

AIP

1958

annual report

Submitted by the Director and accepted by the Governing
Board of the American Institute of Physics as its Annual
Report to the Member Societies of the AIP, April 4, 1959

IT is appropriate in an annual report not only to review the work of the year just past, but also to examine basic objectives around which a program for the future must be built. In this year's report, the past year's activities of the Institute are summarized under the headings (1) Archive Publications, (2) Public Information Services, (3) Educational Projects, (4) Manpower Studies and Member Services, and (5) Institute Organizational Development. The introductory paragraphs will be given over to a brief discussion of the basic purposes of the Institute.

The charter under which the Institute was founded lists a variety of purposes, but in general it is expected that the Institute will do those things for its Member Societies and for physics which can best be done co-operatively. When the Institute was formed, the most immediate and essential undertaking was the joint publication of archive journals. As was expected, economies resulted from the adoption of a uniform format and styling, mass purchasing of printing, and centralized copy editing and circulation handling. All savings resulting from these operations were passed on to the Member Societies, and a general policy has evolved that both Member Society and Institute archive publications are to be financed completely through page charges and subscription or dues income and thus are carried on by the Institute as a no-profit, no-loss activity. There was recognition, however, from the beginning that the Institute should also carry on other activities. To support these activities, a surcharge was made originally on journal operations. In 1945, a different plan was adopted in which the Member Societies contributed a small percentage, presently set at 10%, of their dues for the general operations of the Institute. In addition, the Member Societies renounced advertis-

ing in their own journals so that the advertising income could be available to the Institute. It was principally with these funds that the Director was able to carry on the many activities needed to establish the Institute as a focus for organized physics and to represent physics broadly at national and international meetings. During World War II he was able to participate actively in programs aimed at the more effective utilization of physics manpower. In 1943, primarily as a result of generous contributions of physicists throughout the country, the Institute purchased a building to be used as a national headquarters for organized physics. With these increasing activities, the prestige of the Institute grew, as did likewise its obligations and responsibilities.

In the past few years, with the awakening of an intense public interest in science and education, the nonpublishing responsibilities of the Institute have increased still further. To provide authoritative information to the public and to representatives of the press, a formal Office of Public Relations was established in 1956. This Office puts out many press releases on significant happenings in physics and handles innumerable individual requests for information, but its major effort has gone into providing lay-language versions of the advancements in physics reported at large society meetings. Unfortunately, no similar activity with respect to advances first reported in journals has been possible with funds presently available. Yet it is a clear responsibility of the Institute to take a more active role in assisting the public in keeping reasonably well informed about progress in physics if science is to take its proper role as one of man's noble intellectual enterprises, and as the wellspring from which flow abundant advances in health and human comfort. This clearly should be one of the Institute's purposes.

The Institute likewise has clear responsibility in the area of science education. All of the Institute Member Societies are concerned not only that physicists be well-trained in the advanced subject fields represented in the various societies, but also that a larger proportion of the population generally be encouraged to obtain at least a basic grounding in physics and in the meaning of science. We can't dodge the fact that goals and general methods of attack on educational problems can and are being determined by special groups and vested interests. If we are to insure adequate attention to rigorous science education, continuous vigilance and a positive program are essential on the part of physicists and other scientists. Much can and has been done separately by the Member Societies and their committees, but it is becoming increasingly clear that a full-time staff is a necessity if we are to implement their recommendations and to take leadership on joint activities which will strengthen physics education. To employ and house even a core educational staff requires funds of an order of magnitude as large as that of the entire nonpublishing budget of the Institute only a decade ago. Adequate funds for this purpose must be sought.

With the move of the Institute headquarters to its very suitable building near the United Nations, additional responsibilities and opportunities for leadership have appeared. The Institute is in the middle of a rapidly developing intellectual center of New York City. Only one block north is the Carnegie International Peace Building which houses the Council of Learned Societies, the World Affairs Center, and many nonprofit social agencies. Two blocks north, the engineering societies will build their 20-story national engineering center. Directly across the street from the Institute, a 12-story structure is being built to house the US Delegation to the UN and to provide a small auditorium. Our own Karl Taylor Compton Boardroom is being constantly used for important society and governmental committee meetings. Physicists are being looked to for guidance and leadership in national and international affairs. To assist in these tasks the Institute must build for the future. One step in this direction was the purchase in 1958 of the 41-foot vacant lot just east of its new building. This purchase will not only provide space for future expansion but will enhance the value of the present property.

