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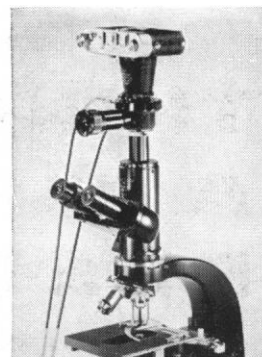
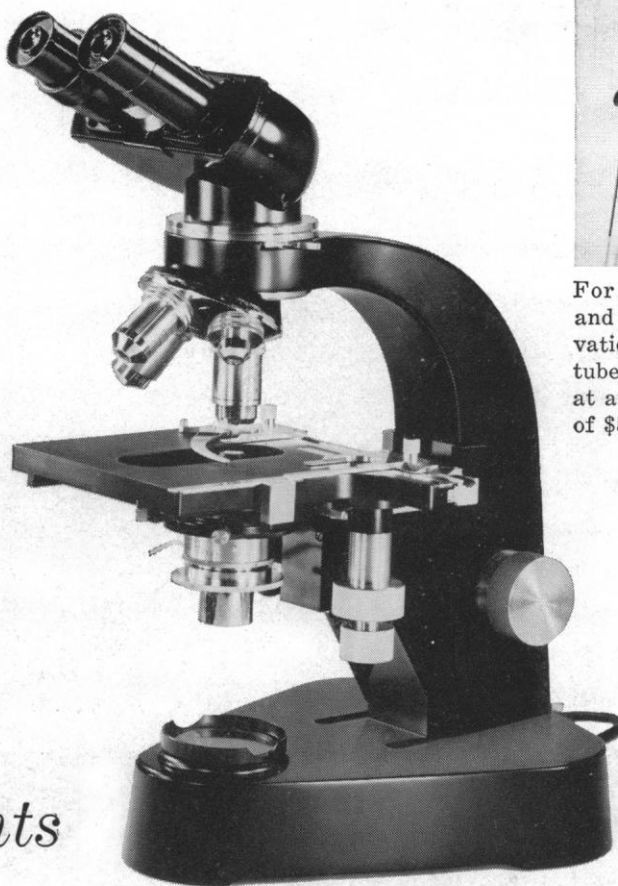
5 February 1960

