The Institute in 1965—

a Report on the Annual Report

During 1965 the American Institute of Physics acquired a new director in Van Zandt Williams, created a new division in the Center for History and Philosophy of Physics, added two new member societies and expanded its activities in several areas: new programs were launched, publishing operations were increased and more services were provided for member societies. Income and expenses both grew considerably. The year's activities emphasized the need for major planning in 1966.

"As SCIENCE AND TECHNOLOGY become an increasingly important economic and political force . . . it behooves each scientific discipline to participate in and assume increasing responsibility for its members' contribution to that force. The 'management' of a scientific community must expand its activities beyond the traditional ones of publishing, holding meetings and awarding prizes." With these words, in the introduction to the 1965 Annual Report, Van Zandt Williams enunciates the widening responsibilities of the American Institute of Physics.

"This requirement of progress has already been recognized in the expansion of the institute's programs," says Williams, AIP's director since 1 April 1965. A major part of that expansion in 1965 was the creation of a new division, the Center for History and Philosophy of Physics. Other evidence of the institute's expanding activities was the continued growth of its publishing operations. The number of published pages increased 11% from 1964, and the number of pages translated from foreign journals jumped 13%. The institute's income was greater by about 15%, and total expenditures were up 16%.

Two recent trends in education emphasize the need for greater institute activity, according to Williams. First is a question as to whether the current emphasis on scientific research and development in universities is creating an education–research imbalance by competing for professorial time. Second, the federal government's proposals to assure "equal educational opportunities for all" will require the professional community to give more aid to education in specialized fields; the average person will receive more education, and the higher a person's education, the more specialized it tends to become. "These trends, says Williams, "require a new and more concentrated effort on the part of the physics community."

Information exchange

Another significant development has been the widespread discussion among physicists of information-exchange problems. "Again," says Williams, "the basic impetus lies with the federal government. Both the executive and legislative branches are in agreement that scientific and technical information . . . constitute a major national

Table 1. Journal, Dues and Subscription Fulfillment Operations

Operations	*Income*	*Expenses*
For member societies, including services	$3 017 248	$3 017 248
For AIP and other archival publications	2 612 020	2 423 919
The Review of Scientific Instruments (excl. adv.)	209 799	184 180
The Journal of Chemical Physics	599 998	581 832
Journal of Applied Physics (excluding advertising)	364 409	328 382
The Physics of Fluids	169 379	162 010
Journal of Mathematical Physics	143 390	142 386
Applied Physics Letters	75 715	67 348
Soviet translation journals	606 885	515 352
AIP *Style Manual* and miscellaneous	30 140	30 124
Physics Abstracts handling	99 704	99 704
Advertising and exhibits (handling, printing costs)	312 601*	312 601
Totals	$5 629 268	$5 441 167

* Includes only that part of income needed to balance expenses.

Table 2. Operations Supported by Grants

Operations	*Income*	*Expenses (including overhead)*
Publishing		
Acta Physica Sinica translation	$ 11 014	$ 11 014
Documentation	98 480	98 480
Public Information		
Seminars for science writers	7 254	7 254
Journal article interpretation	13 076	13 076
Education and Manpower		
Visiting Scientists Program	86 108	86 108
Committee on Physics Faculties in Small Colleges	12 070	12 070
Apparatus center	41 416	41 416
Information center on international physics	30 014	30 014
Physics register	26 652	26 652
Manpower studies	19 681	19 681
Regional Counselor Program (grant portion)	1 500	1 500
Student Sections (grant portion)	2 500	2 500
Doctoral Programs in Physics	7 959	7 959
Physics Buildings Today and checklist	5 800	5 800
Center for History and Philosophy of Physics		
Project on history of recent physics in the US	18 338	18 338
Source materials for research in recent history	5 765	5 765
Handling of member-society grants	57 203	57 203
Totals	$ 444 830	$ 444 830

resource. . . . The federal sector concerned with science and technology . . . has sharply increased its program toward a national integrated information network. Since the efforts of both federal and nonfederal sectors must be closely integrated if any real success is to be achieved, the tempo of the nonfederal programs must be increased." AIP, supported by the National Science Foundation, has been conducting documentation research

VAN ZANDT WILLIAMS became director of AIP in April 1965. Previously he had been associated with the Perkin-Elmer Corp., of Norwalk, Conn., as vice president for technical development. Williams is also the current president of the Optical Society of America.

for several years, and in 1965 this effort was directed toward "a total information program."