The broadened outlook and the new provision in the Institute charter for Associate Member Societies is already proving its effectiveness in bringing together those organizations having a substantial interest in physics. The American Crystallographic Association has applied and has been accepted as the first Associate Member Society. A second application by an important national scientific society has been received and is now being considered. Other societies are making inquiries and it is expected that society membership will grow. Thus, the Institute will continue to serve physics as the importance and prestige of the profession advances.

1. Archive Publications

THE total number of pages and the circulation of physics journals continue to increase. During 1958 the journals published by the Institute (not including translated journals or the *Physical Review Letters*) contained 21 394 pages, which is about 5.5% larger than last year; a gain larger than the average annual increase over the past 10 years. The total circulation of all periodicals handled by the Institute including society bulletins, translated journals, and the *Physical Review Letters*, amounted to 115 000 for 1958.

During the past year, the Institute has undertaken the translation of the complete contents of two additional journals, the USSR journal of crystallography and the USSR astronomical journal. Together with the four journals already being translated a total of 8658 pages was published in 1958. All of these translations have been underwritten financially by the National Science Foundation. During the year an additional grant was made to the Institute by the NSF to translate the papers of Soviet origin from *Uspekhi*, which is the Soviet equivalent of the *Reviews of Modern Physics*. Publication of this seventh journal will begin in 1959. The demand for the translated journals remains steady. Unfortunately because of the high production cost, the subscription price, even with underwriting, is quite high and the circulation is limited almost entirely to libraries. As with American journals, the size of the Soviet journals continues to increase and as soon as a balance between income and expense appears possible, it is completely upset by a large increase (sometimes as high as 50%) in the number of pages to be translated. It is evident that this entire project could not be undertaken without NSF support and the Institute is grateful to the Foundation not only for its support, but also for its sympathetic understanding of the uncertainties involved.

Another translation problem is that important physics books have been translated as many as three times because the translators did not know what other translators were doing. There seems to be a need for a central clearing house and to fill this need partially the Institute Advisory Board on Russian Translations under the chairmanship of Professor Robert T. Beyer is reviewing proposed translations, and where the need is clear the Institute is requesting funds from the NSF to carry out the translation. Actual publication is then arranged through a recognized publisher. The first book being translated under this program is *Wave Propagation in Layered Media* by L. M. Brekhovskikh, which will appear in 1959.

A completely new Institute journal, *The Physics of Fluids*, was first published in 1958 under the editorship of Dr. François N. Frenkiel, with financial underwriting from the Air Force Office of Scientific Research and the Office of Naval Research. This journal includes papers on kinetic theory, statistical mechanics, classical fluid dynamics, structure and general physics of gases, liquids, plasmas, and ionized fluids; as well as certain

basic aspects of physics of fluids related to geophysics, astrophysics, biophysics, and other allied areas. The enthusiastic response to this journal is indicated by the rapid increase in its circulation during the year amounting to 1843 subscriptions by the end of the first year. There is no doubt that this journal is filling a definite need.

As was pointed out in last year's report, the rapid increase in total volume of published material in physics has made it difficult to maintain production schedules. Nevertheless, a special effort was made during 1958 to bring the journals back to their former schedules. I am glad to report that in every case in which manuscripts came from the editor's office to the Institute on their scheduled dates, the journals have been brought back to their original schedules. Once again, physicists are now receiving most of their journals during the month of the date on the issue, and in some cases in the month preceding the month on the issue. We hope during the coming year, with the cooperation of the editors, to bring the remaining journals back onto regular schedules. As a norm, publication of physics papers is now occurring in five to six months from the time the manuscript is received by the editor. We hope eventually to bring this figure down to four months, or even less.

The staff of the Institute is acutely aware of the problem of increasing costs of journal production and subscription handling. Much of this increased cost reflects the increased wages which need to be paid by our printers. Part of it is the increased cost of services and materials at the Institute itself. A careful study is under way to find economies to reduce these costs. One source of increased cost is the tendency of peak loads to develop. If a journal publishes 150 pages one month, and 300 the next, then goes back to 150 pages, the printer and the Institute must maintain a continuing capacity to handle the peak load efficiently, even though we know there will be periods during which this capacity will not be needed. All of this is expensive. To offset these fluctuations in some instances, we are accumulating a small reservoir of papers. In a few cases, this may mean a delay of as much as a month in the publishing of a paper, but because of savings effected, we are able in the long run to publish more research.

