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PRESIDENT'S REPORT ISSUE

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CAMBRIDGE, MASSACHUSETTS

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Table of Contents

	<i>Page</i>
REPORT OF THE PRESIDENT	5
REPORTS OF THE DEANS OF THE SCHOOLS	45
School of Engineering	45
School of Science	55
School of Architecture and Planning	63
School of Humanities and Social Studies	70
School of Industrial Management	86
REPORTS OF THE DIRECTORS OF INTERDEPARTMENTAL LABORATORIES	91
REPORT OF THE TREASURER	105
REPORTS OF OTHER ADMINISTRATIVE OFFICERS	243
Secretary of the Institute	243
Dean of Students	249
Dean of the Graduate School	255
Director of the Summer Session	258
Director of Libraries	259
Medical Director	269
Registrar	271
Director of Admissions	300
Adviser to Foreign Students	302
Placement Officer	305
Executive Vice-President of the Alumni Association	307
Director of the Division of Industrial Cooperation	309
Director of the Division of Business Administration	311
HONORS AND AWARDS TO THE STAFF	315
PERIODICAL PUBLICATIONS, BOOKS, AND REVIEWS BY THE STAFF	321

Report of the President

To Members of the Corporation:

ENGINEERS AND SCIENTISTS continue to be in short supply, not only in the United States but throughout most of the world. In the United States the shortage has been aggravated by our defense program but, aside from this emergency demand, the increasing technological complexity of industry and our living environment keeps the demand curve rising. Modern society requires an increasingly greater proportion of its workers to be scientists and engineers in order to carry on its work and to maintain and advance its health, its wealth, and the general welfare. Since 1890, for example, the number of engineers has increased tenfold in industries that have increased threefold in workers.

In presenting my annual report at this time I wish to discuss the responsibilities of the Massachusetts Institute of Technology in the face of this world shortage and to call attention to some of the ways we have sought to meet these responsibilities.

The past few years have witnessed an unexpected and ill-timed drop in the number of young men entering engineering and certain branches of science, especially the field of chemistry. In the autumn of 1950 the national freshman class in engineering schools dropped 18 per cent while the cumulative decline in engineering enrollment was pointing to an output by 1954 which would be substantially less than the output of engineering schools before World War II.

Industry, government, and education have joined in a national campaign to acquaint the public with the national shortage and its hazards and to arrest the falling enrollments. M. I. T. has participated in this campaign in many ways, some of which I will describe below.

The results are encouraging. In the fall of 1951 the over-all nationwide increase in freshman engineering enrollment was better than 15 per cent. I have just made a telegraphic check of six geographically distributed engineering institutions to sample enrollment trends this fall. Again the results are encouraging. For the six institutions the average increase over last year in the number of applicants has been 37 per cent. All but one of these institutions reported an actual increase in freshman enrollment, the percentage increase for the six institutions being 23 per cent.

What has been our experience at M. I. T.? Our entering class this September numbers 943, an increase of about 200 over last year. I must confess that this is a larger class than we had planned to take, even though applications had greatly increased. We had planned on 800, an increase of about 70 over the previous year. However, the usual number of cancellations did not occur, and we find ourselves with the largest class we have ever admitted at one time. We selected this freshman class out of a total of over 3,000 applicants, and the Admissions Office staff believes that the average quality of the men admitted is significantly higher than that of the preceding two classes.

If we compare last year's enrollment with the last normal year before World War II, we find that M. I. T.'s total student body had increased from 3,100 to 4,874, or 57 per cent. Over this period the undergraduate enrollment had increased 33 per cent, the graduate enrollment, 139 per cent. Here are the figures:

	<i>Undergraduate</i>	<i>Graduate</i>	<i>Total</i>
1939-40.....	2,379	721	3,100
1951-52.....	3,154	1,720	4,874
1952-53 (estimated).....	3,200	1,900	5,100

While M. I. T.'s growth in graduate students has been somewhat above the national growth, there has been an increase in

graduate study for the country as a whole. This reflects the growing maturity of our schools of science and engineering along with the increasing demand on the part of industry and research institutions for men and women with advanced, specialized education.

At M. I. T., significant shifts have occurred in the distribution of our students among the various courses of study, as shown by the table on the next page.

While the enrollment of the Institute was increasing 57 per cent over the 13-year period, the enrollment in engineering courses increased 43 per cent, in science courses, 113 per cent, in architecture and planning, 90 per cent, and in the field of management, 29 per cent.

Note particularly the shifting pattern of the courses. Electrical Engineering increased from 434 to 908, over 100 per cent. Mathematics grew from 40 to 147, and Physics from 152 to 514, both over 200 per cent. These spectacular increases reflect national trends in interests and demand as well as M. I. T.'s developing programs in these fields. They have obviously required severe adjustments in the Institute's staff and teaching facilities. In a few fields our enrollments have not reflected increases in national demand, for example in biology, geology, aeronautical engineering, and city planning.

The upward trend in applications for admission facilitates the management of a stabilized enrollment policy. We should seek to re-establish such a policy at the Institute. I think the record is clear that we have accepted our responsibility in meeting the shortages of scientists and engineers. I suggest that in the years ahead we continue to give primary attention to the quality of our enrollment rather than to any increase in numbers. One of the hazards arising out of the current acute demand for scientists and engineers is the temptation to permit educational standards to drop in order to increase enrollments. This is not the way to advance our science and engineering or to serve industry.

I am suggesting that, during the current academic year, our

COMPARISON OF COURSE ENROLLMENT

1939-40 and 1951-52

	1939-40	1951-52	Percentage change
<i>Engineering Courses</i>			
(Total).....	2,167	3,094	+43%
Aeronautical Eng.....	218	246	+13%
Bldg. Eng. and Const.....	26	94	+262%
Chemical Eng.....	497	482	-3%
Civil Eng.....	117	273	+133%
Electrical Eng.....	434*	908	+109%
General Eng.....	68	40	-41%
Mechanical Eng.....	455	526	+16%
Metallurgy.....	124	218	+76%
Meteorology.....	27	115	+326%
Mining Eng.....	10	—	—
Naval Arch. and Marine Eng.; Naval Const and Eng.; Marine Trans.....	181	171	-6%
Sanitary Eng.....	10	21	+110%
<i>Science Courses</i>			
(Total).....	543	1,159	+113%
Biology.....	75	92	+23%
Chemistry.....	194	258	+33%
Food Technology.....	16	43	+169%
General Science.....	30	20	-33%
Geology.....	36	82	+128%
Mathematics.....	40	147	+268%
Physics.....	152	514	+238%
Science Teaching.....	—	3	—
Architecture and Planning.....	108	205	+ 90%
Economics and Engineering.....	—	92	—
Business and Eng. Adm.....	251	324	+ 29%
Unclassified.....	31	—	—
<i>Grand Total</i>	3,100	4,874	+57%

*Including Electrochemical Engineering.

cognizant administrative and faculty officers make a careful study of our enrollment policy, looking toward the formulation of a wise policy of enrollment stabilization and distribution, comparable to that undertaken in the 1930's, and taking into account both national conditions and needs and those considerations which will insure the highest possible standards of education at the Institute.