Serving member societies

A principal AIP responsibility is serving its member societies in journal publication, subscription fulfillment and the handling of membership lists and dues. Williams commends the "competence achieved in these areas under the continuing direction of Wallace Waterfall, Hugh C. Wolfe and Gerald F. Gilbert" and points out that evidence of this competence is the continuing transfer of such services to AIP. In 1965 the institute accepted the following additional responsibilities:

- publication of *Applied Optics* and translation of the Russian journal *Optics & Spectroscopy* (effective 1966)
- subscription fulfillment for *The Physics Teacher* and dues billing and collection for the American Association of Physics Teachers
- publication of *Applied Spectroscopy* (starting in 1966) and subscription fulfillment for the journal, as well as dues billing and collection services for the Society for Applied Spectroscopy
- dues billing and collection for the American Crystallographic Association and the American Astronomical Society.

"The surge in all these areas," says Williams, "will inevitably bring us to a major space consideration and perhaps decision in the next year. The year 1965 has been one of learning, but 1966 must be one of major planning."

Following is a digest of the main sections of the annual report.

FINANCES

The institute's total expenditures during 1965 were \$6 607 562, and its income was \$6 780 515. Therefore net income was \$172 953. In 1964 total expenditures were \$5 703 806, or \$903 756 less than in 1965. Income in 1964 was \$5 915 682, or \$864 833 less than in 1965. The 1964 net income was \$211 876, or \$38 923 more than the net income in 1965.

Journal, dues and subscription-fulfillment operations in 1965 are summarized in table 1. They account for 82% of the institute's total expenditures. The annual report states that "operations for the member societies are charged at cost and are therefore balanced by income. The costs of the AIP-owned archival journals are offset by income from subscriptions, back-number sales and page charges." In 1965 "income exceeded expense in each case, with a considerable net realized on the Soviet translation journals."

Table 2 summarizes operations supported by grants, which come mainly from the National Science Foundation. Grants received by the institute in 1965 amounted to \$444 830, a decrease of 20% from 1964.

Sources of income for the institute's general operations are given in table 3. Such operations, according to the report, "include those supported by unrestricted income of the institute, which comes principally from the net from advertising, Corporate Associate dues and a tithe of member-society dues. This income supports the basic AIP divisions: public relations, education and manpower, and the Center for History and Philosophy of Physics, as well as some of their activities. It also covers general administrative, liaison and development activities. General operating expenses are shown in table 4 on the next page.

WALLACE WATERFALL is the institute's secretary and deputy director. He has been affiliated with AIP for almost 32 years, having been elected to the Governing Board in 1934. He became executive secretary in 1949 and was appointed deputy director in 1965.

Table 3. Sources of Income for General Operations

Member-society contributions	$ 70 652
Corporate Associate dues (net)	115 293
Advertising and exhibits (net)	385 273
PHYSICS TODAY subscriptions	27 671
Pamphlet sales, including placement-service book	13 529
Royalties	7 578
Investments	51 797
Student Sections dues (net)	3 363
Receipts for accounts of other organizations	20 466
Miscellaneous	10 795
Total	$706 417

Table 4. Expenses for General Operations

PHYSICS TODAY		$227 128
Public relations		85 085
Administration	$73 715	
Journal article interpretation	11 370*	
Education and manpower		178 971
Administration	87 560	
Pre-college Physics Program	22 751	
Regional Counselor Program	17 803*	
Student Sections	29 178*	
Placement service	20 679	
Manpower activities	1 000	
Center for History and Philosophy of Physics		54 104
Administration	43 216	
Feasibility study of new research resources	10 888	
Liaison and general administration		154 934
Disbursements on behalf of other organizations		20 466
Miscellaneous		877
Total		$721 565

* Excluding expenses chargeable to grants (see table 2).

PHYSICS TODAY is included in the general operations because it is nonarchival. Its publication cost in 1965 was $227 128, but its income, from advertising and subscriptions, was $296 852. The magazine thus provided a net income of $69 724.

A summary of AIP's financial status is given in table 5 at right. The institute's formal financial statement is, of course, contained in the annual report.

Table 5. Financial Summary

Operations	*Income*	*Expenses*
Journal, dues and subscription-fulfillment operations	$5 629 268	$5 441 167
Operations supported by grants	444 830	444 830
General operations	706 417	721 565
Totals	$6 780 515	$6 607 562
Net income	$ 172 953	

HISTORY AND PHILOSOPHY OF PHYSICS

On 1 July AIP established the Center for History and Philosophy of Physics as a new division and named Charles Weiner director. The center "will provide greater services to the scholarly community to document, investigate and understand the nature and origins of developments in 20th-century physics and their impact on society." It incorporates the institute's programs related to the history and philosophy of recent physics, the history of physics archives and the Niels Bohr Library of the History of Physics.