With the doubling or even tripling of the circulation load in the past few years, some delays and some errors in the receipt of journals have occurred. To reduce both errors and the cost of subscription handling, new equipment is being purchased as rapidly as funds permit and the need can be justified. It is not generally realized that one third of all physicists change their addresses during each year and in one case, a single physicist changed his address five times in one year. As a result, some 30 000 journal address changes need to be handled each year.

A source of initial expense in scientific journal publishing is the need to print more copies of each issue than the immediate demand. Many factors enter into the overprint which is required. At the beginning of

the year, for example, one has to estimate the number of subscriptions that will come in by the end of the year, for which an entire year's set of back numbers are needed. Since a journal is made up of several parts and large press runs are involved, the printer must overprint to insure the correct number of perfect copies. In an attempt to place overprinting on a more logical basis, a comprehensive study of the back number demand and inventory requirements is being made under an NSF grant. Statistics on the variation of the demand with the age of an issue have been accumulated which lead to reasonably general laws of fall-off of demand. Costs of maintenance of inventories have been estimated, taking into account the interest on the invested funds, the cost of storage space, insurance, cost of handling, etc. These are compared with the cost of reproduction by various methods. Putting all of these estimates together, one is able to make a much better judgment of an economical overprint. Since the results of this study have only begun to be applied to our journals, it will take a few years' experience to see the actual magnitude of the saving thus made possible.

Additional studies of journal production problems and documentation in general are highly desirable in a publishing operation as large as that carried on by the Institute. Under another grant from NSF, a comprehensive research project has been initiated, under the directorship of Dr. Robert E. Maizell. In this project, information concerning the growth of physics literature throughout the world will be accumulated for use by the Institute Committee on Publishing Problems under the chairmanship of Professor E. U. Condon. Time delays, various methods of indexing, and adequacy of abstracting will be studied, new methods of printing will be examined and evaluated, and as time and funds permit, use habits of physicists and the applicability of machine methods in physics documentation will be studied. A newsletter is planned which will be issued from time to time making the results of these studies generally available.

The revision of the *AIP Style Manual* mentioned in last year's report is virtually complete and should appear in 1959. As a result of a recommendation of the Committee on Publishing Problems a grant has been received from NSF to encourage the more extensive writing of review articles varying from the comprehensive, highly critical reviews such as appeared in the early days of the *Reviews of Modern Physics* down to brief, timely reviews of narrow fields suitable for *Physics Today*. The funds are available for all society and Institute journals.

2. Public Information Services

A MAJOR function of the Public Relations Department of the Institute is to supply authoritative information to the press at the time of the large meetings of the Member Societies. Because of the high public interest in new developments in physics, representatives of the major newspapers, wire services, maga-

zines, radio, and television register in the press rooms established by the Institute at these meetings. To assist news representatives, in making contact with physicists, press conferences are arranged in which individuals or panels of physicists are interviewed concerning the work which they are reporting at the meeting. These sessions have made it evident that physicists have a latent skill which has not always been recognized of being able to express the nature of their work in lay language in both an interesting and authoritative manner.

For the preparation of authoritative news releases a panel of distinguished physicists assists some time prior to the meeting in selecting those articles which seem unusually significant, or of special interest to the public. The authors of the papers are then requested to prepare lay versions. After a minor amount of editing these are mimeographed in the form of press releases and distributed to all representatives of the press. As a result of the press room conferences and these lay-language press releases, the public is getting far more information about progress in physics than was possible previously.

A second important public relations activity is carried out in connection with the AAPT-AIP Visiting Scientists Program. As soon as definite plans are made for the visit of a distinguished physicist to one of our smaller colleges, press releases are prepared which give a biographical sketch of the visitor and describe the work of the physics department at the institution being visited. These releases are sent to all newspaper, radio, and television contacts in the immediate locality of the institution being visited, as well as to large urban centers. These releases provide a significant contribution to the over-all program. Articles in the local newspapers calling attention to the work which is being done in the physics department of the college build up local prestige and the self-confidence of the staff. Students' interest in physics and in the department is thereby enhanced and many seek the opportunity of discussing their future plans with the distinguished visiting physicist. The attention in the local press which the visitor gets also makes him feel that his work is appreciated and he is more willing to make similar visits in the future. During 1958 almost a hundred visits were covered in this way by press releases and resulted in a large nationwide coverage of physics in the newspapers, radio, and television.