Even though the downward trend of enrollments in engineering has been reversed, there should be no letup in our national effort to insure an adequate flow of young people of breadth and competence into science and engineering. At M. I. T. we plan to continue the stepped-up program to attract qualified applicants which we launched two years ago.

During the past year we increased our school visiting program, 455 schools having been covered. During coming months we will extend these visits with the help of 30 young members of the Faculty who have enthusiastically volunteered to make trips of one- or two-week duration. As our Director of Admissions has said of this plan: "Not least among the advantages is a closer acquaintance by a faculty group with the problems of the transition from school to college, an area in which college faculties have seldom taken the interest which its importance justifies."

We are also progressing with the organization of the alumni Educational Council to supplement the effective work of our 242 Honorary Secretaries. Groups of Educational Counselors, with a total alumni participation of 96, have been formed in Chicago, Rochester, St. Louis, northern New Jersey, Akron, Cleveland, Youngstown, Dallas, and Charleston, West Virginia. In the immediate months ahead groups will be formed in nine additional cities. These carefully selected alumni, volunteering their services, are already serving effectively to maintain contacts with local schools, to assist applicants, and to provide up-to-date information about the Institute.

Through these programs, and in many other ways, we are spreading information about the national need for professional men

in fields represented by M. I. T. and about the special advantages of M. I. T.'s educational program. We are making steady progress in spreading the word about the strength of our program in general education, the variety and scope of our student life, and the transformation of M. I. T. into a residential college. Through these means and others, we seek to attract into engineering, science, and our other fields men who possess, not only the requisite intellectual competence, but also the qualities of personality and the breadth of interest which are so important to these professions, especially since so many of our graduates move into positions requiring skill in management and the art of working with people.

In any discussion of the balancing of enrollments with placement demand in science and engineering, I believe it important to point out the probability of periods when placement will be slow. With the memory of June, 1950, still clear, we cannot assure college students in these fields that they will be eagerly sought after in any given year. A sudden demobilization or a severe cutback in the volume of defense production would most certainly result in a period of readjustment when the employment of new graduates would slacken. A recent research personnel study, soon to be published, shows that of all the scientists and engineers engaged in research and development in industry, 50 per cent are now employed directly or indirectly on government contracts. This is but one index of the effect of our mobilization economy on the utilization of scientists and engineers.

The evidence seems to be clear, however, that for the long pull the demand for scientists and engineers will be greater than the supply provided by the present and foreseeable level of enrollments and that we should not be governed in our planning by the possibility of temporary short-term fluctuations in demand.

THE EDUCATIONAL PROGRAM

The best way to recruit men with creative ability, leadership potential, and public spirit into the scientific and engineering fields is to provide an educational program that will attract such

men and permit them to realize their full abilities. This provides the over-all challenge to an institution such as this, which has traditionally been at the forefront in scientific and engineering education. Toward this broad objective, we have kept our sights set on three principal targets in the past several years:

1. The maintenance of the Institute's leadership in professional education in engineering, science, architecture, and management, at both the graduate and the undergraduate level.
2. The enrichment of our program in general education and in those social sciences appropriate to an institute of technology.
3. The achievement of M. I. T.'s goal to become a residential college and the rounding out of our extracurricular activities to make them of maximum educational value to our students.

In consonance with these three aims and in order to provide the means to achieve them, we have kept our sights on still another target — the funding of M. I. T.'s independence and its future, and the provision of new educational and research facilities in order to realize new educational opportunities. In this past year we have moved ahead towards these goals.

Strengthening the Undergraduate Program. In reporting to you a year ago, I spoke of the opportunity before us to make new contributions to undergraduate education. This year I make a progress report on the actions taken this past year. An outstanding job has been done by the Faculty in thoroughly studying the philosophy of our undergraduate education, with special attention focused on the freshman and sophomore years. The Committee on Undergraduate Policy, under the chairmanship of Professor John A. Hrones, and the Committee on the First Two Years, under the chairmanship of Professor Patrick M. Hurley, have been source points of ideas and protagonists of important changes. In addition to the usual faculty-committee studies and the regular faculty meetings, two week-end conferences were held which facilitated these discussions. In January, the members of the Undergraduate

Policy Committee and the chairmen of other faculty committees dealing with the undergraduate program met with the Academic Council at the Andover Inn for two days of uninterrupted discussion of the undergraduate program. This was followed in April by a similar meeting of committee chairmen and heads of the academic departments. Through these means, the Faculty has furthered a sustained consideration of ways to evolve a steadily improved professional education.

In recent years, the greatest developments in higher education in the United States have come at the graduate level, and there has been some tendency for undergraduate education to be neglected in favor of the more attractive opportunities of advanced teaching and research.

At M. I. T., we have always felt the undergraduate school to be the very core of our total program. Within our present phase, we are taking pains to make sure that we are still making creative contributions to the art of undergraduate teaching and that we are providing the best kind of environment and incentive to the teacher who teaches undergraduates with scholarship, professional standards, and inspiring skill. The teacher who can set a young man's mind on fire is an educational institution's most valuable asset. Happily, we have many at M. I. T., and we seek to give them the backing and the opportunity to exert their maximum influence. To improve the quality of teaching, to give more adequate recognition to the effective teacher, and to provide better opportunities for the exchange of ideas about teaching methods among the staff are matters of first importance.

Towards More Flexibility. There is a growing conviction that one of the best ways to promote effective student development and effective teaching is to give maximum choice and initiative both to the student and to the teacher. It is hard for either student or teacher to do an inspired job with a cut-and-dried course. Both need an opportunity to approach a given objective in their own individual way. We are therefore examining ways in which

we can make less rigid the strict schedule of our first two years without sacrificing the advantages of the present program of required courses.

There are sound reasons for a prescribed sequence of courses. In the first place, certain subjects are a necessary part of a professional education, and, secondly, few students know when they come to the Institute what their professional specialty will be. The common curriculum of the first two years is carefully designed to provide preparation for any of the Institute's courses.

There are also sound reasons for allowing more flexibility. There are differences in the preparation of students who enter the Institute. Some students come with fairly specific professional objectives and wish a program not matched by any formal curriculum which we offer. The best fundamental preparation for engineering may not be the best fundamental preparation for science or architecture or management. Most important of all, a more flexible curriculum would be more attractive to the Faculty since it would allow scope for imaginative and individualized teaching.

As a result of this year's discussion of flexibility versus rigidity, the Faculty has now approved as a first step toward less rigidity a plan whereby alternate groups of subjects will be offered in the first two years. None of the new versions would offer less coverage or difficulty than the courses now offered, but would, on the contrary, provide more depth, scope, and difficulty for those students who are prepared for and desire more advanced work.

Opportunities for Creative Work. Another concept in undergraduate education which has been examined and advanced during the year is what I would call the M. I. T. Project Plan for Professional Education. As Dean Sherwood has remarked, it is comparatively easy for an engineering school to teach subjects *relating to engineering* but very difficult to teach *engineering*. By bringing down into the undergraduate school more of the creative research and professional attitude of the graduate school, we have been

seeking to do a better job of teaching engineering and science to undergraduates. We have been doing this in part through the use of projects, as, for example, a plant-design problem undertaken by a team of students and requiring the use of judgment in regard to the many different technical and economic aspects of the problem. Another approach, aided by industry, has been to give a class of students the opportunity to redesign an appliance or piece of equipment and to have their designs built and tried out.

