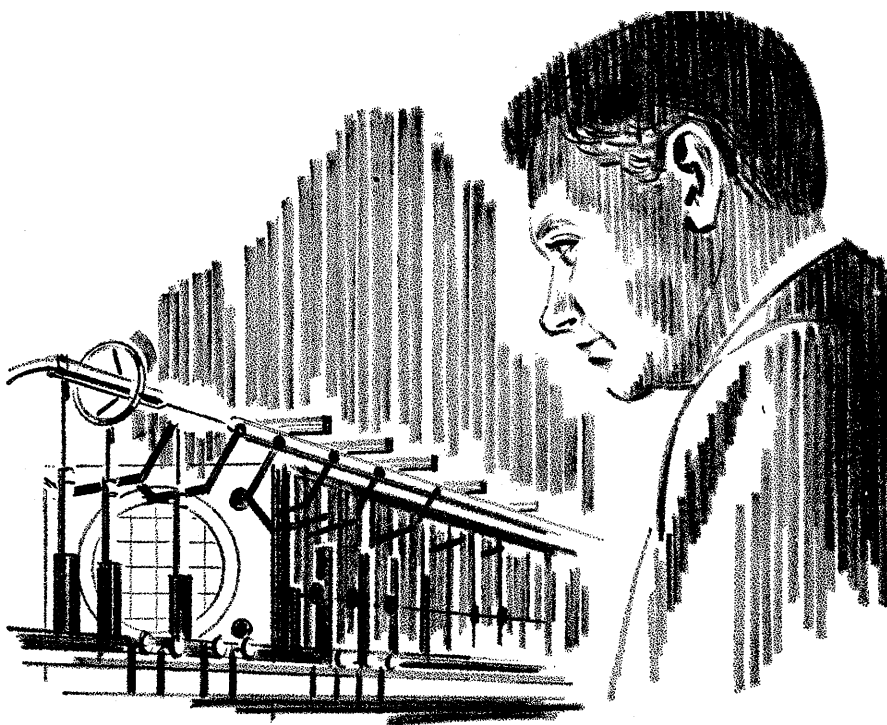
It is not easy to see why these lamentable lapses occurred, and continue to occur, on college campuses. Some say it is because the present generation of young people, raised aloft on an unprecedented wave of idealism, understandably react negatively when frustrated in their desire to achieve instant reform. But this cannot be an acceptable or sufficiently mature stance in men and women of college age. Nor do the young alone have reason to feel put upon. It takes no youthful perception to see that there is much in this period about which to be both worried and discontented, even angered. All of us are tormented by the war in Viet Nam and its recalcitrant opposition to repeated efforts at solution. None of us is unaware of, or unmoved by, the manifold troubles which confront us at home and the apparent inability of established institutions to make adequate quick response. There can be no question here of a generation gap.

But the majority—happily—do not consider that such perplexities warrant departure from good sense coupled with civility, or condone insistence on having one's own way regardless of others' rights and feelings. Most of us agree deeply with the view expressed by Professor Archibald Cox, in his committee's report on last year's troubles at Columbia, that "a university is essentially a free community of scholars dedicated to the pursuit of truth and knowledge solely through reason and civility." The great majority of us also accept a second of Professor Cox's principles—that "resort to violence or physical harassment or obstruction is never an acceptable tactic for influencing decisions in a university." We go further and recognize that, though opinions will and should differ among us, we can hold different opinions without descending to personal quarrelsomeness and abuse, or without trying to insist, childlike, that only our views shall be heard. We also agree with Professor Cox when he says that a scholarly community, to remain viable, must be organized in such a way as both to produce loyalty and to make possible the redress of grievances.

Perhaps, as some commentators suggest, we are moving through a turning point in history in which old ways of doing things are breaking up. Perhaps we are experiencing shattering fundamental changes the significance of which cannot yet be even dimly discerned. Such explanations seem to me overdramatic. Nevertheless, I must at least concede the possibility that our colleges and universities are only among the first of institutions to be shaken by an all-encompassing sea change now occurring around the world. Though I hope not.

Whatever the portent, things were different in the academic world last year—different and difficult—and they continue so this year. The ivory tower has become a laughably grotesque symbol of the contemporary institution of higher learning. What do we do in such troubled circumstance as we are now experiencing? I suspect the path of prudence for those of us in positions of responsibility for academic institutions is simply to stay alert, to keep mindful of our distant goals, and in a tumultuous sea, to navigate as best we can.—NATHAN M. PUSEY*

*This editorial is adapted from "Harvard University: The President's Report, 1967-68."



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