To keep physicists informed of the Institute's public information services a *Public Relations Newsletter* has been established. This newsletter serves to call to the attention of physicists outstanding articles in general magazines on physics and also provides suggestions from time to time to assist physicists who are themselves active in providing physics information to the public. Summaries of clippings of "Physics in the News" are prepared and have been distributed from time to time with the newsletter. As an additional activity and to reach specialized segments of the public, articles are occasionally prepared for financial journals, trade periodicals in the various industries, elementary- and

secondary-school education journals, and outstanding technical journals.

While good news coverage of the large meetings of physicists has been possible during the past few years, the Institute's resources have not yet enabled it to assist newspaper writers in interpreting new advances as they are reported in society and Institute journals. It is apparent that many of the same techniques that have proved very successful in connection with society meetings would be equally applicable to physics periodical literature. To enable the Institute to give such service a trial foundation support is being sought. Because of the large amount of material published in the journals, considerable expense is involved, but it is believed that much better news coverage would occur if this project could be given a fair trial.

A large fraction of the effort of the Office of Public Relations is spent in answering telephone and written requests from students, teachers, newspapermen, and a variety of others interested in physics. During 1958 more than 4000 individual requests came in for copies of "Physics as a Career". Since some of these were bulk orders some 12 000 copies of the career booklet were distributed last year. Not only have these requests come from high schools, libraries, industrial personnel offices, and veterans counseling services; one was from the chief psychologist in a state prison!

Each year the Special Services Department of the Institute prepares a list of those institutions which offer degrees in physics. During 1958 some 3000 individual requests for these lists were processed by the Office of Public Relations. Questions of many kinds are raised: questions concerning opportunities for women in physics, teaching aids, scholarships, state examinations, supplemental reading lists, health and safety precautions, as well as for speakers and group discussion leaders. Although quite time consuming, all reasonable requests are answered and if information is not available at the Institute, a suggestion is made as to where information may be obtained.

3. Educational Projects

IN recognition of the increasing role which educational projects are playing in the Institute program a formal Education Department was established in 1958 with Dr. W. C. Kelly as head. Under Dr. Kelly's vigorous direction a comprehensive program aimed at strengthening physics education at all levels is under way. Many of the projects are being sponsored jointly by the AAPT and the AIP with financial support of national foundations. In such cases special advisory committees are appointed by the AAPT to work closely with the Institute staff in administering the projects. The entire program of the Department is followed closely by an Advisory Committee on the AIP Education Program in which AAPT has strong representation. The major projects in this program are described below.

The first AAPT-AIP Visiting Scientists Program financed under a National Science Foundation grant

was brought to a very successful conclusion in 1958. Visits were carried out in 108 colleges and universities in 40 states by 75 well-known physicists. Visits were also made to 40 high schools and five conferences were arranged between physicists and representatives of high schools. The entire Visiting Scientists Program met with an enthusiastic response from both visitors and institutions visited. The visitors worked long hours lecturing, counseling students, reviewing teaching and research programs, and talking with administrative officers. In April, a meeting of a large number of the visitors was held in Washington to review their visits and to recommend ways in which physics in the smaller colleges could be strengthened. The group proposed that summer institutes be held for college teachers in which cooperative research projects could be initiated. It is hoped that this proposal may be implemented in 1959 under NSF sponsorship. For the academic year 1958-59 two separate AAPT-AIP Visiting Scientists Programs have been established to cover more fully both colleges and high schools. There is every indication that the second year's operation will be even more successful than the first.

A grant of \$75 850 has been made by the Educational Facilities Laboratories, Inc., to study the Design of Physics Buildings. This is a joint AAPT-AIP project which grew out of a survey of an AAPT committee under the chairmanship of Dr. Yale Roots, in which it was shown that some \$240 000 000 will be spent in the next few years on new physics facilities. The study is just getting under way with Professor Ronald Palmer as director and Mr. William Rice as staff architect.

A third joint AAPT-AIP project is one to prepare and distribute working drawings of apparatus specially designed by college physics teachers for lecture demonstrations and laboratories. This project is supported by the National Science Foundation and will be closely followed by the AAPT Committee on Apparatus. Mr. Robert Marcley has been employed as project technician.

A grant has been received from the National Science Foundation for several career and guidance booklets. The following are now planned: (1) a booklet for 8th, 9th, and 10th grade pupils to encourage them to study physics and mathematics in high school; (2) a major revision of "Physics as a Career" designed for college majors; and (3) a booklet on "Graduate Study in Physics" to help orient students toward graduate work. The last named booklet grew out of the meeting mentioned earlier of the physicists who took part in the Visiting Scientists Program.