Under a National Science Foundation grant the center is pursuing a number of projects, including the establishment of oral-history archives containing tape-recorded interviews, the preservation of historical materials in danger of destruc-

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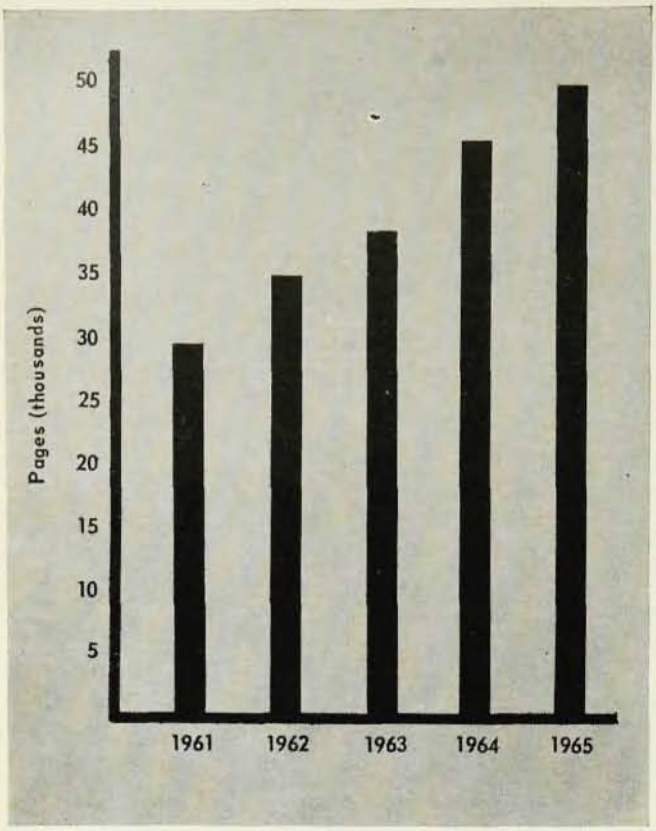
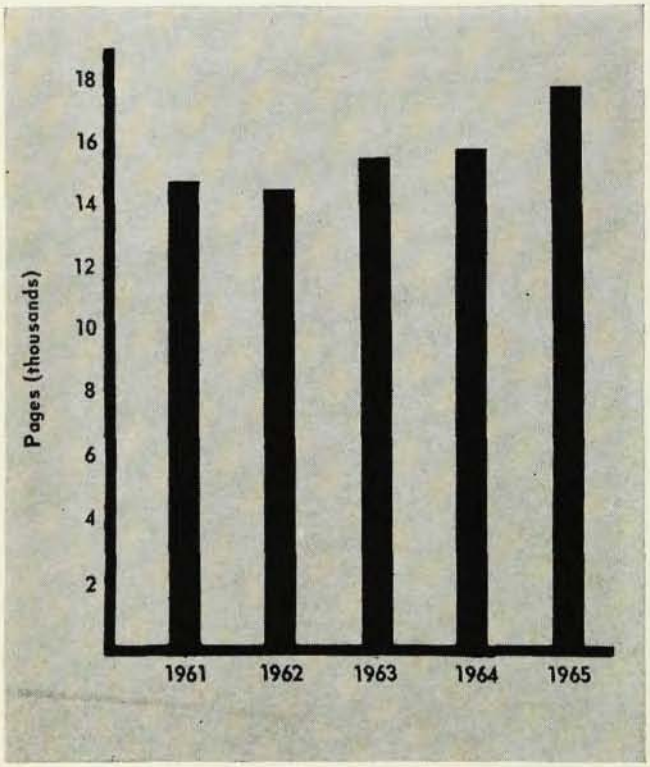


TOTAL PAGES PUBLISHED ANNUALLY. Not including translated Russian journals, the institute published 50 476 pages in 1965. The total has increased by approximately 5000 pages each year since 1961. —FIG. 1



RUSSIAN PAGES TRANSLATED AND PUBLISHED. The institute published 17 774 pages from 10 translated Russian journals in 1965. The total is about 2600 greater than the average of the four preceding years. —FIG. 2

tion, helping to set up outside programs for documenting the history of physics, and cataloguing and microfilming unpublished materials not easily accessible to scholars.

At the end of the year the Niels Bohr Library contained some 4500 volumes considered necessary for historical studies of 19th- and 20th-century physics. The year's acquisitions were aided

CHARLES WEINER directs the new Center for History and Philosophy of Physics at AIP. He came to the institute in Aug. 1964 and has a PhD in the history of science.

by donations of several large book collections and by $3481 from the Friends of the Niels Bohr Library, who now number 226.

