
AIP Today— and Tomorrow

H. William Koch



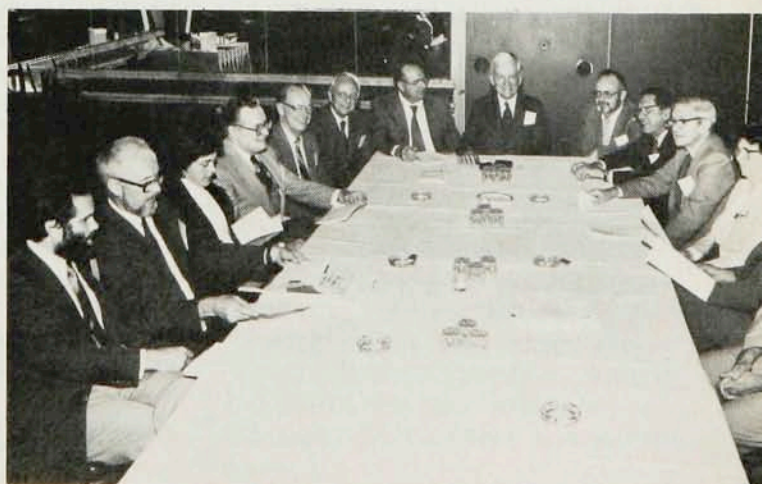
H. William Koch is director of AIP.

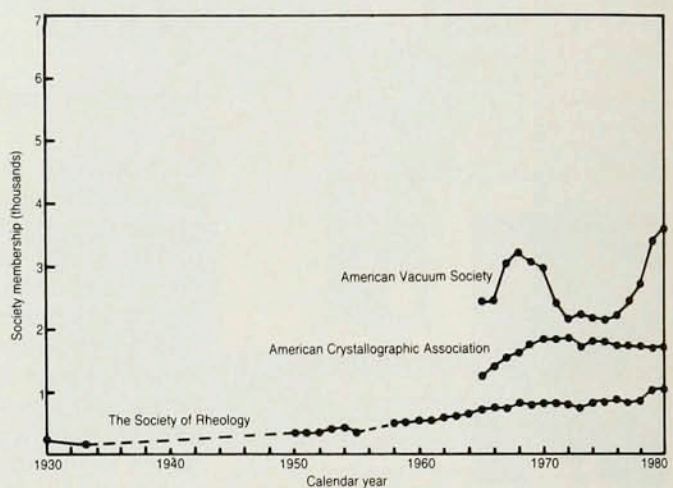
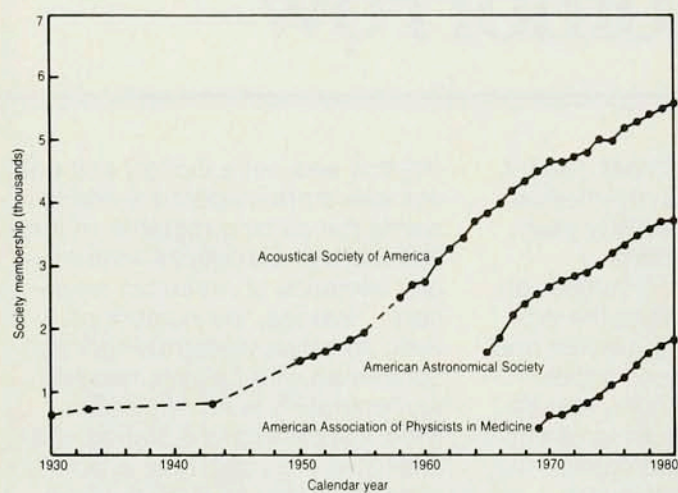
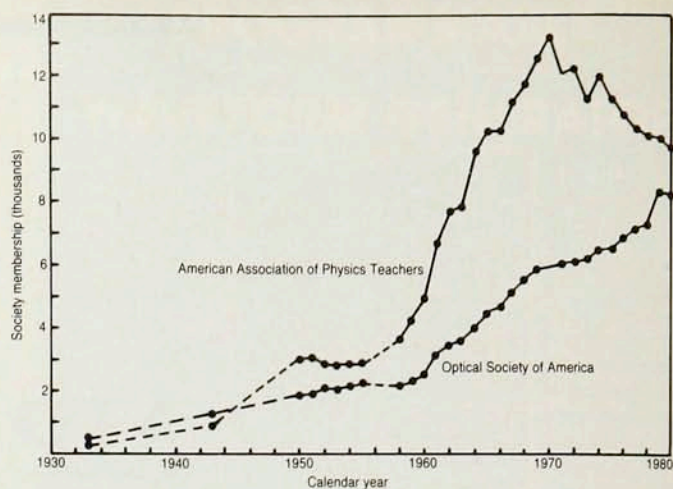
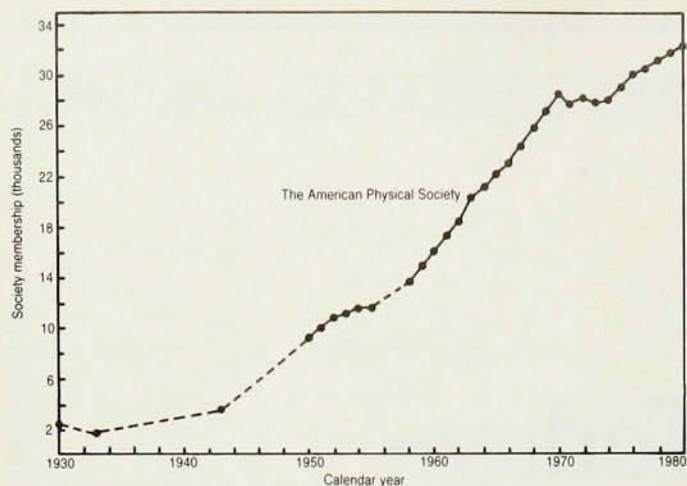
Certainly one of the most evident and exciting aspects of American physics during the last fifty years has been its phenomenal growth—growth in the number of individuals committed to the profession, growth in the amount and variety of their research experiences, and growth in the stature of physics as a profession of eminence both within and outside the wider community of science. Hand in hand with this vital development of the profession has been the equally prominent evolution of the organization that serves it—the organization that is dedicated to its support and is sensitive to its proclivities—the American Institute of Physics.