There is no set pattern for these projects. They can take many forms. The important thing is that they afford the student an opportunity to work under his own initiative, to have the motivation of seeing a realistic problem through to an over-all solution, and to use engineering judgment to make decisions when the data are incomplete. Through this project concept of instruction, we have an opportunity to give our undergraduates a real taste of professional practice and to provide them with a more interesting and highly motivated program. Our drive now is to find an undergraduate equivalent for the creative experience of the graduate student — to give the undergraduate an opportunity himself to be creative in terms of his stage of development.

Another important faculty action during the year was a reinstatement of the requirement for a Bachelor's thesis or project. It was the judgment of the Faculty that every undergraduate should have the experience of undertaking and carrying through on his own initiative an independent study through which he can bring to bear the knowledge and skill that he has developed in the separate subjects. The Faculty also voted to provide a three-day reading period for all classes before term-end examinations.

An undergraduate engineering school has much to gain from being attached to a strong graduate school where research of contemporary importance is going on. But mere physical propinquity is not enough. We must continue to explore ways in which to make the association one that impinges in a vital way on the college experience of the undergraduate.

Integrated General Education Program. During the past year, after extended discussion by appropriate committees, the Faculty approved a new four-year integrated program in general education. This core curriculum consists of a two-year introductory course required of all freshmen and sophomores followed by an elective sequence in the junior and senior years in which students will have the opportunity to elect a combination of three subjects in one of eight fields together with a fourth, or distributional, subject in a different field. Under this plan eight terms of general education are required, although the student is free to elect two additional terms.

The required two-year course is designed to give the student an introductory knowledge of important issues, ideas, periods, and events of the past, selected on the basis of their relevance to the world today. It will emphasize the interrelation of the various humanities and social sciences as elements in human experience and introduce the student to the process of critical thought as applied in the humanities and social sciences. Practice in written and oral expression is an integral part of this basic program.

Specialization in the third and fourth years may be in one of the following fields (and in each field there is a choice of subjects): History of Ideas; Political, Social, and Economic History; Literature; Music; Economics; Political Science and International Relations; Labor Relations; and Psychology.

The significant aspects of this new program, other than its carefully planned content, are the high intellectual standards required and the rich fare available at the Institute for our students. The strength of this program in general education, coupled with the general educational values of our professional subjects themselves, combine to afford our students an undergraduate education at once deep and broad. Because of our fine faculty in the humanities and the social sciences, we have the resources of a strong liberal-arts college to couple with the professional standards and motivation of our great Schools of Science, Engineering, Architec-

ture, and Management. This combination, as the Institute has demonstrated in the past, has great power and is peculiarly appropriate to meet the educational needs of our modern industrial society.

The Report of the Committee on Educational Survey continues to be a source of inspiration and influence in this continuing re-examination of our educational policies.

School of Industrial Management. This fall, the School of Industrial Management, now amply housed in the Sloan Building, expects a graduate enrollment of 48, including 18 members of the Sloan Fellowship Program. With the School still in the organizational stage, it is gratifying to have this large group of able graduate students. Over 200 sophomores, juniors, and seniors enrolled in Course XV make up the undergraduate school. The School will have 20 faculty members and an additional staff of 18, a total staff which is larger by over one-third than last year's staff of the Department of Business and Engineering Administration which has been absorbed by the School. In April, Professor Ronald H. Robnett was named Associate Dean of the School.

In developing the new School and in selecting its Faculty, we have sought to avoid duplication of existing schools of business. Repeating the old patterns would have been the fast and easy way to start the School; we have chosen the slower, more difficult path of re-examining the premises of management education and of seeking a fresh approach. From its beginning, the program of this new School should represent creative thinking about management. Toward this end, "task forces" have been appointed by Dean Brooks to devise new approaches and new content for important segments of the curriculum. One of these has already made a searching report on the place of the social sciences in the School. A second group on marketing (including 10 outstanding experts from industry) is now concluding its study of the methods by which we can most effectively advance marketing and distribution through our teaching and research. Other task forces will review the relationship of science and engineering to the program

of the School, and the ways in which the School can maintain a close and mutually valuable relationship with the industrial community.

One of the auspicious aspects of the new School is the extent to which it has been able to enlist the enthusiastic and generous assistance of scores of outstanding industrial leaders, of which Alfred P. Sloan, Jr., the founder of the School, is the commanding example.

During the year the Alfred P. Sloan Foundation, Inc., made a further grant of \$1,000,000 for the School, this fund to be used for research in the field of management.

Center for International Studies. During the year, the Institute established an interdepartmental organization devoted to research on problems of international communication and various other questions in international relations. Already the Center has received a grant of \$1,000,000 from the Ford Foundation for its studies of international communications and of economic development and political stability. The creation of the Center, of which Dr. Max F. Millikan, Professor of Economics, is Director, is indicative of the increased attention at M. I. T. to the economic and social implications of science and technology at home and abroad.

The program of the Center is interdepartmental in character, affording opportunities for research to the Departments of Economics and Social Science and of English and History and touching at many points upon the individual interests of faculty members in the several Schools of the Institute. Studies undertaken since the inception of the program have been of basic academic interest and in large part have been directly related to important problems currently facing the country.

The Center has drawn principally upon the resources of M. I. T. and the larger academic community of Metropolitan Boston, but it hopes to engage the interest of experts from a wide area and to co-ordinate its work with other institutions conducting parallel programs.

The Summer Session. The pattern of our Summer Session is changing in response to a conviction that it should concentrate on special programs, especially adult education, and minimize routine subjects of instruction which repeat work offered during the regular academic year. It is my hope that we can convert our Summer Session almost entirely to special conferences, courses, and seminars for professional personnel in industry, government, and educational institutions. Such a program would have more appeal for the Faculty and would enable faculty members, in my judgment, to make a greater contribution to our professional objectives. Additionally, it would reduce their fixed summer load.

This past summer brought a substantial increase in these special summer programs, while at the same time the regular summer courses were continued for 1,757 students. Eight special Conferences and twenty-two Special Summer Programs brought to the Institute more than 3,150 men and women. A large proportion of this group was housed in M. I. T. dormitories.

The registrants in the 22 Special Summer Programs comprised representatives of 263 industrial companies, 80 educational or research institutions, and 52 government agencies, a total of some 400 different organizations. The largest of the eight special symposia was the Fourth International Conference on Combustion with a registration of 697. In addition to the above, M. I. T. summer activities also included the Foreign Student Summer Program, the work at M. I. T.'s summer surveying camp at East Machias, Maine, and that at the Nova Scotia Centre for Geological Sciences near Antigonish, Nova Scotia.

In February, Professor Ernest H. Huntress succeeded Frederick G. Fassett, Jr., as Director of the Summer Session, Mr. Fassett having assumed new responsibilities as Associate Dean of Students.

