

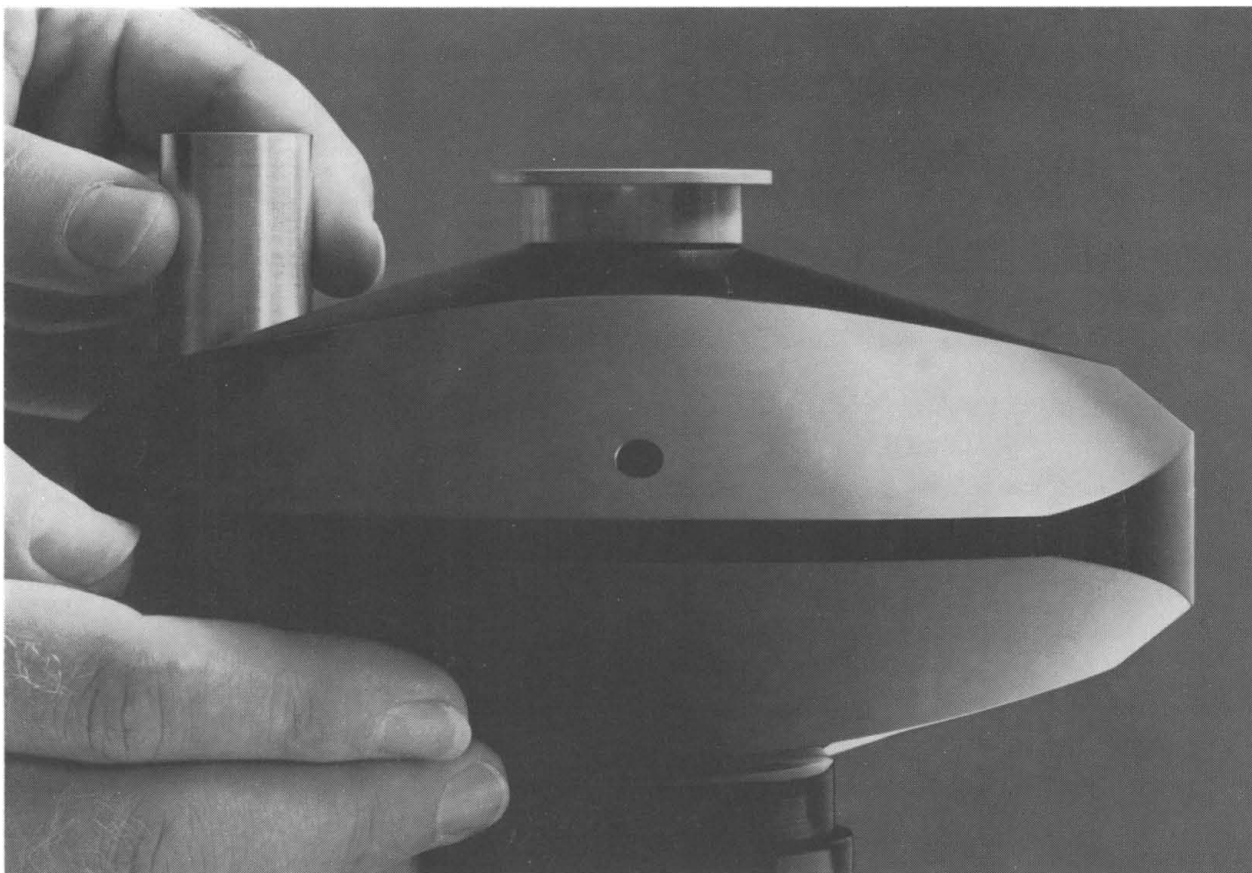
SCIENCE

23 December 1966

Vol. 154, No. 3756

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

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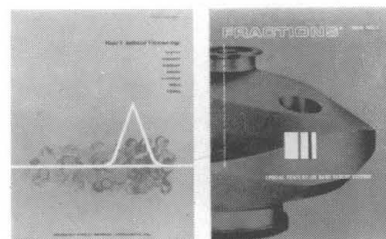
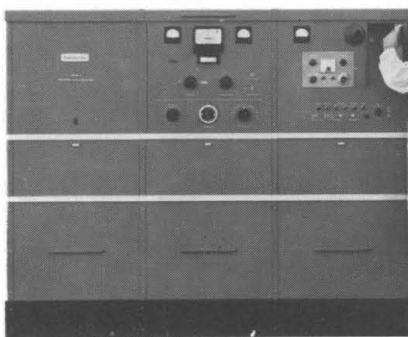
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(1) A. Giner-Sorolla & L. Medrek, J. Med. Chem. 9 (1) 97 (1966).