In 1931 when the Institute was founded, the professional family of

physics was not a closely knit one, nor was there evident a trend towards the coming together of the members of that family—the several societies of American physicists. Instead, the number of such societies was growing, each concerned with its own interests and operating in its own realm, while the traditional isolation of the individual physicist in an academic setting did little to increase communication and a sense of familial unity among the disparate groups. It was in response to this situation as well as in anticipation of the common interests and objectives of these groups that could be attained more readily in union than in separation, that the Institute was created. The Founder Societies, joined in close union,

AIP Management Committee (below extreme left to right): Gerald F. Gilbert, treasurer; John C. Johnson, secretary; H. William Koch, director; Robert H. Marks, associate director, publishing; Lewis Slack, associate director, educational services. **AIP Executive Committee** (from left in photo at right): P.B. Boyce, L. Slack, N. Davis, R.H. Marks, G.F. Gilbert, H.W. Koch, N.F. Ramsey, W.H. Kelly, J.A. Burton, R.T. Beyer, J.P. Glusker, A.J. DeMaria, C.B.

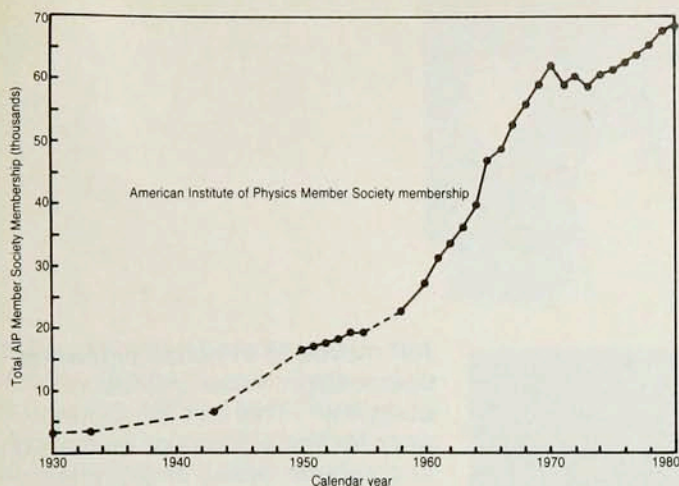




PHYSICS TODAY editorial staff

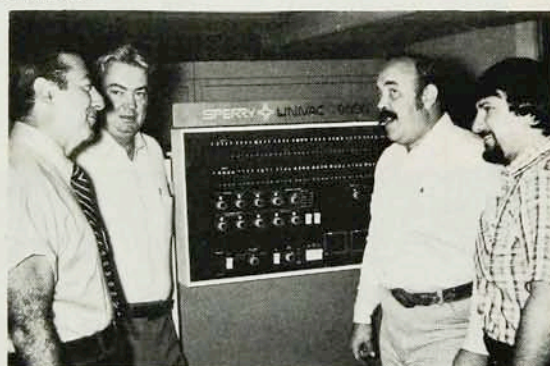


Education division
administers Society of Physics
Students and prepares
directories of degree programs
and physics faculties.