Other activities now under way in the Education Department include (1) assistance to secondary-school teachers and administrators in connection with Title III of the National Defense Education Act; (2) the preparation of a self-study handbook for the use of school board members in improving their high-school physics programs; (3) lists of paperback classics in physics; and (4) the planning of an International Conference on Physics Education to be held in Europe in 1961. To

help in coordinating these various activities and to keep interested physicists and educators informed, an *Educational Newsletter* is prepared monthly and is sent to a mailing list of over 2000.

During 1958, the joint AAPT-AIP project on the Improvement of Physics Teaching supported by the Fund for the Advancement of Education was brought to a close. Under this grant Dr. Kelly was brought to the Institute and many of the projects described above began. Professor Grant O. Gale also spent a year at the Institute under this grant carrying out a comprehensive evaluation of the teaching of physics by TV and films. Professor Gale's report has just been released and should be ready shortly. His report makes it clear that measured in terms of the usual testing procedures, TV and films can be very effective in the teaching of physics. He does, however, raise a question as to whether or not our usual testing procedures really measure all of the contributions which a good classroom teacher makes to the learning process. It is evident that there is still much to be done in this interesting field of educational research before definite conclusions can be drawn.

4. Manpower Studies and Member Services

THE total population of the physics community is somewhat uncertain. The total 1958 unduplicated membership in the Member Societies was 19 982. The circulation of *Physics Today* at the end of 1958 was 24 310. The number of individuals included in the physics section of the National Roster is approximately 22 500. The Bureau of Labor Statistics estimates the number of physicists at 30 000. The figures from all sources indicate that the total physics population is increasing by more than 5% per year.

The annual Institute survey of student enrollment from 567 institutions showed:

		BS	MS	PhD
1957-58	Physics Degrees Granted	3502	841	467
1958-59	Estimated Number of Degrees	4470	1042	632
1958-59	Physics Majors Enrolled			
	Undergraduates	3rd yr.—Full Time	5903	
		4th yr.—Full Time	4571	
		3rd and 4th year	Part Time	1577
1958-59	Enrolled Graduate Students			7038

The number of bachelor's degrees awarded in physics in 1958 is up 17% from that of 1957 but the number of PhD's is up only 5%. The estimated 1958-59 figures indicate that the numbers will increase still more in 1959 but past experience shows that the estimates are generally substantially higher than the actual figures and need therefore to be discounted.

The placement service is increasing in popularity and effectiveness. Industry representatives, in particular, have found the service invaluable in contacting physicists during large meetings and have praised the way in which it is organized and operated. Small colleges have found it useful in finding and interviewing teach-

ing personnel. The largest activity occurs at the New York meeting of the American Physical Society and the American Association of Physics Teachers and since most of the preparations for the 1959 meeting are made in 1958, some of the statistics relating to the January 1959 meeting are reported below:

	January 1958	January 1959
Number of physicists registered	433	350
Number of employers registered	273	415
Number of positions open	333	1528
Interviews scheduled	1556	3378
Salary ranges offered	\$3900-12 000	\$4316-25 000

The change in the economic situation during the past year is readily apparent.

The substantial growth of AIP student sections was mentioned in last year's annual report. Additional student sections were established in 1958 so that there are now 52 sections with a total of 1257 student members. Because of the excellent opportunity which these sections offer for students to establish themselves as junior members of the physics profession, the possible strengthening of these sections is being studied. A special committee under the chairmanship of Professor Robert S. Shankland has just been appointed for this purpose.

Physics Today serves as the primary medium of communication between members of the entire physics community. Because of this, the Editor and the Advisory Board have been studying ways of making *Physics Today* more useful. During the past year, summary reports of specialized symposia and conferences have occupied roughly 20% of the text pages. These reports have been presented in an informal style which attempts to give the atmosphere as well as subject matter of the conferences. Book reviews have always had a prominent place in *Physics Today*. News items and Institute doings are presented on a regular basis. Steps are being taken at the present time to establish a new department in which four or five short surveys (approximately 500 words) will be given each month of progress in rapidly moving fields of research. Persons active in research will be invited to comment occasionally on topics of their own choosing. Other changes are being considered. Additional suggestions which will enable *Physics Today* to serve the physics community to best advantage are earnestly solicited by the Editor and the Institute staff.