Vol. 131, No. 3397

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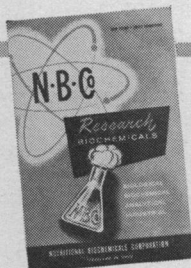
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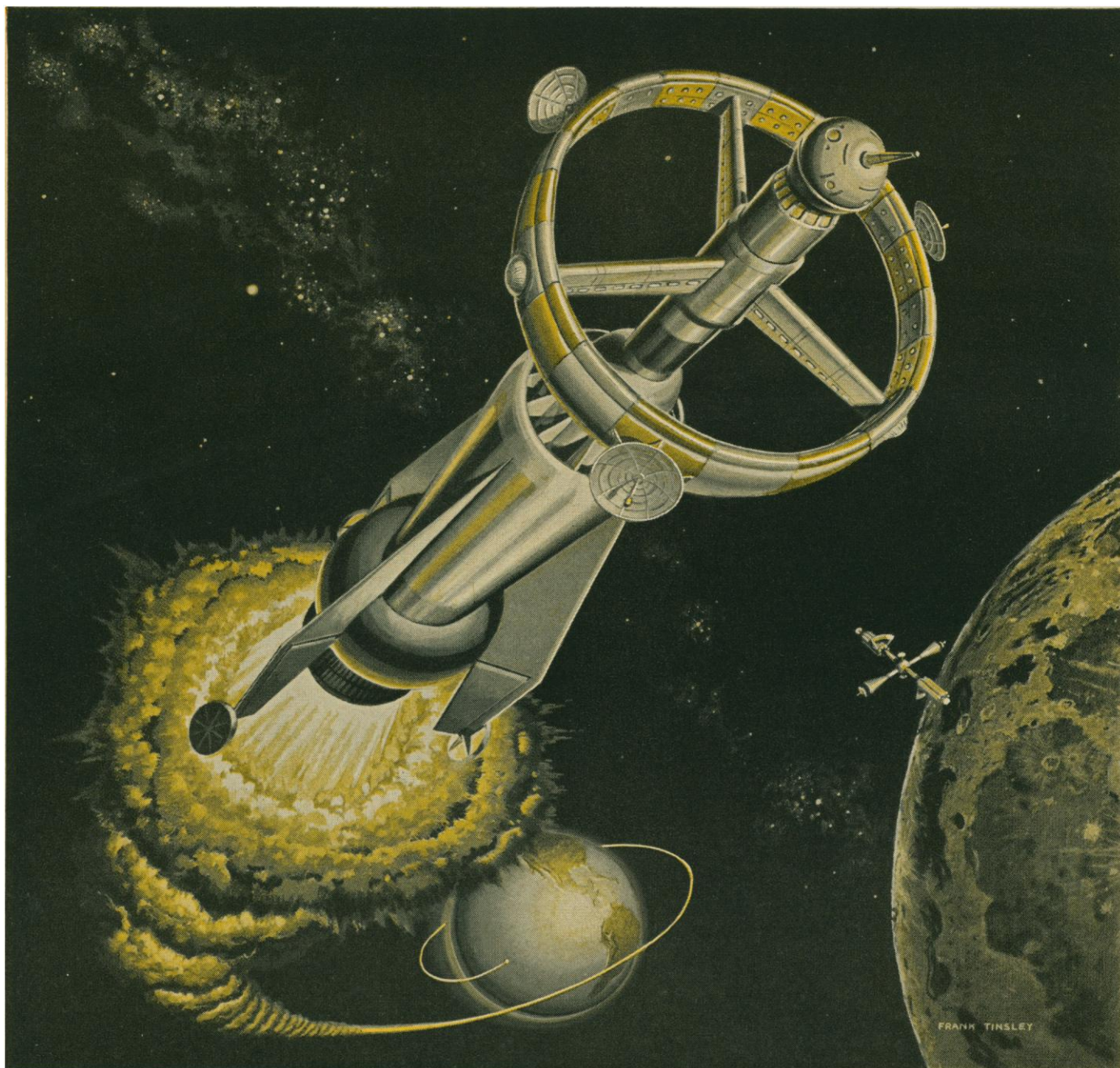
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|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>Editorial</b>           | Military, Space, and Other Research, 1961 .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 327 |
| <b>Articles</b>            | Radar Echoes from the Sun: <i>V. R. Eshleman, R. C. Barthle, P. B. Gallagher</i> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 329 |
|                            | Man's first direct contact with the sun opens new approaches for the study of solar events. ....                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |
|                            | Cosmic-Ray Produced Silicon-32 in Nature: <i>D. Lal, E. D. Goldberg, M. Koide</i> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 332 |
|                            | Silicon-32, discovered in marine sponges, shows promise as a means for dating oceanographic phenomena. ....                                                                                                                                                                                                                                                                                                                                                                                                                                |     |
|                            | Ross Granville Harrison, Experimental Embryologist: <i>J. S. Nicholas</i> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 337 |
| <b>Science in the News</b> | Peace Agency Bill Is Based on Democratic Science Group Statement: Mercury and United States Prestige Discussed .....                                                                                                                                                                                                                                                                                                                                                                                                                       | 340 |
| <b>Book Reviews</b>        | E. V. Rostow's <i>Planning for Freedom</i> , reviewed by <i>G. Colm</i> ; other reviews .....                                                                                                                                                                                                                                                                                                                                                                                                                                              | 346 |
| <b>Reports</b>             | Protein Spherulites: <i>J. E. Coleman, B. J. Allan, B. L. Vallee</i> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 350 |
|                            | Virulence Transformation of a Trichomonad Protozoan:<br><i>B. M. Honigberg and C. P. Read</i> .....                                                                                                                                                                                                                                                                                                                                                                                                                                        | 352 |
|                            | Proton Flux during the Great Aurora of 3-4 September 1959: <i>D. E. Osterbrock</i> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 353 |
|                            | Benzimidazole Enhancement of Ion Uptake by Plant Roots:<br><i>M. J. Klingensmith and A. G. Norman</i> .....                                                                                                                                                                                                                                                                                                                                                                                                                                | 354 |
|                            | Magnetic Damping of Rotation of the Vanguard I Satellite:<br><i>L. LaPaz; R. H. Wilson, Jr.</i> .....                                                                                                                                                                                                                                                                                                                                                                                                                                      | 355 |
|                            | Induction of Ovulation in Immature Hypophysectomized Rats: <i>J. T. Velardo</i> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 357 |
|                            | New Technique for the Collection and Isolation of Airborne Microorganisms:<br><i>D. C. O'Connell, N. J. B. Wiggin, G. F. Pike</i> .....                                                                                                                                                                                                                                                                                                                                                                                                    | 359 |
|                            | Incorporation of Tritiated-Thymidine into Nuclei of Shoot Apical Meristems:<br><i>E. M. Gifford, Jr.</i> .....                                                                                                                                                                                                                                                                                                                                                                                                                             | 360 |
| <b>Departments</b>         | Letters from <i>G. Susich</i> and <i>G. Razran</i> ; <i>C. F. Frenking</i> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 324 |
|                            | History of Science; Forthcoming Events; New Products .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 362 |
| <b>Cover</b>               | Kilauea Iki Volcano, Hawaii, 5 December 1959. The vent is about $\frac{3}{4}$ mile away from the camera. The lava lake, which is 1 mile long, is about 300 feet below. Violent fountain-<br>ing of lava is apparent as the liquid is hurled into the air, giving a reddish glow to the<br>surrounding area. Wave action on the lava lake is shown by the lines in the foreground<br>which represent glowing lava showing through breaks in the lava crust. The photograph<br>was taken at approximately 4:00 A.M. [Courtesy E. J. Britten] |     |