50-year growth in physics is documented by membership growth curves of AIP Member Societies (facing page) and grand total of AIP society memberships (left); AIP Associate Director, Robert Marks (above), compares total journal pages published by AIP in 1931 with the total published in 1981.

Data Processing division (below) handles computer operations for, among others, accounting and publication fulfillment.



were The American Physical Society, the Optical Society of America, the Acoustical Society of America, the Society of Rheology, and the American Association of Physics Teachers.

In light of the relatively cloistered nature of the physics community at the time, it is particularly revealing to note the insight and foresight of the men who drew up the constitution for the new organization, which would thereafter represent that community. In addition to provisions for publishing scientific journals—which had always been the primary concern of the individual societies and which, during the early years of the Institute, became its prime concern as well—the constitution also included statements of purpose that presaged the role physicists eventually did come to accept, a role that today involves them immediately with the public at large, with the government, with the world of international affairs. The underlying resolve of the Institute is, and has always been, “the advancement and diffusion of knowledge of the science of physics and its applications to human welfare.”

Growth of AIP

It is in the fulfillment of this purpose that AIP's growth is measured. In addition to the Founder Societies, four additional societies became Member Societies of the Institute: the American Astronomical Society (1959), the American Crystallographic Association (1959), the American Association of Physicists in Medicine (1973), and the American Vacuum Society (1976). (See the figures on page 236 showing the growth of the member societies.) In addition, the Institute counts among its members 15 Affiliated Societies. The physicists represented by the Institute number more than 57 000 (the figure on page 237 shows the growth in this number over AIP's lifetime); approximately 6000 students in over 475 colleges and universities are members of the Institute's Society of Physics Students, which includes the honor society component Sigma Pi Sigma; and industry is represented through some 115 Corporate Associate members.

AIP's publishing activities pro-

vide striking testimony to the Institute's growth. In the five decades of operation since 1931, the list of publications handled by the Institute has grown from 8, with a total of 5765 pages and a circulation of approximately 4700, to 44 publications at the close of 1980, with about 100 000 pages, and with a circulation of over 275 000. The photograph on page 237 gives a dramatic picture of the growth. Included are not only the AIP and Member Society archival journals and *PHYSICS TODAY*, but also the Institute's translation journals. What started in 1955 with the translation of four Russian physics journals, aided by support from the National Science Foundation, stands today at 17 translations of the principal physics and astronomy periodicals of the USSR Academy of Science, as well as a new Chinese translation journal, *Chinese Physics*, commencing in this anniversary year.

The explosion in the quantity of published technical literature impelled the Institute toward new methods of composition. After 40 years of operation wholly out-of-house with monotype and linotype,



Marketing (above) promotes sales of AIP and Member Society journals and books. **Composition** (right) composes pages by typewriter and by ATEX computer photocomposition.



Publication II (above) handles editorial work and composition for *The Physical Review*.

Placement (left) matches applicants with prospective employers.

Building Facilities (below) handles operation of both Manhattan headquarters and suburban site at Woodbury.



AIP moved to in-house typewriter composition, in the interest of economy. This laid the groundwork for the next major conversion to computer-based photocomposition, begun in 1979.

The rapid growth in physics literature led AIP to address the problems of dissemination, abstracting, and storage and retrieval. Studies begun in the 1960s gained momentum as secondary services appeared in the 1970s. The *Physics and Astronomy Classification Scheme*, designed for use in indexing articles for journals published by AIP, was adopted by the member services of the Abstracting Board of the International Council of Scientific Unions so that a common classification scheme could serve the widest possible spectrum of publications and services. Computerized heads of articles and abstracts were utilized at AIP to produce:

- ▶ a monthly series of magnetic tapes of current computer input, called *Searchable Physics Information Notices* (SPIN)
- ▶ a current awareness journal, *Current Physics Index* (CPI)
- ▶ indexes to selected AIP primary journals.

In addition to publishing, other programs took hold at AIP as the physics community grew. In 1957 and thereafter, information services on physics and astronomy were provided to the news media, extensive education and manpower activities were undertaken, the Center for History of Physics was established, and the Institute's Student Sections became the Society of Physics Students. AIP staff grew, space needs had to be met, and annual budgets rose accordingly.

AIP today

AIP in 1981 stands as the service arm of the leading physics and astronomy societies of the US, and through those societies it serves the physics community at large. Beyond this, AIP serves



Accounting (left) issues 900 varied financial statements annually.