STUDENT LIFE

The Faculty, the Dean of Students and his associates, and the students themselves have contributed towards our progress

this past year in increasing the educational effectiveness of the non-curricular aspects of student life at the Institute. Every effort is being made by the Administration and by the Faculty to create at the Institute an atmosphere in which each member of the student body feels that he as an individual is important and to make sure that each student knows where he can obtain help on educational or personal matters if he feels that he needs it.

The system which was inaugurated last year of having faculty residents in the student houses has been successful. In January, Frederick G. Fassett, Jr., was appointed Associate Dean of Students with particular responsibility for our residential units, the relationship of the Dean's office to the fraternities, the problems of commuting students, and co-operation of the administration with undergraduate publications.

Counseling Freshmen. Special attention is being given to helping freshmen as they adjust to life at the Institute. Faculty action has led to the establishment this year of a Freshman Advisory Council, each faculty member of which will act as adviser, and eventually as registration officer, for approximately twenty freshmen. This group has been authorized to develop a program of guidance on course selection and to facilitate the transition to life at the Institute. The Dean of Students and the Dean of Freshmen are to be ex-officio members of the Executive Committee of this Council, and the Dean's office will provide secretarial help and other assistance to the Council. A year ago Dean Bowditch wrote to all parents of entering freshmen as well as to their preparatory school principals, requesting any information which in their judgment might help Institute personnel in being of maximum help to the students. About two-thirds of the parents and schools responded, and their comments were of such value that similar letters were sent out this past summer.

This year all freshmen not living at home or in fraternities are required to live on campus. They are divided among all three living units so that they live in association with upperclassmen.

This year, too, a sub-committee of student government is inaugurating a new student program, whereby volunteer seniors will serve as counselors to freshmen, each senior counselor being assigned ten freshmen. Since each member of an upperclassman's group will be assigned to the same faculty adviser, there is expected to develop an informal collaboration between faculty and student advisers.

This fall the Institute required all freshmen to attend the Freshman Week End, which preceded the opening of the school year. This program, jointly sponsored and managed by Institute officers and student government, has demonstrated its value in getting our freshmen off to a good start.

Leadership Conference. To student initiative may be credited a highly successful leadership conference held during one week end last October. The President of student government, Robert Briber, was the first recipient of a \$500 award from a special grant of the Vannevar Bush Trust, which is to be given annually to the head of student government to assist him in discharging his duties more effectively. Mr. Briber used this grant to sponsor a Leadership Conference for the thirty-five members of the Institute Committee. Guests from the M. I. T. Administration and Faculty, as well as from industry, were invited to contribute to the discussion. The two-day conference discussed general problems of leadership as well as specific problems of the Institute Committee. All who participated were impressed with the fruitfulness of these meetings and the maturity with which the student participants outlined and discussed these questions.

Student Aid. Four ways are open to students to help cover the cost of their education at M. I. T.: scholarships and fellowships, the Loan Fund, the student work program, and residence in co-operative dormitories. The total amount of student aid and self-help available last year can be summarized as follows:

Scholarships	\$450,000
Loans	200,000
Work Program	300,000
Other Aid	50,000
	<hr/>
	\$1,000,000

This total is 28 per cent of the total tuition paid by students.

We provide still another type of student aid in the assistantships available to graduate students. These assistantships, which help to defray the students' over-all expenses (including tuition), last year represented payment for services totaling \$1,400,000.

Despite these impressive over-all totals, the Institute has inadequate funds for undergraduate scholarships. Last year, while graduate awards totaled \$260,836, undergraduate awards totaled only \$188,311. (For the year 1952-53 we were able *temporarily* to increase this amount out of reserves.) This inadequacy of undergraduate scholarships reflects a national inadequacy in the scholarship funds of schools of engineering and institutes of technology. These institutions are strikingly poorer in scholarship funds than the top liberal-arts universities. In my judgment this discrepancy works to the disadvantage of the engineering profession and it has played a part in the declining enrollments in engineering. We wish to be sure that exceptional young people interested in these fields are not denied a superior education for financial reasons.

In the judgment of the Institute's administration, our undergraduate scholarship awards should be increased by at least \$200,000 per year within the next five years.

We are convinced that many able young men do not even approach M. I. T. about admission because they assume that they will not be able to finance their program here. We believe that a well-advertised program of national scholarships would serve to call the attention of many schools, vocational advisers, and prospective students to the Institute and to the student aid we now can

provide. It has been the experience of several institutions which have established such national scholarships that these scholarships tend to attract able students in numbers beyond the number of awards available. Dean Bowditch and Dean Pitré have proposed the establishment of 25 national scholarships of substantial stipend and have presented convincing arguments that such an addition to our undergraduate scholarship program would help significantly in our admissions program.

The Student Personnel Office, which has been headed by William H. Carlisle, Jr., since January, 1951, made notable progress during the year. Over 1,000 students were placed in part-time and summer jobs through this office, and their collective earnings amounted to over \$300,000. This is more than double the amount earned in the previous year.

The Technology Loan Fund plays a major part in our student aid program and in serving the student who wishes to take responsibility for helping to finance his own education. Last fall a questionnaire was sent by Mr. Lobdell, Chairman of the Loan Board, to those who had fully repaid their obligations, and the answers indicated a high level of accomplishment by these men. The replies also indicated great enthusiasm for this form of student aid. This past year almost 400 men availed themselves of the Fund, and approximately \$200,000 was lent to this group.

The loan arrangement would seem to be particularly appropriate for a technological school, whose graduates are in great demand by industry and in fields where salaries are relatively high. The demand by industry for M. I. T. graduates is indicated by the fact that from July, 1951, to June, 1952, almost twice as many companies conducted personal interviews at the Institute as had done so the previous year. The average student received from four to six offers of employment, and salaries were higher than the year before. Bachelor's degree men were being offered \$325-\$375; Master's degree men from \$375 to \$450, and Doctors from \$500 a month up.

During the past year we undertook for the first time to

co-ordinate the three forms of student aid (scholarships, loans, and work opportunities), Dean Pitré having assumed administrative cognizance over all three.

THE FACULTY CLUB

Occupying the top floor and penthouse of the Alfred P. Sloan Building, the Faculty Club opened its doors in May, ushering in a welcome new era in the community life of the Institute and splendidly fulfilling one of the desiderata long urged by the Faculty.

Under the effective direction of its enthusiastic officers, the Club has already established itself as a community center. Over eight hundred members are enrolled, and the roster is growing. Membership is open to all M. I. T. staff and officers and members of the Corporation, and to a small number of alumni, limited by the capacity of the Club. The Club is not operated by the Institute but by its members, who are represented on a number of committees. Space for the Club was provided through the generosity of the Alfred P. Sloan Foundation, Inc., through its grant for the School of Industrial Management. The furnishings and equipment were provided by a generous donation made by our fellow member, Mr. Redfield Proctor.

The facilities include a main dining room with accommodations for 200, four private dining rooms, several rooms for overnight guests, a lounge, game room, and other pleasant appurtenances appropriate to a social club.

Not the least of the advantages of the Club is the opportunity it affords its members to extend hospitality to the Institute's many distinguished visitors in appropriate campus quarters.

INTERNATIONAL PERSPECTIVE

Earlier in this report I spoke of the shortage of well educated scientists and engineers as being world-wide. If the high technology of our national economy poses one kind of demand, the need for men in these fields in the undeveloped regions or less highly industrialized nations is in some respects even more urgent.