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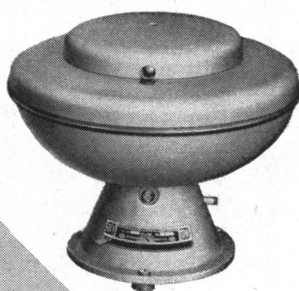
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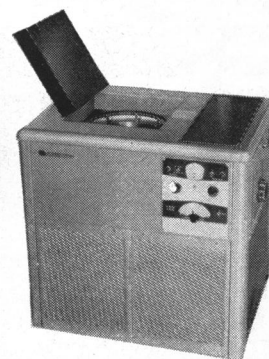
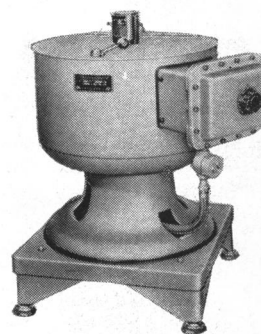
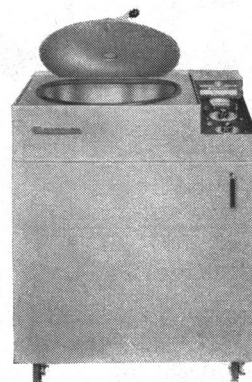
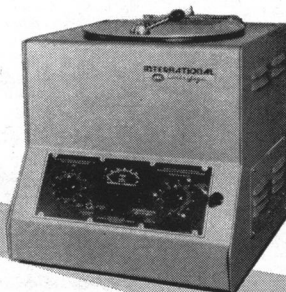
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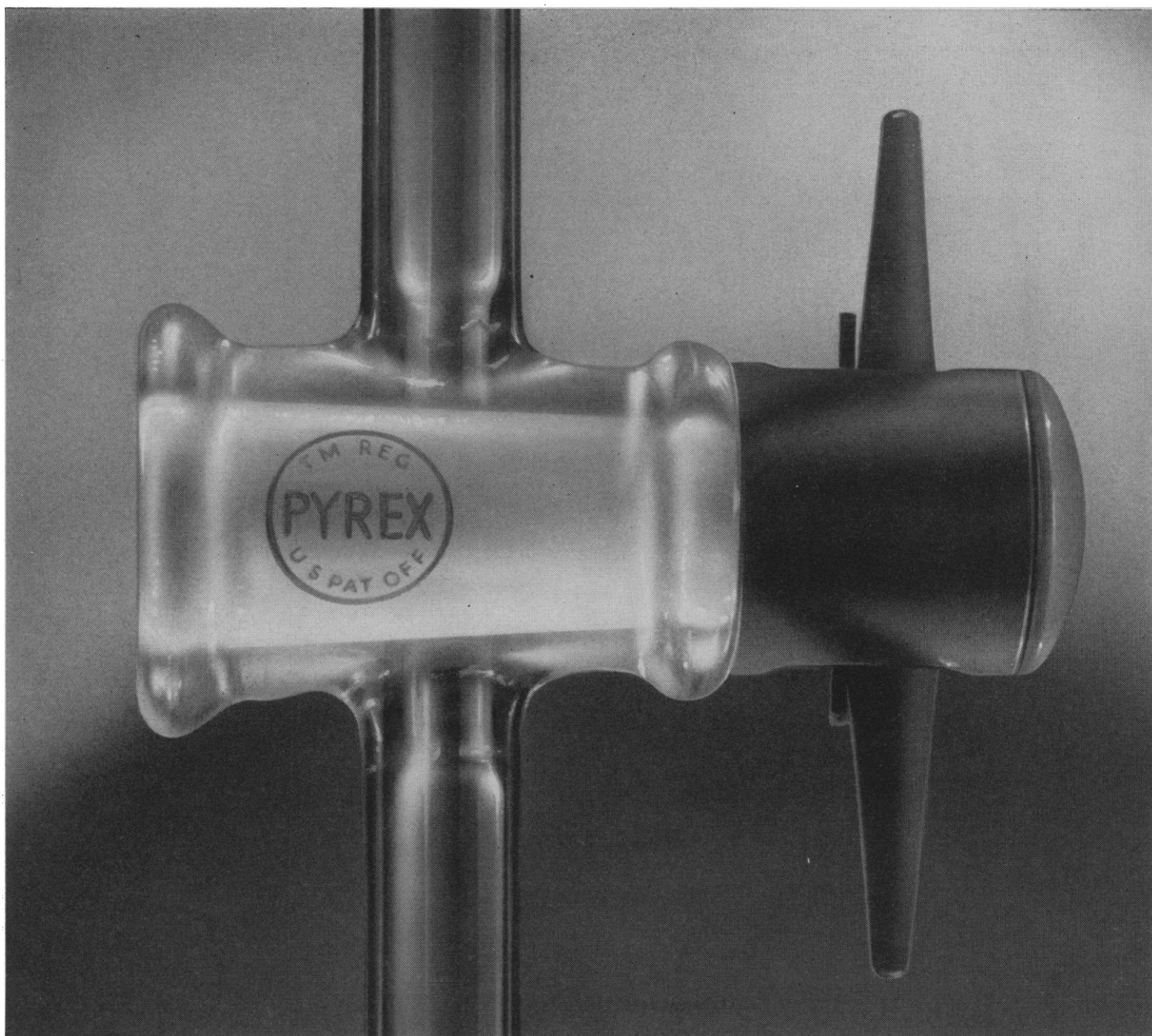