(2) C. Heidelberger, D. G. Parsons and D. C. Ramy, J. Med. Chem. 7, 1 (1964).

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Vol. 154, No. 3756

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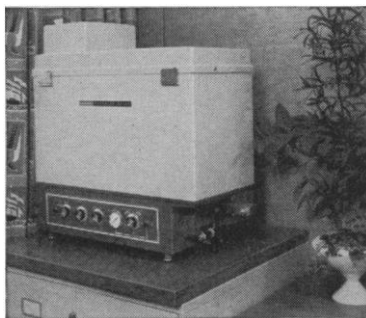
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following advertising approach. We here assume that why you want a portable microfilmer, a portable microfilm reader, and/or a little microfilm processing machine for a corner of the office is none of our business. The very same Business Systems Markets Division, Eastman Kodak Company, Rochester, N. Y. 14650, is ready to supply literature on the equipment and to accept orders.

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A corporation's thoughts about "science" at year's end

A corporation is an artificial person. It can therefore aspire to immortality. Furthermore the device affords a convenient façade for lively mortals.

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We are getting smarter. We now understand that just people aren't enough. We require *individuals*—no two too much alike.

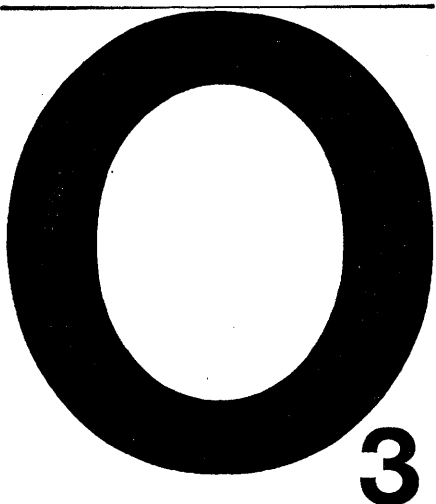
Ideally, we hope by these words to attract into our midst an individual who will proceed to scientific accomplishments that freshman textbooks of the 1990s can scarcely ignore. An alternative ideal outcome would be to attract another and very different individual who will eventually turn from direct personal contribution to science and will wind up as chairman of the corporation's board of directors in the 1990s.

The effort will still have been worthwhile if it merely advises a few scientists that our size, organic integration, and diversification mean for the individual a freedom of choice where his scientific interests and experiences can lead him as the years go on. We serve human needs both through the photographic process and through technologies now grown far away from photography. Thus we find economic support for a very broad range of fundamental studies on which the technologies may possibly feed. Hence the freedom in area of work.

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Anyone of any race who is approaching the threshold of a working career in chemistry, physics, or possibly in biology and who feels himself or herself sufficiently swayed by this eloquence to try to match interests developed in graduate school against what we currently imagine to be our own research interests should establish communication through Dr. Dudley B. Glass, Eastman Kodak Company, Rochester, N. Y. 14650.

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next step would seem to be triangles. If NASA would only make our spacecraft a little more pointy, this being well within the range of 20th-century science; we may not have to wait for the 21st century.

WALTER F. CANNON
*Department of Science and Technology,
Smithsonian Institution,
Washington, D.C. 20560*

Project Hindsight: Basic Research

There is a significant reason for the apparently small contribution made by basic research toward the development of new military weapons as reported in the Project Hindsight study (News and Comment, 18 Nov., p. 872). The fact is that the points of impact of the basic ideas with the beginnings of weaponry development were not included as "Events" for the stated reason that they were too difficult to identify. The ideas behind design and development were ideas that were born in the educational process or in specialized study—not found in recorded conversations and correspondence. There was no attempt to denigrate the role of basic research, but some end point had to be set in conducting the study.

It would be disturbing, therefore, if the Department of Defense should reach the conclusion from Hindsight that basic research is worth little support. One could map the Mississippi northward to Memphis and, from this, conclude that the Ohio River made no contribution to the flow.

HELEN L. HAYES
*5506 Schenly Lane,
Washington, D.C. 20031*

Electronic Network in Hospitals

The article by Miller on EDUCOM (28 Oct, p. 483) states that "a national electronic network for transmitting hospital records is now feasible." This statement seems to be based, at least in part, on the experiences at the Massachusetts General Hospital with the Hospital Computer Project.

The unwary reader may make the erroneous inference that we have a program at the MGH that is capable of operational participation in such a network. The problems of using a computer to collect and process the information in the medical record are

complex, and the techniques we have evolved in our Laboratory of Computer Science are, in many ways, primitive and inadequate for a total system. There is still considerable developmental effort required in the areas of computer technology and terminal utilization and especially in our understanding and formularization of the problems and methods of solution. Any network capable of functioning in the next few years would contain only very limited patient information, and certainly not the total hospital record.