M. I. T., as one of the world's great centers of scientific and technological education, has a responsibility to the international community to furnish educational opportunity to men from other countries to the limit of its ability and to respond to requests for advice and assistance on educational matters.

In recent years, M. I. T. has enrolled the highest percentage of foreign students of any college in the United States. Last year over 10 per cent of our student body came from other countries. In addition the Foreign Student Summer Project, now largely supported by the Alfred P. Sloan Foundation, Inc., brought 81 men and women from 35 nations to the Institute for research and study in the summer months. This student-run project, which was started in the summer of 1948, now has an active alumni body of 369 members in 40 countries.

New visa regulations since 1948 have made it possible to increase the number of foreign nationals who are at the Institute as graduate students with assured part-time jobs, those on the instructing staff and research workers. This past year we have increased the number of men and women in these categories.

We have a large flow of visitors to our campus from abroad, and, in recent years, we have been host to many individuals and groups whose trips to this country have been sponsored under the technical-assistance programs of our government. Sometimes these visits require elaborate arrangements involving many members of the staff. For example, in June we were asked to plan a day-long seminar on research management and related questions for a group representing 16 Marshall Plan countries whose visit to this country was being sponsored by the Organization for European Economic Cooperation and the Mutual Security Agency.

Nor has our participation in the technical assistance programs been limited to the reception of visitors. In July and August, 1951, Professor Harold Hazen headed a fifteen-man Engineering Education Mission to Japan, which included three M. I. T. faculty members in addition to Professor Hazen. As one direct result of the Mission's work, the Japanese Society for Engineering Education was formally inaugurated on August 7, 1952.

Last fall M. I. T. co-operation was enlisted by the State Department in a program of technical assistance to the College of Engineering of the University of Rangoon in Burma. As a preliminary step in working out a program of co-operation between the two schools, Professor Rogers Finch, who has been named supervisor of this program, visited the University of Rangoon in March. Following his report, an agreement was entered into whereby the Institute will undertake to recruit up to six staff members for the University. This staff will not only teach but will also aid in the reorganization of the engineering program. The project is being financed by a grant from the U. S. Technical Cooperation Administration. Professor Murray P. Horwood has been granted a leave of absence to head the project staff at Rangoon this year.

If the Institute and its personnel have acquired new international responsibilities in recent years, they have also gained importantly from the distinguished foreign visitors to our campus and from the growing number of exchange professorships which are providing opportunity to our staff members to enrich their experience by work in other countries. Similarly, an ever-increasing number of our students are seeking and finding opportunities for work and study abroad, and they have been aided in this by the Foreign Study Committee under the Chairmanship of Professor Norman J. Padelford. Together with the addition of a Center for International Studies to our campus, these activities indicate a widening of the Institute's horizons which is appropriate in the age in which we are living.

NEW EDUCATIONAL FACILITIES

Since my last report, two new buildings have been occupied, and another is in the process of being occupied as the school year opens. This has made possible a thoroughgoing reallocation of space throughout the Institute, and there is no Department which has not gained, to some extent at least, by these space changes. For instance, as the Biology Department moves into the John

Thompson Dorrance Laboratory, space has been released in Building 10 which makes it possible to consolidate the facilities of the Electrical Engineering Department and to effect a reorganization of laboratories as well as offices which is designed to strengthen the educational program in this field. Similarly, when the Machine Tool Laboratory moved into the new Metals Processing Laboratory, the Department of Graphics moved into the space thus vacated, which in turn made it possible to bring the Business Administration offices together in Building 24. Some idea of the scope of these changes may be gained from the fact that for last year and this, the Institute has budgeted \$1,250,000 for reconditioning, modernization, and moving costs.

A complete reassessment and reorganization of our library system has accompanied the re-arrangement of the academic departments. With the spreading out of the college over a larger area, and immediate problems before us of whether to include new branch libraries in the Dorrance and Sloan buildings, a careful reassessment of our whole library system seemed advisable. In order that we might benefit from the perspective of a person outside the Institute community, the Faculty Committee on the Library enlisted the help of Dr. Keyes D. Metcalf, Librarian of Harvard University. Dr. Metcalf made a thorough survey of our situation during the late summer and fall of 1951, and his thoughtful, informed appraisal of our library system provided a sound basis for action.

The reconstituted library organization which is now being put into effect reverses the trend towards too great a proliferation of branch libraries by providing for a limited number of large, well-staffed divisional libraries to replace the existing small and inadequate branches. There will be a General Library and five large Divisional Libraries which will correspond to the five Schools of instruction.

The Library of the School of Architecture will continue as the Rotch Library of Architecture and Planning in its present location. The Engineering Library now comprises the former

branch libraries of Aeronautics, Engineering and Naval Architecture, and the Vail Library of Electrical Engineering, and is located on the fifth floor of Building 10, with the exception of the aeronautics collection. The Humanities Library, incorporating segments of the former Dewey Library of Economics and Industrial Relations and the English and History Library, remains in the Charles Hayden Memorial Library. This library building will also house the General Library as well as a Science Library containing the former Eastman, Lindgren, and Biology-Food Technology branch libraries. A reconstituted Dewey Library will serve the School of Industrial Management and is housed on the third floor of the Sloan Building.

The School of Industrial Management, including the Department of Business and Engineering Administration, moved into its quarters in the Sloan Building last May. The ground floor of this building is occupied by the Psychology Laboratory, the Work Simplification Laboratory, and the Faculty Club kitchen. The first floor contains classrooms and temporary quarters for special projects. Some space in this building has also been allotted to the Center for International Studies. The sixth floor and penthouse have provided space for the Faculty Club.

The Metals Processing Laboratory was dedicated June 3, 1952. A distinguished group of scientists, industrialists, and educators attended the ceremonies at which Mr. Alfred P. Sloan, Jr., formally presented to the Institute this building, which was made possible by the gift of \$1,000,000 for this purpose from the Alfred P. Sloan Foundation, Inc. The dedication ceremonies, at which members of the Institute Faculty spoke of the work in metallurgy and in mechanical engineering which this new laboratory will house, were followed by a two-day conference on metal cutting sponsored by the Machine Tool Division of the Department of Mechanical Engineering.

During this past year, new combustion facilities have been completed, and the combustion group has been transferred to the new quarters above the Gas Turbine Laboratory. As the fall

term opens, some offices in the John Thompson Dorrance Laboratory are already occupied, and we hope that, by November 1, the complete transfer of the Biology Department and the Department of Food Technology to this splendid new building will have taken place. The space and equipment thus provided will not only strengthen present programs in these important fields but will permit new programs as in the field of biochemistry.

This past year the Wright Brothers Wind Tunnel was transformed by the construction of a transonic wind tunnel. It is expected that the Wright Brothers Wind Tunnel with the transonic addition will be used in three ways: for transonic testing on basic research and evaluation of transonic control project designs; for supersonic testing in connection with aeroelastic problems; and for subsonic testing of industrial design. The addition of a test facility in the relatively unexplored transonic region, as well as the trend toward more basic work, has created renewed interest in advanced laboratory work among the students.