PUBLISHING ACTIVITIES

The number of pages published by AIP, not including translated Russian journals, totaled 50 476 in 1965—an increase of 11% over 1964. Again excluding Russian translations, the institute in 1965 published 13 archival journals and four society bulletins and programs, as well as PHYSICS TODAY. Nine of the publications carried a total of 2634 advertising pages, compared with 2308 pages of advertising in eight journals in 1964. Figure 1 shows that the total number of pages published annually since 1961 increased by about 5000 each year.

AIP published translations of 10 Russian journals in 1965 totaling 17 774 pages—up 13% from 1964. Two new journals were added during the year: *JETP Letters*, a semimonthly, and the *Soviet Journal of Physics*, a monthly. The number of Russian pages translated each year since 1961 is shown in figure 2. The institute, with NSF support, has also begun to translate articles from *Acta Physica Sinica*, published in Peking.

As part of its Documentation Research Project in 1965, AIP worked toward developing "concept-coördinated" indexes and, in nuclear and chemical physics, devising an index using the property-object-method analysis of papers. A start was made toward evaluating the universal decimal-classification system as an indexing tool suitable for mechanized retrieval.

The documentation-research staff also coöper-

ated with Britain's Institution of Electrical Engineers in an effort to improve *Physics Abstracts* and in launching a semimonthly publication, *Current Papers in Physics*, which records titles and authors of current journal articles.

EDUCATION AND MANPOWER

During 1965 AIP's education and manpower division continued, according to the annual report, to conduct programs "directed toward strengthening the teaching of physics and encouraging students to study physics, either with a view to making physics their career or as a necessary part of their general education." Such programs are in response to demands for more professional physicists and the need for a scientifically literate public.

William C. Kelly directed the education and manpower division until 1 Sept. 1965, when he resigned to become associate director of the National Academy of Science's office of scientific personnel and director of the academy's fellowship office. Van Zandt Williams has been acting director for education and manpower since Kelly resigned, and a committee is seeking a permanent replacement.

Among the division's precollege programs, says the annual report, "is the pilot project, initiated in the fall of 1965 in New Jersey and Delaware, to find solutions to the problem of declining enrollments in high-school physics. Activities . . . include holding conferences with high-school and college physics teachers to discuss the problems of preparing students for colleges; enlisting consultants from industry for on-the-spot assistance in an effort to overcome the isolation many high-school teachers experience in their schools; providing traveling exhibits of apparatus and course materials; and holding a high-school-physics teachers' seminar to discuss course materials."

TRAVELING LIBRARY of new laboratory equipment is shown to student and physics teacher at New Providence High School in New Jersey by Philip G. Youngner (left), director of AIP's precollege physics program.

The AAPT-AIP Regional Counselor Program continued "to promote local coöperation for better physics teaching" at the secondary-school level, and the Visiting Scientists Program for high schools completed its final year with NSF support by providing visits by 183 physicists to 301 schools in 39 states.

HUGH C. WOLFE, director of publications at AIP, joined the institute staff in Aug. 1960. Before then he was head of the physics department at Cooper Union School of Engineering.

The AAPT-AIP Committee on Physics Faculties in Colleges (COPFIC) completed its study of the problems faced by small-college physic departments, particularly with regard to obtaining staff members and carrying on vigorous programs. To help overcome such problems COPFIC recommended more small-college research grants, more summer fellowships for college teachers, a clearing house for summer research and teaching jobs, advisers for college physics departments, and coöperative programs between colleges and universities.

Two of COPFIC's recommendations are already being implemented, according to the report. The Visiting Scientists Program for colleges was expanded to provide 15 consultantships as part of a pilot program, and the AIP placement service issued its second *Faculty Register for Summer Employment*. In addition the placement service gave job information to 1060 registrants in 1965.

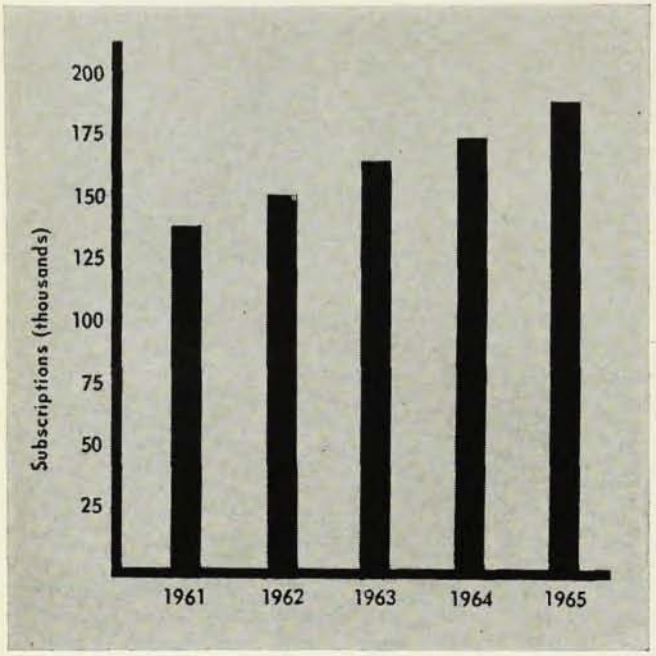
In connection with its manpower program, the education and manpower division conducted surveys in 1965 on such topics as the backgrounds of physics faculties, the future plans of physics majors, undergraduate physics dropouts and the amount of physics studied by nonscience majors.