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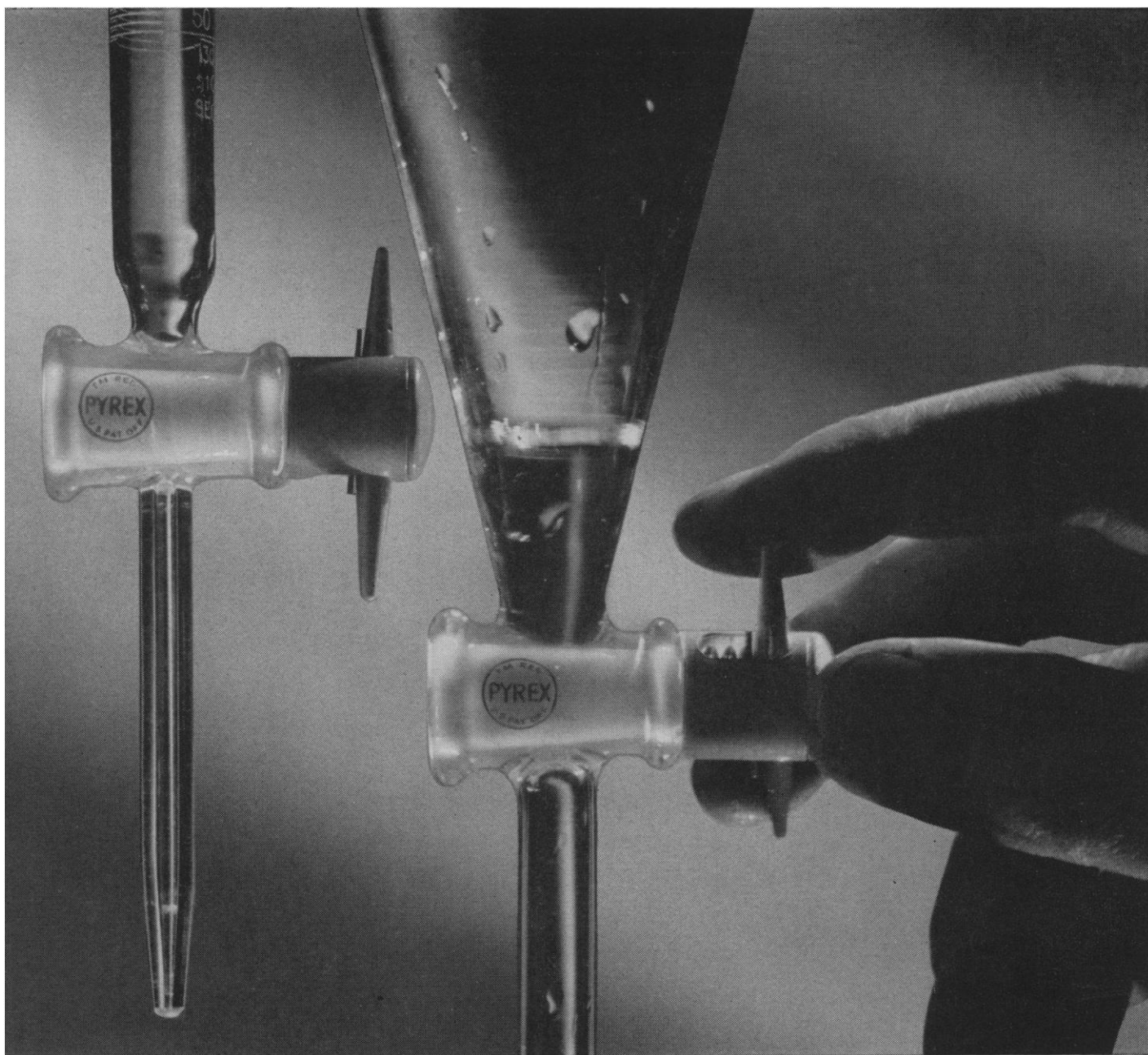
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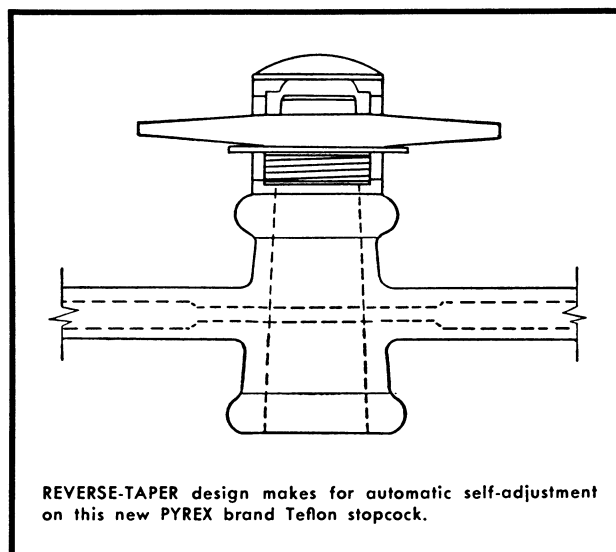
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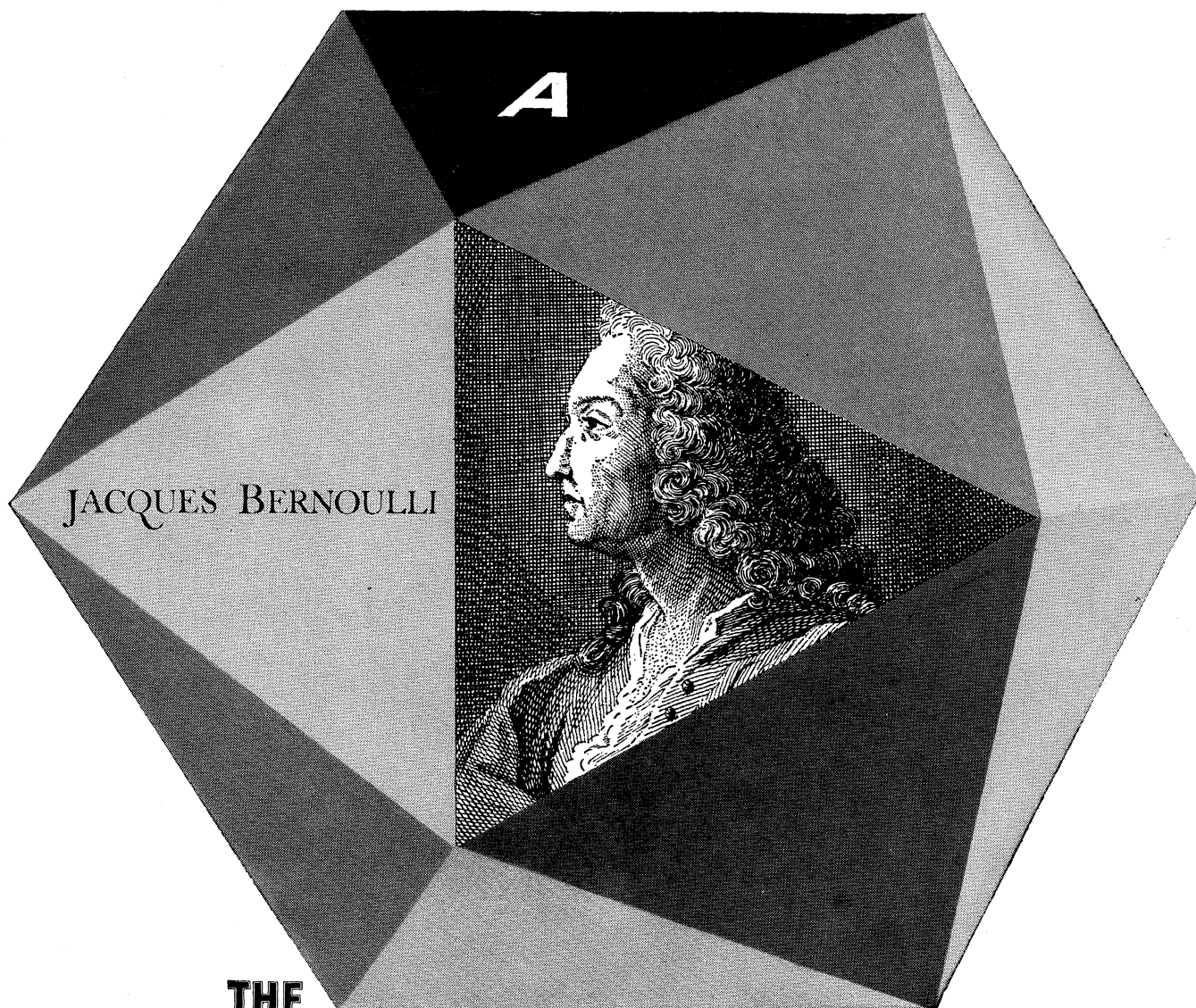
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## Military, Space, and Other Research, 1961