Final working drawings for the Auditorium are now being completed, and construction is expected to start this winter. The auditorium will seat 1,200 and has a stage which will accommodate the largest Institute choral groups, as well as the symphony orchestra. The basement is so planned that it can be developed as a small theater, to meet the special requirements of our drama groups. The Auditorium will be supplemented by a small devotional chapel which will be available to all religious groups at Technology.

Plans are moving ahead for further improvements in our living units, especially in the common rooms. In addition we plan to add to the number of student-faculty rooms attached to the respective academic departments. Designs have been completed and work will begin shortly on the Charles M. Spofford Room which will serve the students and Faculty of the Departments of Civil and Mechanical Engineering. The student chapter of the American Institute of Chemical Engineers is presently active in promoting a student room in the Chemical Engineering Department to be

named after Dr. William H. Walker, while the Department of Physics is equipping a similar room for its students. This past year an addition to its Technology Store by the Harvard Cooperative Society has provided a greatly enlarged bookstore to serve the Institute community.

RESEARCH FOR THE GOVERNMENT

At the end of World War II, the Institute was carrying on defense research involving a rate of expenditure of \$50,000,000 a year. By 1945-46 this government-financed research was reduced to \$8,000,000 a year in accord with the Institute's desire to cut back military research to a minimum consistent with our national responsibility. This reduced volume increased slowly in succeeding years until the Korean conflict produced an abrupt and compelling demand upon the Institute and its staff to make their special competence further available to aid the rearmament program. Various research programs at the Institute which were being pursued on a modest scale and with peacetime objectives were demonstrably of immediate importance to the military services, and we were asked to enlarge them. Certain projects with military objectives which had continued after World War II became quickly of more urgent importance, some even to the fighting in Korea, and obviously we were under obligation to accelerate them.

As a result of these factors and of the Institute's key position as a national center of research, the volume of our research conducted under contract with the government has rapidly risen, not to a total comparable to World War II, but to a total larger than we would wish if we were free of emergency demands.

The greatest increase in this program has resulted from a single undertaking, Project Lincoln, a research program devoted to air defense, under contract with the Air Force but serving all three services. Within a year this project will be housed in government-provided facilities at the Bedford Airport. While it will be removed from the Technology campus, it will continue

under the management of the Institute. Research in the Instrumentation Laboratory plus Project Meteor, both going back several years, together with Project Lincoln, represent our major efforts in military research and constitute the bulk of our government research program. In addition, we have numerous other smaller government projects, most of which contribute importantly to our basic research and educational programs while serving specific needs of the government and of industry engaged in defense activities.

In handling this large program, the Institute has been governed by the following considerations and policies:

1. To accept defense research only when we have special advantages of men, experience, and equipment, when it clearly could not be done as well or better elsewhere, and when informed and reasonable men judge the national need for the research to be compelling. Except in time of war, the acceptance by the Institute of large research projects devoted to classified development work can be justified only on the basis of national need.

2. To manage the research with a minimum interruption of our educational and basic research programs. Members of our Faculty have accepted the major scientific responsibility for this defense research and their contributions to our normal program have been reduced, but we have sought to keep this diversion of manpower to a minimum. Nevertheless the burdens on the Institute staff are very great.

3. To manage these projects so that they do not improperly or seriously disrupt the educational programs of other institutions through unreasonable competition for manpower, particularly through excessively high salary incentives. I believe that they are being managed without seriously weakening the over-all educational resources of the country in a time when the maintenance of the flow of new scientists and engineers is so important to the security and long-term strength of the country.

4. To handle the fiscal management of the research on a no-profit, no-loss basis, but at the same time protect the Institute against the uncertainties of government contracts and the large-scale commitments inherent in a program of this magnitude. We are seeking to provide every possible safeguard, including segregation of the large projects from the normal operations of the Institute.

5. To be governed by the national interest and to make our proper contribution to the security of the country even when this may require institutional sacrifices.

These are difficult policies to administer. The conduct of large, classified military research projects imposes vexing and heavy burdens on any educational institution. We are acutely aware of the hazards inherent in our government research. We have accepted the large classified projects reluctantly, and we look forward eagerly to the time when they will be no longer necessary. We propose to withdraw from the projects when we have met our commitments or when our participation becomes less than compelling, but we should see our responsibilities through. An institute of technology has special resources which impose on it a responsibility in defense research different from many other kinds of educational institutions.

The Visiting Committee on the Division of Industrial Cooperation has been most helpful in its consideration of our sponsored research program, and, during the coming year, I shall seek the advice of the Committee on specific ways whereby we can minimize the hazards to the Institute while wisely and effectively discharging our commitments.

FINANCES

Since 1939-40, the Institute's academic operating expenses per student have risen more than 80 per cent, and they are still increasing as the cost of living rises. This steady upward trend in expenses has required the Institute to increase its tuition from \$800 to \$900 per academic year, effective July 1, 1953.

The additional income received from this tuition increase will be devoted in part to increasing scholarship funds but mainly to cover necessary increases in salaries and wages, already given, to enable our personnel to meet rises in the cost of living and to enable the Institute to maintain an outstanding faculty. Even with the increase in tuition, it will be necessary for the Institute to depend heavily upon gifts for current expenses, a condition facing all endowed institutions.

As I emphasized in my report last year, and as the Treasurer stresses in his report, our fund-raising activities must be steadily directed toward increasing the Institute's permanent funds. It is interesting to compare the growth of the Institute's endowment and other funds with that of other major privately endowed institutions. The Year Book of the Encyclopedia Britannica reports the comparative figures as follows:

CHANGES IN COLLEGE ENDOWMENTS AND OTHER FUNDS

1939-1952

	<i>Endowment and Other Funds</i> (millions)		Increase	
	1939	1952	Dollars	Per Cent
Harvard.....	144.8	241.2	96.4	66
Yale.....	105.0	141.2	36.2	34
Columbia.....	87.0	87.2	0.2	0
Chicago.....	70.4	73.5	3.1	4
Rochester.....	51.0	59.6	8.6	17
M.I.T.....	35.5	54.4	18.9	53
Princeton.....	31.8	51.7	19.9	62
Cornell.....	31.0	46.9	15.9	51
Carnegie Inst. of Tech...	17.3	29.0	11.7	68
California Inst. of Tech..	10.0	23.8	13.8	138

The growth of the Institute's permanent funds has been greater than the growth of our *endowment* funds. In 1939, endowment represented 90 per cent of our total funds; in 1952, only 72 per cent. The growth of our funds needs to be accelerated to bring them more in line with our present size and responsibilities. The impressive success of some of our sister institutions provides encouraging evidence that we can hope to achieve a substantial increase in our funds.

Most encouraging evidence of all as to the Institute's opportunity to augment its funds comes from the success of its Development Campaign and its continuing effect on the level of contributions. During 1951-52, the total of gifts, grants, and bequests was \$6,935,000, of which \$1,998,000 represented maturing pledges to the Development Campaign. As Mr. Snyder shows in his report, over 80 per cent of the Institute's increase in endowment funds over the past decade has been received during the past three years, reflecting, of course, the effects of the Development Campaign.