Miller is certainly correct in his thesis that a computer network for transmitting patient care information from one hospital to another is a desirable feature, not only to facilitate improved patient care in a mobile urban society, but also to make possible medical research on a large population. However, a network is only feasible when there are viable units, and this latter objective has not yet been realized. The significant problems concern the nature of medical practice and the characteristics of individual hospitals; once these are solved, the network problems should not present severe barriers.

G. OCTO BARNETT
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The Measure of Good Teaching

With respect to the discussion concerning Warren Weaver's editorial, "Good teaching" (Letters, 19 Aug.), it seems to me that, in the simplest essence, the good teacher has to fulfill two independent roles. He has to communicate to his students the contents of the particular subject matter field that he is teaching. Since it is to students that he is communicating, it follows that the students should judge the effectiveness of his communication. This, I believe, is what is really measured by various tests of students' opinions of teachers. That is, they are judging the instructor with respect to whether he is telling them something in an interesting, enthusiastic, and dedicated fashion.

Students, of course, are not able to judge whether the instructor is giving the appropriate content information. An instructor may be just as enthusiastic and dedicated in imparting disproven facts as in describing new and current

information. How does one determine whether the content imparted by the instructor is up to date? This obviously must be done by the colleagues of the instructor, as Weaver states. However, this should not be done in a haphazard or casual fashion. To judge the effectiveness of an instructor, some of his colleagues must sit in on the instructor's class and hear what he has to say. This does not mean that they must sit in on each and every class the instructor teaches. It should be sufficient to sample just a few lectures. The instructor shall be given 2 or 3 weeks' notice that he will be visited by some of his colleagues who are going to judge him on the content of his material. I fully realize that this suggestion violates the basic tenet of the sanctity of the classroom. However, it is about time that this dogma was discarded or at least placed into proper perspective. I see nothing wrong with having one's colleagues sit in his classroom to hear his lecture several times a semester.

In summary, I think it is necessary to obtain reliable measures of student judgment of the communication process and colleague judgment of content of material before one is able to evaluate the effectiveness of an instructor.

VICTOR H. DENENBERG

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Lafayette, Indiana 47907*

Hardy and Weinberg Principle

Bensinger's letter (11 Nov., p. 725) took issue with the implication that increasing medical care, by allowing carriers of undesirable traits to reproduce, will lead to an increase in the proportion of the population carrying those traits. His quotation of the Hardy and Weinberg principle neglected the provision that mutations must be absent or very infrequent for the principle to hold. In the past the number of carriers of diabetes remained more or less constant because they were strongly disfavored due to early mortality, thus offsetting the new mutations which appeared in each generation. Now that carriers may survive and reproduce, the number of carriers will increase because mutations continue to occur.