If Congress approves the President's budget—which it never does without some change—research and development funds of the federal government will total \$8.391 billion for the fiscal year 1961, a sum 6 percent above 1960 and 25 percent above 1959. Eighty-three percent of the total is intended primarily for national security needs, 70 percent for the Department of Defense and 13 percent for the Atomic Energy Commission. The other 17 percent is budgeted for nonmilitary purposes.

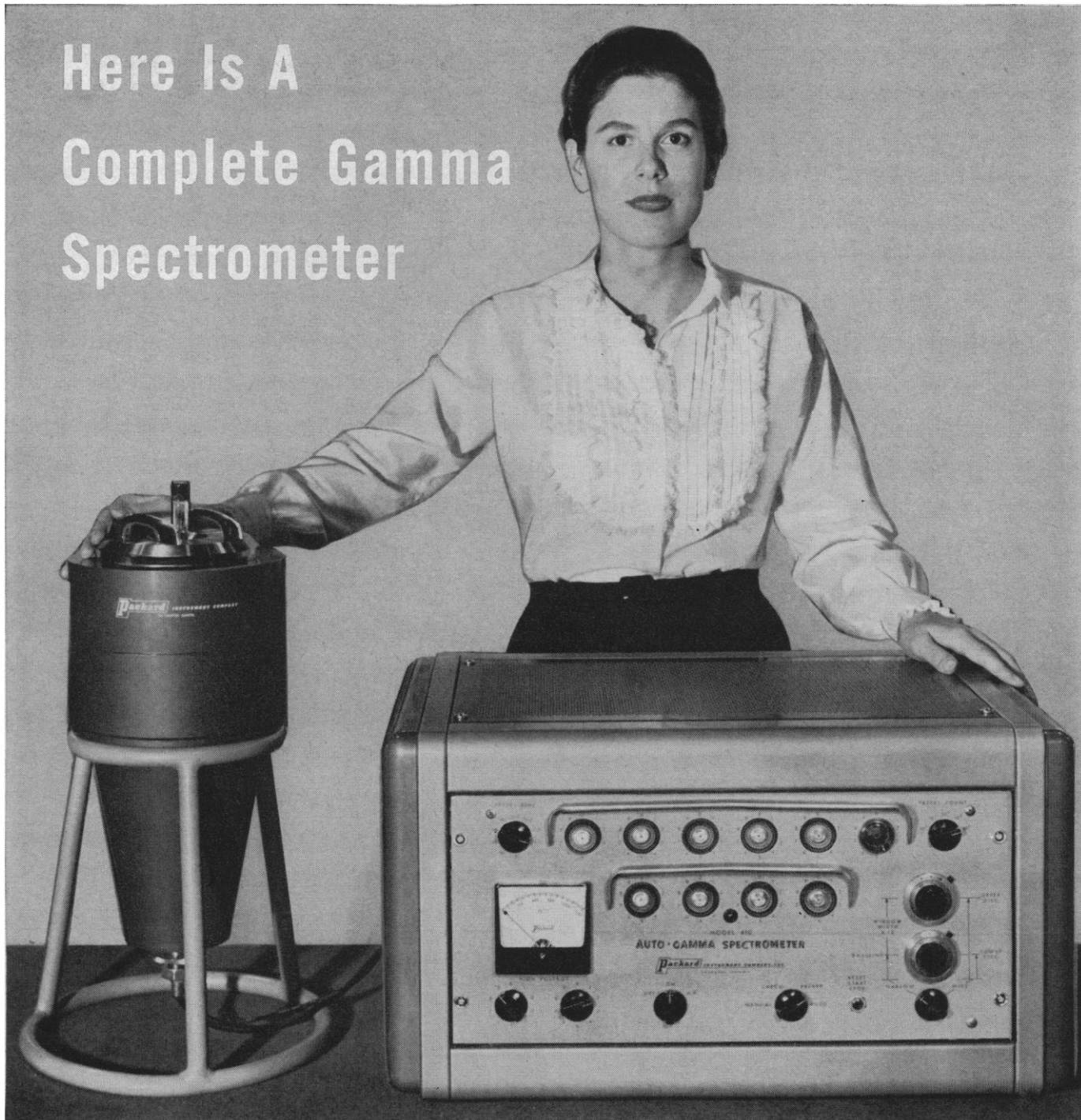
Individual agencies will fare quite differently in the over-all increase. In percentage terms, the Bureau of Reclamation will experience the largest jump, from \$269,000 to \$1,484,000. The Coast and Geodetic Survey and the Office of Saline Water will have approximately twice their 1960 amounts. Among the larger agencies, NASA will have the biggest increase, from \$325 to \$600 million. The President has asked Congress to increase Public Health Service research funds from \$305 to \$350 million, and National Science Foundation research funds from \$71 to \$101 million. (The latter two agencies will have other funds for fellowships and other aids to science education.) Other agencies will remain at about their 1960 levels or will have more modest increases. In size, they vary from the Department of Defense, which is slated to have a miniscule \$2 million reduction in a budget totaling close to \$6 billion, to the Bureau of Public Assistance, for which the President has requested a \$1000 increase over its 1960 research budget of \$122,000.