As one of its Member Society services, the Institute continues to collect membership dues with the aid of a joint dues and subscription bill. Other services to Member Societies include the mailing of meeting notices and ballots, the furnishing of specialized information on journal circulation and financial matters, the promotion of nonmember subscriptions in order to reduce the per capita cost of journals and the solicitation of advertising in several society journals. The volume of mail coming into the Institute is tremendous, amounting to some 200 000 pieces per year and reaching at times to as many as 2300 pieces in a single day.

5. Institute Organizational Development

THE foregoing paragraphs show the variety of demands that are being made on the Institute staff to provide help to individual physicists, to various scientific and technical societies, to the Government, to industry, to educators at all levels, and to the public at large. We are proud of the recognition implied by these demands and of the fact that the Institute is playing a vital role in American science. Yet these demands cannot be met adequately without competent staff and necessary supporting services. To supply these is a continuing and vexing problem of the administrative officers.

As shown in the accompanying charts, the income to support the general activities of the Institute comes from (1) a percentage of the dues of the Member Societies; (2) net advertising revenue; (3) Corporate Associates' dues, and (4) miscellaneous income from interest on invested funds, royalties on books, unassigned revenue from special projects, etc. The major expenditures result from (1) public information services; (2) the core staff needed to carry on the education projects; (3) the supplying of *Physics Today* gratis to all members of Member Societies; (4) manpower and student section activities; and (5) Institute organizational development which includes those things which make the Institute a going organization, such as the maintenance of relations with various societies and agencies, special member services, expenses of operating committees, and future planning. At present the total income and expense just about balance, and would continue to balance if prices and programs could remain completely static. We know that neither of these phenomena will occur and so additional income must be sought to balance the increases which are bound to occur in operating costs.

Advertising revenue probably can be increased, especially since the circulation of the journals is going up and physicists are taking on more and more responsibility for the expenditures of large sums of money. Special efforts to increase this source of income are planned for the coming year.

A close parallel exists between progress in physics and progress in industry. The Institute can probably serve as an effective catalyst in bringing about better communications between physicists in academic life and those in industry. To explore this possibility, the first of a series of annual Corporate Associate meetings was held in 1958. Under the chairmanship of Dr. C. G. Suits, a panel discussion on "Industry and the Physicist" was held which stirred up much interest among the more than 100 industrial executives attending this first meeting last October. The meeting also provided the Institute staff a welcome opportunity of describing the many and varied aspects of the Institute's program.

Several of those present made it clear that they believed that the work of the Institute was too important not to have adequate support and offered to take leadership in increasing substantially the support from

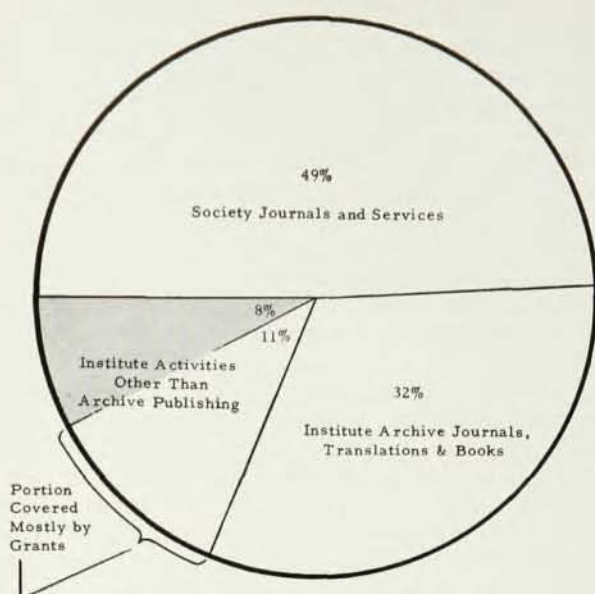


Fig. 1. Total disbursements for 1958, which amounted to \$2 146 546. Shaded portion shows *net* expenses of Institute activities other than archive publishing.