CURTIS M. WILSON

*Department of Agronomy,
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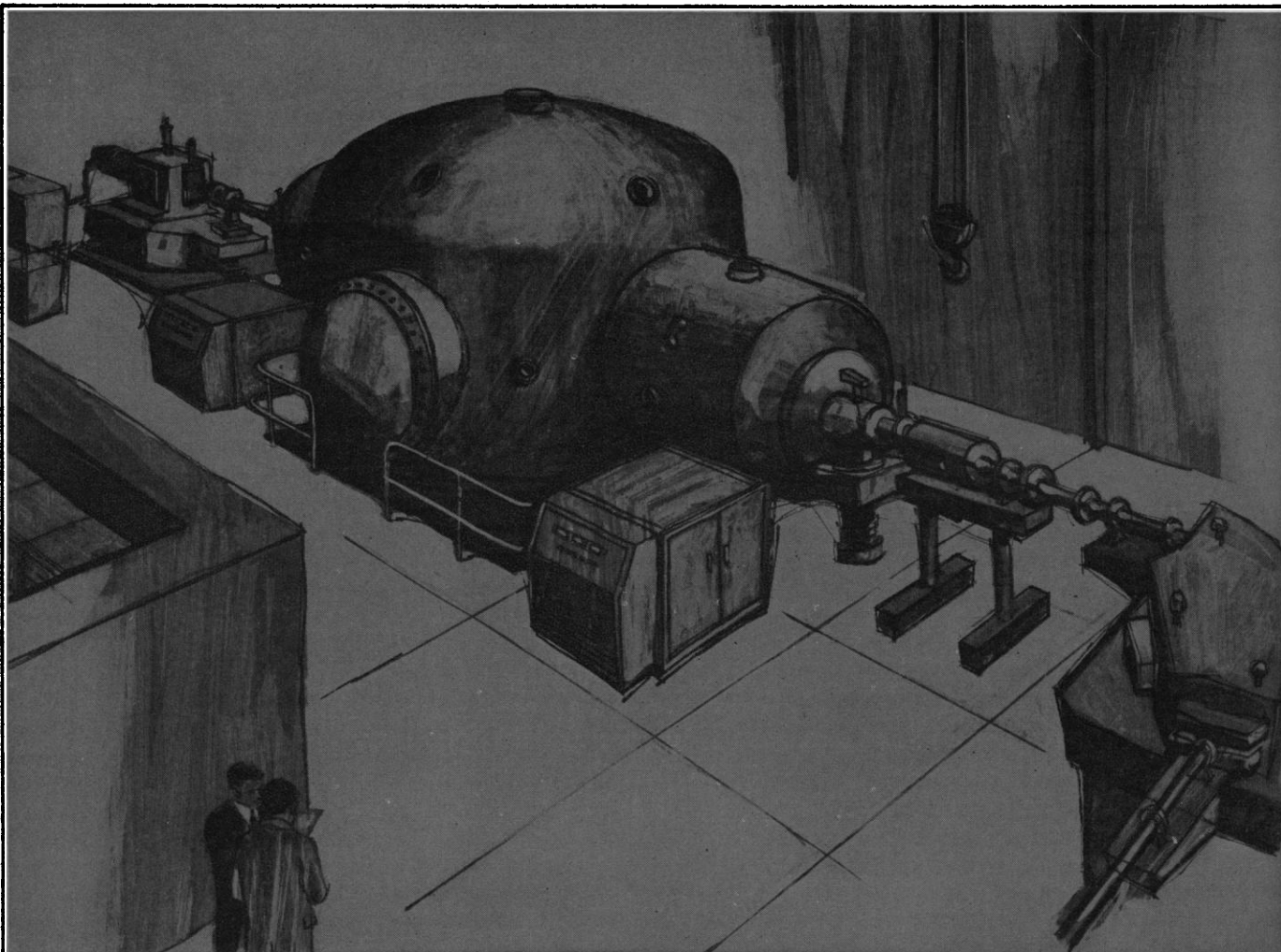
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Fifty-Year Members

The AAAS bylaws provide that "members who have paid dues for fifty years may be excused from further payments and still retain all the privileges of membership." The Association has other provisions for emeritus membership, but the Fifty-Year Members are a particularly hardy group. Many of them are still active in teaching or research, and their most usual reply to the announcement of their new status is an expression of surprise that 50 years have gone by. They are also a loyal group. Occasionally a new Fifty-Year Member prefers to continue to pay dues, and this year a check came from one who attained that status over a decade ago; she said she thought it time to start paying dues again.

Effective 1 January, the Board of Directors has promoted 73 members to fifty-year status, the largest class ever elected. Included were two former AAAS presidents, Roger Adams and Paul B. Sears; nine members of the National Academy of Sciences; and a number of others who have made important contributions to science.