The budget includes \$600 million for basic research (\$100 million above 1960) and \$515 million for research and development facilities (\$55 million above 1960). The great bulk of the facilities funds will go to the Atomic Energy Commission, the Department of Defense, and the National Aeronautics and Space Administration, but three smaller amounts, for constructing or improving research facilities, are of particular interest: \$36 million for the Public Health Service, \$22 million for the National Science Foundation, and \$11 million for the National Bureau of Standards.

Also in the budget, but not in the research and development category, are funds for fellowships, training grants, and a variety of other aids to science teaching and science education: \$90 million for the National Institutes of Health, \$69 million for the National Science Foundation, and \$64 million for the U.S. Office of Education. This latter figure includes aid to other fields of education.

If there is a pattern in these figures, the clearest factor is the continuation of an upward trend. Not since 1948 has the amount been smaller than it was the year before. The 1961 total is over 100 times the 1940 figure. A second factor is the greater relative growth of the nondefense segment. In the national security area (Department of Defense and Atomic Energy Commission) the 1961 total is 2 percent above 1960 and 16 percent above 1959. For all the rest of the agencies, the 1961 total is 38 percent above 1960 and 94 percent above 1959. But much of this increase is for the rapidly growing National Aeronautics and Space Administration. Its budgets for 1959, 1960, and 1961 account for 19, 31, and 42 percent, respectively, of nondefense research and development figures. To a conservative, geo-centered observer it seems good that we are still devoting more than half of this total to research on earthly problems. But 1961 may be the last such year; the trend suggests that 1962 will see the fiscal center of gravity of our nondefense R & D expenditures somewhere out in space.—D.W.

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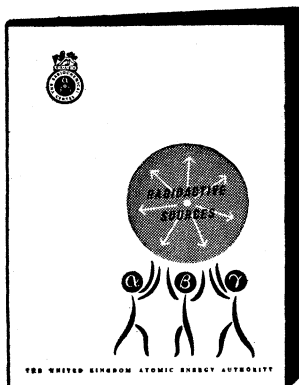


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## Meetings

### History of Science

The 9th International Congress of the History of Science convened in Barcelona, 1 September 1959, bringing together scholars from many nations—Arabia, Austria, Belgium, Canada, Czechoslovakia, Denmark, France, Germany, Great Britain, Holland, Israel, Italy, Japan, Poland, Russia, Spain, Sweden, Switzerland, Turkey, and the United States—both to share their ideas and to establish those personal contacts which are so important in bringing about an exchange of information. The opening meeting was held in an impressive assembly room in the city hall and was followed by a visit to the Disputación Provincial, directly across the square.

The president and secretary of the congress were, respectively, José Millás-Vallicrosa and Juan Vernet of the University of Barcelona. The university was the seat of the congress, and the academic papers were presented in its lecture rooms. The papers were divided into long ones, which had been requested, and short ones which had been offered. There were six of the former and innumerable of the latter. Printed copies of the longer papers and printed résumés of the shorter ones were distributed to the members as they completed their registration.

The first of the long papers was read on the afternoon of the opening day by Millás-Vallicrosa, who discussed the relations between oriental and occidental science. Three more of the long papers were presented on the succeeding three mornings. They dealt with the development of science in medieval Europe, especially in the 14th and 15th centuries; the relationship between American and European science; and the development of classical medicine and biology from medieval to modern times. The congress moved to Madrid on 5 September, and the remaining two invited papers were delivered there. The subject of one was cartography. The other was concerned with recent studies on the history of mathematics and physics in Europe from the 16th century to the 18th century. Although these papers bore little relation to each other, they all pointed either to the interrelation of the different sciences in their historical development or to the interaction between the science of one nation or one culture and that of another. In one way or another, each talk stressed the continuity of scientific development.