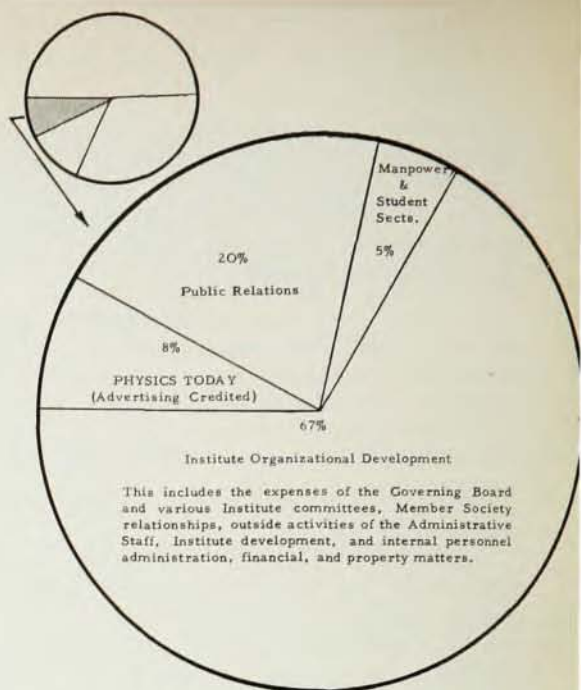


Fig. 2. Net expenses of Institute activities other than archive publishing. In 1958 these amounted to \$162 397, or 8% of the total disbursements as shown by the shaded portion of Fig. 1. (Educational expense was covered by grants.)

industry. They proposed a sliding scale of Corporate Associates annual dues ranging from \$350 to \$3500, which the Institute has put into effect. Although the proposed higher contributions were entirely voluntary, almost 100% agreement to them has occurred, thus insuring that funds available for general operations will be greatly increased for 1959. Furthermore, as a result of the meeting, many additional companies have expressed interest in supporting the Institute and the number of Corporate Associates will probably increase by 50% during the coming year.

Thus, for the next few years at least, the balance between income and expense can be maintained. It is clear, however, as one looks five or more years ahead, that personnel and space problems will again become acute and imaginative and vigorous planning are necessary if the Institute is to continue to develop to its full potential in doing those things for physics which can best be done cooperatively.

6. Acknowledgments

SINCERE appreciation is expressed to all members of the Institute Staff who have cooperated so well during the past year in maintaining high standards for the journals and assisting in bringing them back onto a regular schedule. New tasks have been taken on willingly and have been carried out in a most creditable manner. The regular staff has been assisted in a very large measure by the voluntary help of a large number

of committee members and their aid is gratefully acknowledged.

Special gratitude is due to following members of the Governing Board who now retire after serving for the periods indicated:

Raymond T. Birge	1956-1959
Henry D. Smyth	1955-1959
Irvine C. Gardner	1956-1959
R. Ronald Palmer	1956-1959

The Institute also takes pleasure at this time in welcoming to the Board Messrs. V. F. Weisskopf; W. W. Havens, Jr., J. G. Baker, and C. J. Overbeck.

It is appropriate to record here also that Dr. Frederick Seitz retired as Chairman of the Governing Board at the end of the Board meeting on April 4, 1959 and was succeeded by Dr. Ralph A. Sawyer. Dr. Seitz served as Chairman since 1954, a period during which the financial operations of the Institute more than doubled, major revisions were made in the Institute's Constitution and Bylaws, a new archive journal and several translated journals were begun, the Institute moved into a new headquarters building, and a new director was appointed. At its meeting on April 4, the Board expressed its great indebtedness to Dr. Seitz for his wise and devoted leadership and his distinguished service to the Institute as a working federation of its five Member Societies.

Respectfully submitted,
Elmer Hutchisson, *Director*

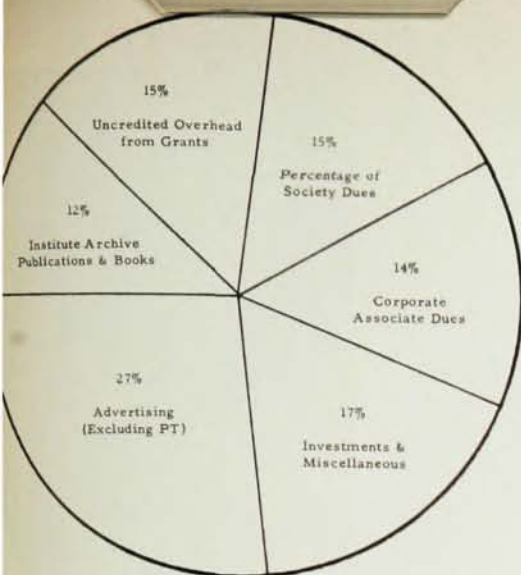


Fig. 3. Income available for Institute activities other than archive publishing. This amounted to \$175 013, divided as indicated above.

AMERICAN INSTITUTE OF PHYSICS, INC.