As its Chairman, Mr. Marshall Dalton, reported at the June meeting of the Corporation, our new Standing Committee on Development, of which Alfred P. Sloan, Jr., is Honorary Chairman, is charting the course for our continuing development program. In reviewing the Institute's needs and the ways in which we can meet them, the Committee reiterated that we should have no intensive campaign within the foreseeable future but a sustained effort to get new capital resources. It validated an objective to seek in this manner some twenty million dollars for additional permanent funds and twelve million dollars for special facilities over the next five years or so. This is a measure of the Committee's conviction as to the importance of the Institute's service to the nation and to the reasonableness of its planning in terms of this magnitude.

With the appointment of Professor Walter H. Gale as Secretary of the Institute with administrative responsibility for fund-raising and of Ralph T. Jope as Director of the Development Office, we are organized to carry out the policies and program of the Committee.

In speaking of the Institute's finances, I wish to call special attention to the management of our funds. Our treasurer, Mr. Snyder, together with the Finance Committee under the chairmanship of Mr. Macomber, have demonstrated a high degree of acumen and skill in our investment policy. The rate of income last year on the average book value of our funds was 5.18 per cent.

FACULTY AND ADMINISTRATION

Under the reorganization of the faculty committee structure, as recommended by the Committee on Educational Survey, various faculty officers have assumed greater educational policy-making responsibilities. This is especially true of the Chairmen of the Undergraduate Policy Committee and of the Committee on the First Two Years, and of the Chairman of the Faculty itself. This system has strengthened the policy-making function of the Faculty, and we have been particularly fortunate in the members who have held these several faculty posts. I would speak here particularly of Professor Gordon Brown, who served so admirably last year as Chairman of the Faculty and who was instrumental in achieving a high degree of teamwork.

During the year two Vice Presidents were appointed, Dr. Stratton as Vice President and Provost and Mr. Snyder as Vice President and Treasurer, thus providing the Institute with an academic vice president and a financial vice president. This reorganization of our administration has proved good; the men who hold the two posts are superlatively effective associates and are making creative contributions to the administration of the Institute. Each of us, the President and the two Vice Presidents, feels strengthened in discharging his responsibilities by the administrative skills of the Secretary of the Institute, Professor Gale, the Executive Assistant to the President, Mr. Kispert, and the Assistant Provost, Professor Floe.

Dr. Harold L. Hazen, Head of the Department of Electrical Engineering since 1938, became Dean of the Graduate School in July, succeeding Dr. John W. M. Bunker who had reached retirement age. Dean Bunker has left his mark upon the Institute, as Professor of Biology and as Dean of the Graduate School. Under his leadership, the standards and ideals, the prestige and the influence, of our Graduate School, have reached new highs. We will continue to have the benefit of his service on a part-time basis as Special Adviser to the President and through the Registry of Guests which he will supervise.

Admiral Edward L. Cochrane, head of the Department of Naval Architecture and Marine Engineering since 1947, has been named Dean of Engineering to succeed Dr. Thomas K. Sherwood. Dean Sherwood asked to be relieved of the administrative duties of the Dean's office to devote full time to teaching and research in chemical engineering. Dean Sherwood has been a superb Dean of Engineering. A steady and efficient administrator, he is also an innovator in educational methods and policies. He has made a profoundly valuable contribution to our educational planning, and our regret in losing him is tempered only by our knowledge that his influence will continue as Professor of Chemical Engineering.

Other administrative appointments have been mentioned elsewhere, and a complete list of personnel changes is included as an appendix to this report. Here I would like further to call attention to the changes in Department Heads which have taken place this year — one, a distinguished newcomer to the Faculty, the others, men who have proved themselves through notable contributions to M. I. T. Professor Laurens Troost, who succeeds Admiral Cochrane as Head of the Department of Naval Architecture and Marine Engineering, won international recognition as a naval architect in The Netherlands and has served on the faculty of his alma mater, the Delft Institute of Technology. In 1951 he lectured for one term at M. I. T. under a Fulbright award. Since then he has been a temporary member of the staff of the University of California at Berkeley. Other appointments to the position of Department Head are: Gordon S. Brown, Department of Electrical Engineering; Nathaniel H. Frank, Department of Physics; and Bernard E. Proctor, Department of Food Technology.

Jerome Wiesner, Professor of Electrical Engineering, has been named Director of the Research Laboratory of Electronics. Albert G. Hill, Professor of Physics and former Director of the Research Laboratory of Electronics, has been appointed Director of the Lincoln Laboratory.

Professor Edwin R. Gilliland has been elected Chairman of the Faculty. John I. Mattill has been named Director of Publica-

tions. William R. Weems has been named Director of the Industrial Liaison Program succeeding Robert V. Bartz, who resigned to organize a similar office at the California Institute of Technology. Duncan S. Ballantine, Associate Professor in the Department of English and History, resigned this year to accept the Presidency of Reed College.

THE CORPORATION

Because of the availability of the new emeritus membership, the Corporation has welcomed eight new life members this year, and has had the continued pleasure and benefit of having its emeritus members maintain their interest and participation. Under the Chairmanship of Dr. Compton, the Corporation has served with great effectiveness in providing guidance and leadership to the Institute and in discharging its trusteeship responsibilities. The Executive Committee, the Finance Committee, the Visiting Committees, and the other standing committees of the Corporation, aided skillfully by our Secretary, Mr. Humphreys, have all made steady contributions to the Institute and have done so with wisdom and public spirit.

It is my pleasant opportunity, in concluding this annual report, to speak thus with enthusiasm and appreciation of the loyal service of Corporation, Faculty, Administrative Staff, and Students in carrying on the work of the Institute.

Respectfully submitted,

JAMES R. KILLIAN, JR.
President.

Cambridge, Massachusetts
October 6, 1952

Appendix

STATISTICS OF THE YEAR

Enrollment. The student body numbered 4,874 in 1951-1952, as compared with 5,171 in 1950-1951. The estimated enrollment for 1952-1953 is 5,100. Fourteen per cent of last year's total were veterans, as compared with 25 per cent the previous year. Twenty-one per cent were married, as compared with 25 per cent for 1950-1951. Ninety-five women were enrolled, 38 of whom were graduate students. A total of 262 American colleges and universities and 105 foreign institutions were represented. Foreign students numbered 430, and these students represented 66 foreign countries.

Enrollment in the Graduate School reached a new high of 1,720, as compared with 1,675 the previous year. There were 177 officers from the Armed Services enrolled for advanced degrees, in addition to 30 who were registered as special students.

ENROLLMENT AT M. I. T.

	<i>Freshman</i>	<i>Total Undergraduate</i>	<i>Total Graduate</i>	<i>Total</i>
1940-1941	605	2,379	759	3,138
1945-1946	703	1,160	378	1,538
1946-1947	907	3,811	1,361	5,172
1947-1948	884	4,138	1,524	5,662
1948-1949	819	3,831	1,602	5,433
1949-1950	744	3,856	1,602	5,458
1950-1951	784	3,496	1,675	5,171
1951-1952	736	3,154	1,720	4,874
1952-1953 (est.)	950	3,200	1,900	5,100

Student Aid. Scholarship grants to undergraduates totaled \$188,311 to 553 students, as compared with \$188,388 to 607 students the year before. Some undergraduates held both scholarships and loans. Two hundred seventy undergraduates received loans as of June, 1951, amounting to \$148,096.