The 10-minute papers covered a very wide field and were grouped into sessions dealing with the history of technology and applied science; the history of chemistry and pharmacy; the

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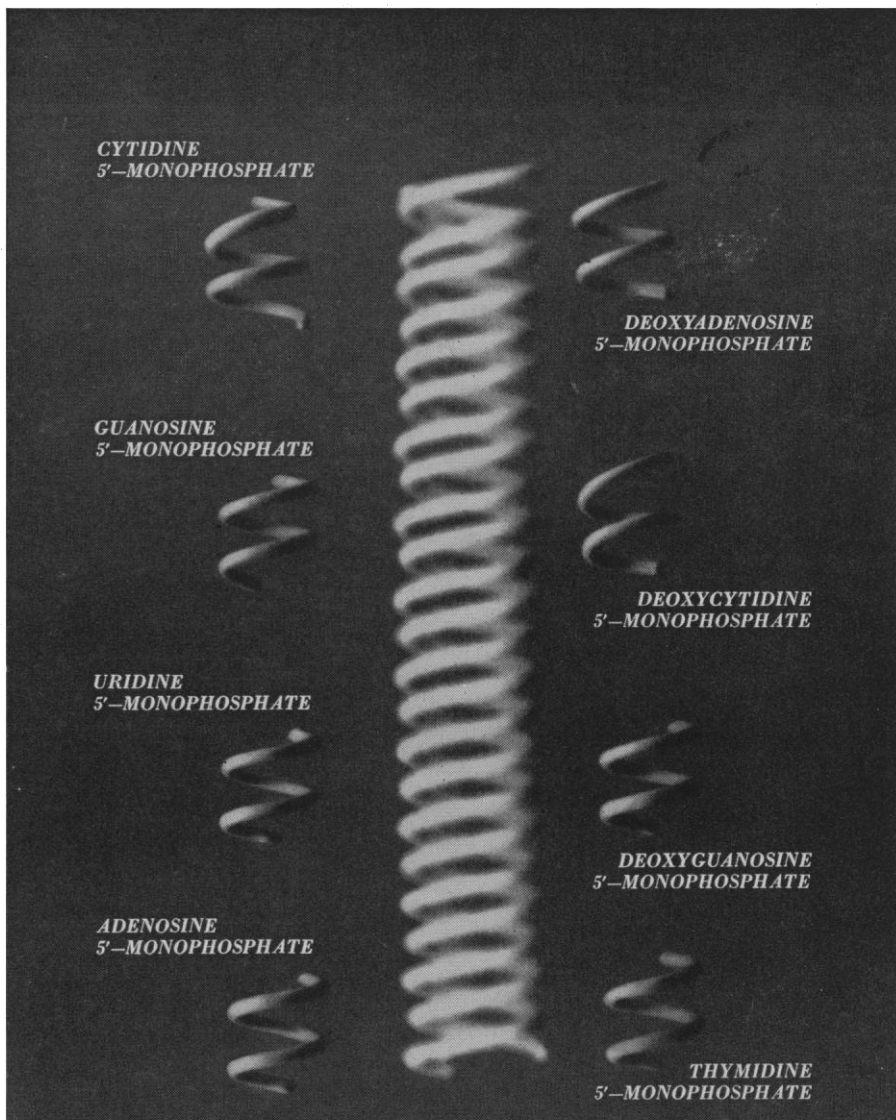
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history of mathematics, physics, and astronomy; and the history of geography and geology. There was, in addition, a catch-all session for papers not clearly within the subject area of one of the other divisions. The very large number of these shorter papers bears witness to the world-wide growth of interest in the history of science and to the increase in the number of individuals trained as specialists in this field. However, having so many papers scheduled for these sessions made it necessary to divide some of the groups at the last minute. Thus, for example, it was impossible for the physicists to hear the papers of their colleagues in astronomy, and vice versa. This was unfortunate because, as those at the congress so well knew, the history of science is not a history of the development of the separate sciences but must be based on the concurrent development of these sciences and their contributions to each other.

A number of papers corrected or amplified previous assumptions by historians and bore witness to the high caliber of the scholarship represented and to the fact that the history of science is being rewritten in the light of recent research. The discussions which followed the talks were lively and significant.

The genial, hospitable Spanish hosts provided numerous opportunities for sight-seeing and social gatherings. In Barcelona there was a visit to the naval museum, a reception at the *Spanish Village*, a visit to the Academy of Medicine and Surgery and to the Biblioteca Central across the courtyard, and an excursion from Barcelona to Masnou and the museum of pharmacology at the Laboratorios del Norte de España. In Madrid, there were opportunities to see the naval museum, and the Prada, which many of the participants in the Congress revisited several times.

The final meeting was held 7 September at the Escorial near Madrid. A magnificent luncheon was served at a hotel on the hill overlooking the monastery. There the George Sarton medal was awarded by Henry Guerlac, president of the History of Science Society, to Alexandre Koyré, eminent scholar of 16th- and 17th-century physics and astronomy, who divides his time between the Sorbonne and the Institute for Advanced Study at Princeton. At this luncheon it was announced that the next International Congress of the History of Science will be held in the United States, at Cornell University, in 1962. The invitation had been issued and accepted at a meeting in Barcelona of the general assembly of the Division of the History of Science of the International Union of the History and Philosophy of Science. The congresses are a responsibility of the division, although the actual task of organizing and run-



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2. Jacoby, W. B. and Scott, E. M., *Journal of Biological Chemistry*, 234, No. 4, 937 (1959)

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ning them is left to the host nations. The division has also set up international committees to study the teaching of the history of science, to catalog scientific instruments of historical importance, and to examine or maintain bibliographical and documentary services. The United States adheres to the Union through the National Academy of Sciences-National Research Council, under whose auspices the United States National Committee for the International Union of the History and Philosophy of Science has been established. The other division of the Union is that of the Philosophy of Science.

During the course of the congress there were two meetings of that especially distinguished body known as the Académie Internationale d'Histoire des Sciences. At the second meeting Henry Guerlac was elected president, to succeed Vasco Ronchi of Italy.

The United States delegates to the congress were Henry Guerlac (chairman), Marshall Clagett, I. Bernard Cohen, C. Doris Hellman, Harry Woolf (alternate), and Duane Roller (alternate).