PUBLIC INFORMATION

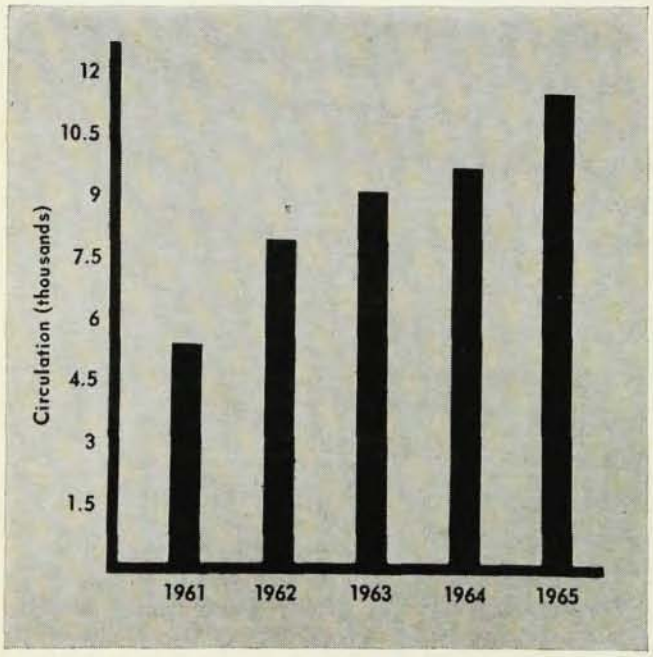
The institute's public relations division, under the direction of Eugene H. Kone, continues to make coverage of physics news available to the general public. The division issued press releases concerning important developments reported in AIP and member-society journals, and plans were

made to sponsor a science news service for weekly newspapers. The latter service is in coöperation with the American Asssociation for the Advancement of Science, the American Chemical Society and the American Institute of Biological Sciences.

During 1965 the National Association of Science Writers and AIP jointly sponsored two seminars for science writers, one on quasars and one on medical physics. The public relations division also distributed more than 50 000 booklets on careers, physics information and physics literature in response to requests from the general public.



TOTAL SUBSCRIPTIONS HANDLED ANNUALLY. Exclusive of translations, AIP serviced 188 477 subscriptions in 1965, an increase of 14 306 from 1964. —FIG. 3



CIRCULATION OF TRANSLATED JOURNALS. In 1965 the institute distributed 11 621 copies of journals translated from Russian, up almost 2000 from 1964. —FIG. 4

SERVICE OPERATIONS

In 1965 AIP performed dues billing and collection services for all member societies except the Acoustical Society of America. In addition the institute collected dues from members of the Society for Applied Spectroscopy, an AIP affiliate, making a total of seven societies for which the institute performed dues-handling services. In 1964, by contrast, the total was three.

GERALD F. GILBERT is AIP's treasurer and controller. He has been at the institute since 1961, becoming acting treasurer in June 1964 and assuming his present title in March 1965.

The institute conducted subscription fulfillment operations for 34 publications at the end of 1965, compared with 29 in 1964. Figure 3 shows that the total number of subscriptions handled annually since 1961 increased by 10 to 15 thousand each year. The total circulation of translated journals during the same period more than doubled as is shown in figure 4.

ORGANIZATION

The first additions to full AIP membership in 30 years were made possible in 1965 as the American Crystallographic Association and the American Astronomical Society were approved for election as member societies. The two organizations officially advanced from associate-member status on 1 Jan. 1966.

AIP's constitution was amended in two respects in 1965. The first amendment changed the make-up of the Governing Board so that the member societies would be more equitably represented. According to the second amendment, every person belonging to a member or associate-member society became an individual member of AIP. □

* * *

The 1965 Annual Report *can be obtained by writing to the Director's Office, American Institute of Physics, 335 East 45th Street, New York, N.Y. 10017.*