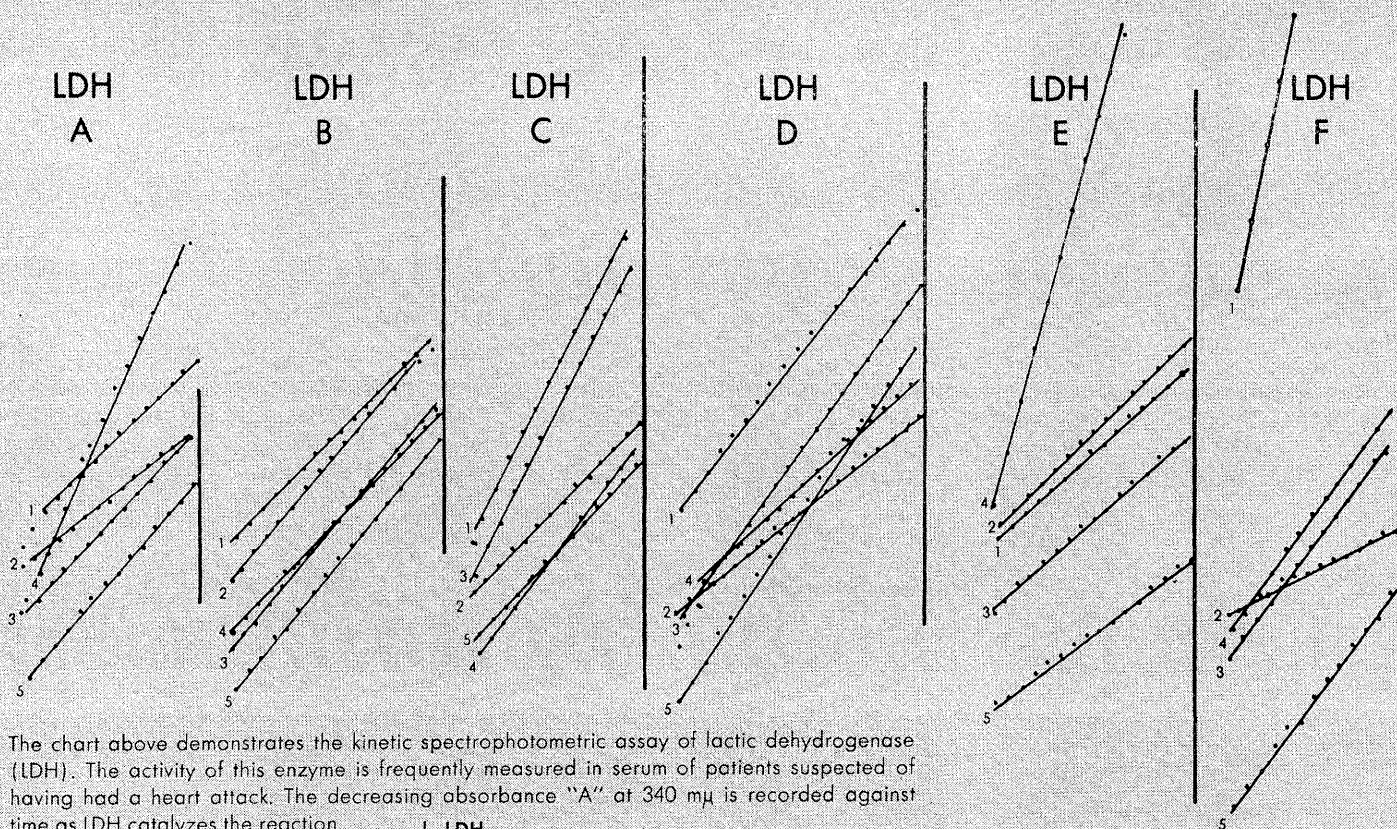
There is a special reason why this year's class is so large. When they joined, the annual dues were only \$3 a year, but there was also a \$5 entrance fee (there is none now). Under these arrangements, 251 new members came in at the beginning of 1917. But that year there was also a special inducement: the entrance fee was waived for anyone who joined AAAS within a year of first becoming a member of one of the societies affiliated with AAAS. Then, as now, fledgling scientists were encouraged by their elders to join both their specialty societies and the general scientific society of the country, and approximately 5000 new members of affiliated societies took advantage of the opportunity to save the entrance fee.

On the days following Christmas of 1917, a number of these new members were in New York for their first AAAS meeting. Some, including K. K. Darrow and Harry Steenbock, presented papers. All found it a big and varied program of scientific sessions, for meeting with the AAAS were some 40 affiliated and other societies, including the astronomical, physical, and mathematical societies, the American Association of University Professors, the American Psychological Association, the Automobile Club of America, the Federation of American Societies for Experimental Biology, Sigma Xi, the American Congress on Internal Medicine, and the School Garden Association of America. All in all, the secretary estimated, about 8000 persons attended the combined meetings, of whom 2100 were registered for the AAAS sessions. The combined meetings, the secretary boasted, constituted "the largest and most important gathering of scientific men hitherto held in this country or elsewhere."

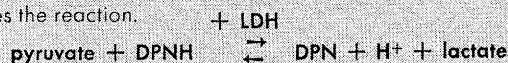
Anyone at that 1917 gathering who still attends AAAS meetings is aware of many changes, and also of substantial continuity. In 1917, one major symposium considered "the advisability of adopting the metric standard of weights and measures in the United States," and another dealt with "cancer and its control." The author of a paper on "biology and internationalism" failed to appear because he was in Europe. The press secretary reported that the paper that attracted the greatest amount of press attention was one on birth control.

To the 73 hardy and loyal members who came into AAAS in the year before that 1917 meeting, welcome to the Fifty-Year Club.

—DAEL WOLFE



The chart above demonstrates the kinetic spectrophotometric assay of lactic dehydrogenase (LDH). The activity of this enzyme is frequently measured in serum of patients suspected of having had a heart attack. The decreasing absorbance "A" at 340 mμ is recorded against time as LDH catalyzes the reaction.



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