C. DORIS HELLMAN

*U.S. National Committee for the International Union of the History and Philosophy of Science, National Academy of Sciences-National Research Council, Washington, D.C.*

## Forthcoming Events

### March

- 2-4. Low and Medium Energy Nuclear Physics, colloquium, Grenoble, France. (F. Netter, C.E.N., Saclay, BP. No. 2, Gif-sur-Yvette, Seine et Oise, France.)
- 3-5. American Acad. of Forensic Sciences, Chicago, Ill. (W. J. R. Camp, AAFS, 1853 W. Polk St., Chicago 12.)
- 3-5. Association of Clinical Scientists, Albany, N.Y. (R. P. MacFate, 323 Northwood Rd., Riverside, Ill.)
- 4-6. National Wildlife Federation, Dallas, Tex. (C. H. Callison, 232 Carroll St., NW, Washington 12.)
- 6-13. American Otorhinologic Soc. for Plastic Surgery, Miami Beach, Fla. (J. G. Gilbert, 75 Barberry Lane, Roslyn Heights, N.Y.)
- 7-9. Wildlife Management Inst., Dallas, Tex. (C. R. Gutermuth, 709 Wire Bldg., Washington 5.)
- 7-11. American Soc. of Civil Engineers, New Orleans, La. (E. S. Kirkpatrick, ASCE, 33 W. 39 St., New York 18.)
10. Recent Developments in Poultry Nutrition (Assoc. of Vitamin Chemists), Chicago, Ill. (J. T. Sime, Director of Research, Evaporated Milk Assoc., 228 N. La Salle St., Chicago 1.)
- 10-11. Institute of the Aeronautical Sciences-Flight Propulsion, Cleveland, Ohio. (S. P. Johnston, 2 E. 64 St., New York 21.)
- 13-14. American Otological Soc., Miami Beach, Fla. (L. R. Boies, University Hospital, Minneapolis 14.)

14-16. American Railway Engineering Assoc., annual conv., Chicago, Ill. (N. D. Howard, AREA, 59 E. Van Buren St., Chicago 5.)

14-17. Positive Health of Older People, forum, Miami Beach, Fla. (A. Mallach, National Health Council, 1790 Broadway, New York 19.)

14-18. National Assoc. of Corrosion Engineers, 16th annual, Dallas, Tex. (W. A. Mapler, NACE, 18263 W. McNichols Rd., Detroit 19, Mich.)

15-16. American Broncho-Esophagological Assoc., Miami Beach, Fla. (F. J. Putney, 1712 Locust St., Philadelphia 3.)

15-21. Nondestructive Testing, 3rd intern. conf., Tokyo and Osaka, Japan. (S. Ishizaka, Scientific Attaché, Embassy of Japan, 2514 Massachusetts Ave., NW, Washington 8.)

16-18. Genetics Soc. of Canada, 5th annual, Vancouver, B.C. (Miss K. Cole, Dept. of Biology and Botany, Univ. of British Columbia, Vancouver 8.)

17. Congress for Pharmacists, 2nd annual, Jamaica, N.Y. (Congress for Pharmacists, Public Relations Office, St. John's Univ., Jamaica 32.)

17-19. American Radium Soc., conf., San Juan, Puerto Rico. (ARS, 635 East Union, Pasadena, Calif.)

17-19. Blood Platelets, intern. symp. (by invitation only), Detroit, Mich. (Miss S. A. Johnson, Henry Ford Hospital, Detroit 2.)

17-20. International Assoc. for Dental Research, Chicago, Ill. (D. Y. Burrill, Northwestern Univ. Dental School, 311 E. Chicago Ave., Chicago 11.)

18-19. American Laryngological Assoc., Miami Beach, Fla. (L. Richards, Massachusetts Inst. of Technology, Cambridge.)

20-23. American Assoc. of Dental Schools, Chicago, Ill. (R. Sullen, 840 N. Lake Shore Drive, Chicago 11.)

20-26. American Cong. on Surveying and Mapping, Washington, D.C. (C. E. Palmer, American Soc. of Photogrammetry, 1515 Massachusetts Ave., NW, Washington 5.)

20-26. American Soc. of Photogrammetry, Washington, D.C. (C. E. Palmer, ASP, 1515 Massachusetts Ave., NW, Washington 5.)

21-24. American Acad. of General Practice, 12th annual, Philadelphia, Pa. (AAGP, Volker Blvd. at Brookside, Kansas City 12, Mo.)

21-24. Institute of Radio Engineers, natl. conv., New York, N.Y. (L. G. Cumming, IRE, 1 E. 79 St., New York 21.)

22-24. High-Polymer Physics, 20th, Detroit, Mich. (T. L. Smith, American Physical Soc., Stanford Research Inst., Menlo Park, Calif.)

23-25. National Council on Alcoholism, annual, New York, N.Y. (M. Ross, American Psychiatric Assoc., 1700 18 St., NW, Washington 9.)

23-25. Optical Spectrometric Measurements of High Temperatures, symp., Chicago, Ill. (F. Brech, Laboratories for Applied Science, Univ. of Chicago, 6220 S. Drexel Ave., Chicago 37.)

24-25. Human Factors in Electronics, 1st annual symp. (IRE), New York, N.Y. (J. E. Karlin, Bell Telephone Laboratories, Murray Hill, N.J.)

24-26. American Assoc. for the History



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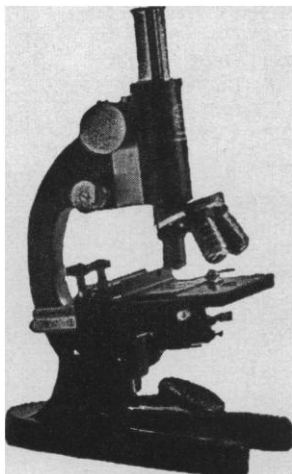
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