Summary Statement of Operations

Including Activities Carried on for Account of Member Societies

Year Ended December 31, 1958

	Total	American Institute of Physics, Inc.	For Account of Member Societies
Income:			
Subscriptions	\$ 518 469.34	\$ 254 019.67	\$ 264 449.67
Publication charges and reprint sales	377 653.16	121 354.34	256 298.82
Back number sales	64 031.00	28 264.93	35 766.07
Proceeds from contract with Air Force applied to defray publication cost of Physics of Fluids	11 617.64	11 617.64	
Advertising	234 720.70	205 153.33	29 567.37
Special projects	457 133.09	457 133.09	
Contributions from Member Societies	27 247.13	27 247.13	
Dues	25 092.07	25 092.07	
Income from investments, mortgage and rent	17 942.58	17 942.58	
Miscellaneous income	4 416.00	4 416.00	
Receipts for account of Member Societies	420 839.02		420 839.02
Total	\$2 159 161.73	\$1 152 240.78	\$1 006 920.95
Expense:			
Printing, engraving and mailing journals	\$ 761 831.63	\$ 270 233.89	\$ 491 597.74
Printing and mailing reprints	49 263.80	19 756.55	29 507.25
Handling cost — publication charges and reprint sales	21 720.92	9 378.46	12 342.46
Back number handling and distribution	27 823.96	12 198.40	15 625.56
Advertising, printing, distribution and selling	125 305.93	106 739.31	18 566.62
Administrative and organizational services	162 597.52	162 597.52	
Editorial and editorial mechanics	167 400.19	123 544.73	43 855.46
Circulation handling	91 208.23	38 266.95	52 941.28
Special projects	396 909.19	396 909.19	
Disbursements on behalf of Member Societies	48 752.47		48 752.74
Total	\$1 852 813.84	\$1 139 625.00	\$ 713 188.84
Net charge to Member Societies to balance accounts	293 732.11		293 732.11
	\$2 146 545.95	\$1 139 625.00	\$1 006 920.95
Net income	\$ 12 615.78	\$ 12 615.78	

AMERICAN INSTITUTE OF PHYSICS, INC.

Balance Sheet, December 31, 1958

Assets		
Operating Funds:		
Cash		\$234 960.30
Investments in United States Government securities		188 126.88
Due from Member Societies:		
American Physical Society	\$ 24 800.98	
Optical Society of America	6 534.65	
Acoustical Society of America	3 352.88	
		34 688.51
Sundry accounts receivable:		
Publication charges	\$ 76 883.54	
Reprints	7 948.86	
Advertising	13 119.44	
Miscellaneous	3 764.24	
		101 716.08
Deposit on airlines credit card		425.00
Deferred charges:		
Contribution to employees' retirement plan applicable to 1/1/59-11/30/59	\$ 19 026.50	
Engraving and printing costs applicable to 1959 issues	16 442.36	
Prepaid insurance	3 628.81	
Survey of accounting and circulation departments	4 182.50	43 280.17
		\$ 603 196.94
Special Purpose Funds:		
Cash		442 187.48
Building and Equipment Fund:		
Land and building—335 East 45th Street, New York	\$716 383.89	
Land—339 East 45th Street, New York	166 535.36	
	\$882 919.25	
Less: Accumulated depreciation on building	45 029.78	
		\$837 889.47
Furniture and fixtures	\$ 35 735.40	
Less: Accumulated depreciation	3 677.39	32 058.01
		869 947.48
		\$1 915 331.90
Liabilities		
Operating Funds:		
Trade accounts payable		\$191 459.76
Due to Member Societies:		
American Association of Physics Teachers	\$ 14 577.34	
Society of Rheology	7 103.57	21 680.91
		7 769.81
Sundry creditors		
Deferred credits:		
Subscriptions received applicable to future years	\$319 722.15	
Corporate dues—year 1959	19 861.50	
Sundry receipts—re 1959 activities	8 477.32	
		348 060.97
Accumulated income		34 225.49
		\$ 603 196.94
Special Purpose Funds:		
Karl Taylor Compton Fund	\$ 12 124.78	
Fund for Future Physicists	24 000.00	
Amounts received for special projects for account of others (net after expenditures thereon)		361 032.92
Building replacement reserve		45 029.78
		442 187.48
Building and Equipment Fund:		
Mortgage payable	\$114 946.88	
Building and equipment capital	755 000.60	869 947.48
		\$1 915 331.90