Manpower Statistics (below) collects and analyzes data on physicists in training and in the job market.

the public with its education and information programs, and it provides a liaison with local, national, and international organizations devoted to physics and related sciences.

The Institute has a staff of 420 at two locations. Of these, 120 work in the 40 000-square-foot headquarters building on East 45th Street in New York City, one-half block from the United Nations; the remaining 300 work 35 miles from New York City on Long Island in a modern 57 000-square-foot building situated on 11½ acres of land in Woodbury, New York. Both buildings are owned by the Institute.

The New York City building houses the Society offices (APS, AVS, AAPM, ASA, ACA) and those AIP programs that can benefit from an urban location: the Public Information Division, *PHYSICS TODAY*, the Center for History of Physics, including the Niels Bohr Library, the Placement Center, some Executive Offices, and so forth. The Woodbury building houses almost all of the publishing operations as well as subscription fulfillment, data processing, purchasing, duplicating, and the offices of the Society of Physics Students. Views in and around both the New York City building and the Woodbury complex are shown in the accompanying photographs.



Physics History (above) strives to document and develop a wider interest in the historical development of physics.

Personnel (left) administers personnel services for approximately 420 employees.

Public Information (below) arranges for press conferences, writes press releases and produces radio and TV briefs.

AIP tomorrow

The future of the Institute will be strongly influenced by the success of the past and by the respective roles of AIP and its Member Societies. We anticipate that in the future, as in the past, the Societies will emphasize their scientific roles, with their memberships providing much volunteer help in carrying on those activities. AIP will continue as their service arm, providing a large publishing, business, and administrative facility. Long-range planning is now an integral part of AIP's activities and pro-



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American Institute of Physics

50th Anniversary

Physics Vade Mecum

AIP celebrates 50 years of service with the publication of the Physics Vade Mecum—a special formulary covering twenty-two major fields. Beginning with the General Section which includes fundamental constants, SI Units, and prefixes, conversion factors, lists of mathematics and physics formulae, and tables of properties of materials, AIP's fiftieth anniversary publication is a storehouse of pertinent information.

Three hundred-forty pages, containing numerical data, definitions and many references, furnish the detail that makes this publication useful for both the practicing professional and the student.

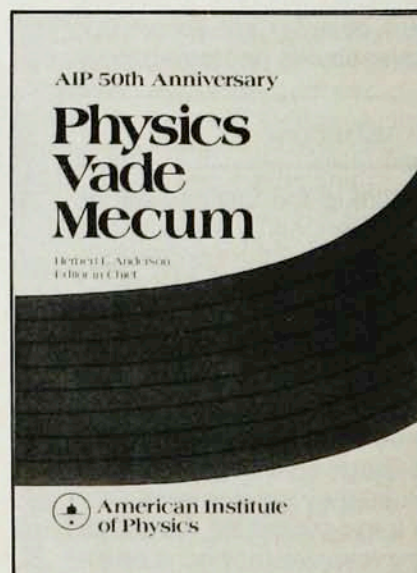
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Commemorating Fifty Years
of Service to Physics



vides the background for the trends and directions foreseen for AIP. Here are some predictions.

Publishing will remain AIP's principal activity, but new technology is providing alternate and auxiliary means of disseminating information. For the foreseeable future, the printed journal will continue as the preferred format for communication. But single article reprints are already being widely distributed by many copying services—at AIP it is done through its Current Physics Reprint Service. Beyond this, the electronic journal—with its central storage of information and electronic, on-demand transmission of articles—is clearly on the horizon. AIP will keep abreast of latest technologies and will stand ready to merge into the network of information as it becomes more and more economical. In the meantime, AIP is at the forefront of computer-based publishing.

The 1980s will undoubtedly see AIP working to keep science healthy by emphasizing its public information functions as well as its liaison functions with outside organizations. Implanting a clear picture of the role of physics and physicists in the minds of the public is ever more pressing if physics is to continue to flourish in an inflationary time. The contribution of physics to the betterment of life needs to be stressed, and the Institute plans to do this by using radio and TV more widely while continuing its services to the other media. And the newly-formed Committee for Public Policy will provide government officials and members of Congress with information related to public policy issues.

As far as systems are concerned, AIP operations will become more efficient and economical as computerization of accounting services is completed—with links to Society offices—and as subscription handling goes through yet another update of its computer system to meet ever expanding needs. □



Advertising (left) markets ad pages for all AIP and Member Society journals.

Fulfillment (below) sends out dues bills for the Member Societies and handles subscriptions for 60 journals.



Publications Data Processing (left) handles computer needs for publishing.

Publication I (below) does editorial work and production for all AIP and Member Society journals except those of APS.