Total graduate scholarships and fellowships for 1950–1951 amounted to \$260,836, and these scholarships and fellowships were granted to 207 recipients. This compares with a total of \$268,132 granted to 244 recipients in 1950–1951. The number of fellowships sponsored by industrial companies totaled 86 with an aggregate stipend of \$183,560. Staff tuition was paid from departmental funds in the sum of \$108,709 in behalf of 319 other graduate students holding part-time service appointments.

From both graduate and undergraduate students the Loan Fund Board received 404 applications during 1951–1952 and acted favorably on 376, or 93.2 per cent, lending \$198,781. In 1950–1951, 303 students, 85.8 per cent of those who had applied, received \$162,006 from the Loan Fund. Last year's operations brought the cumulative total of Loan Fund operations to 3,627 men aided over a period of 22 years and the cumulative total loaned during that period to \$2,512,881.

Student employment reached a new high through the efforts of the Student Personnel Office, with 1,129 students placed in jobs over the twelve-month period. This compares with 979 students placed in part-time jobs in the previous year. The 1951–1952 group earned \$306,974, more than double the \$131,104 earned in 1950–1951.

Finances. The year 1951–1952 ended with an excess of expense of \$16,383 on operations totaling \$32,534,000.

The Institute's endowment and other funds now have a total book value of \$57,771,000 invested in securities and other assets with a market value of \$72,524,000. Plant assets stand at \$31,365,000, about \$2,788,000 above last year. For the fifth successive year the income allocation to funds sharing the general investments was at 4.0 per cent of book value. Unallocated investment income in the amount of \$523,000 was added to the balance of undistributed investment income, bringing the fund up to \$1,297,000.

The table on the following page shows the comparative percentage distribution of the major elements of income and expense.

DISTRIBUTION OF MAJOR ELEMENTS OF INCOME AND EXPENSE

Income			
	<i>Per Cent</i>		
	1939-40	1950-51	1951-52
Tuition.....	48	17	11
Investment Income.....	32	6	4
Gifts and Other Receipts.....	7	9	7
Research Contracts: For Direct Expense....	3	53	62
For Indirect Expense....	0	8	11
Dormitories, Dining Services.....	10	7	5
	<u>100</u>	<u>100</u>	<u>100</u>
Expense			
	<i>Per Cent</i>		
	1939-40	1950-51	1951-52
Academic.....	61	21	16
General Administrative.....	13	10	8
Plant Operation.....	10	7	8
Research Contracts: Direct.....	3	53	62
Medical and Other.....	4	2	1
Dormitories, Dining Services.....	9	7	5
	<u>100</u>	<u>100</u>	<u>100</u>

The total gifts received each year since 1941 are shown in the following table:

	<i>Capital Additions</i>	<i>Total Gifts</i>
1941-1942.....	534,316	926,897
1942-1943.....	616,702	884,268
1943-1944.....	1,132,835	1,367,507
1944-1945.....	1,245,911	1,736,892
1945-1946.....	2,042,533	2,549,969
1946-1947.....	1,463,798	2,382,681
1947-1948.....	868,859	2,191,822
1948-1949.....	622,386	2,536,802
1949-1950.....	2,749,413	6,528,089
1950-1951.....	4,720,904	9,145,107
1951-1952.....	465,264	6,953,106

The 1951-1952 figure includes maturing pledges to the Development Campaign. In addition to the \$465,264 received as gifts specifically designated for capital purposes in 1951-1952, the Institute added \$2,096,000 to endowment out of its unrestricted funds.

REPORT OF THE PRESIDENT
CORPORATION APPOINTMENTS
(October 1, 1951–October 1, 1952)

LIFE MEMBERS

Elected December 1951:

Walter J. Beadle
Thomas D. Cabot
Crawford H. Greenewalt
B. Edwin Hutchinson
Duncan R. Linsley
Irving W. Wilson

Elected June 1952:

James McGowan, Jr.
Harold B. Richmond

TERM MEMBERS (Five Years)*

Special:

Gwilym A. Price
George W. Merck

Alumni:

Everett S. Coldwell
Alfred T. Glassett
William L. Stewart, Jr.

EX OFFICIO MEMBERSHIP

Joseph J. Snyder

Julius A. Stratton

TRANSFERS TO EMERITUS STATUS**

Louis S. Cates
Victor M. Cutter
Pierre S. du Pont
Lammot du Pont (d.)
W. Cameron Forbes

Franklin W. Hobbs
William S. Newell
William C. Potter
Gerard Swope

*The special term memberships of Beauchamp E. Smith and the Alumni term memberships of Harold Bugbee, C. George Dandrow, and James McGowan, Jr., expired in June.

**A change in the by-laws of the Corporation voted June 8, 1951, permits Life Members over age seventy to request emeritus status.

ADMINISTRATION CHANGES

(October 1, 1951–October 1, 1952)

Appointments:

Arthur L. Bryant, *Executive Secretary of the Educational Council*
Arthur E. Mitsch, *Chief Accountant*
Walter L. Milne, *Editorial Assistant*
Edward T. Pieper, *Assistant Superintendent of Buildings and Power*
James F. Fandel, *Assistant to the Personnel Officer*
Max F. Millikan, *Director of the Center for International Studies*
Professor Harold L. Hazen, *Dean of the Graduate School*
Admiral Edward L. Cochrane, *Dean of the School of Engineering*
Professor Ernest H. Huntress, *Director of the Summer Session*
Frederick G. Fassett, *Associate Dean of Students*
Professor Ronald H. Robnett, *Associate Dean of the School of Industrial Management*
Professor Carl F. Floe, *Assistant Provost*
Malcolm G. Kispert, *Executive Assistant to the President*
Frederic W. Watriss, *Assistant to the Treasurer*
Professor Albert G. Hill, *Director of the Lincoln Laboratory*
Professor Jerome B. Wiesner, *Director of the Research Laboratory of Electronics*
Professor Gordon S. Brown, *Department Head, Electrical Engineering*
Professor Laurens Troost, *Department Head, Naval Architecture and Marine Engineering*
Professor Nathaniel H. Frank, *Department Head, Physics*
Professor Bernard E. Proctor, *Department Head, Food Technology*
Associate Professor Walter McKay, *Executive Officer, Aeronautical Engineering*
Associate Professor George G. Harvey, *Executive Officer, Physics*
William R. Weems, *Director of the Industrial Liaison Office*
John I. Mattill, *Director of Publications*
Thomas Cantwell, Jr., *Industrial Liaison Officer*
Eugene B. Skolnikoff, *Industrial Liaison Officer*
F. Leroy Foster, *Associate Director of the Division of Industrial Cooperation*
Paul V. Cusick, *Assistant Director of the Division of Industrial Cooperation*

Resignations:

Thomas L. Hilton, *Assistant Dean of Students*
Donald Whiston, *Assistant Superintendent of Buildings and Power*

FACULTY CHANGES
(October 1, 1951–October 1, 1952)
PROMOTIONS

To Professor:

John C. Sheehan, Chemistry
Walter H. Stockmayer, Chemistry
Max F. Millikan, Economics and Social Science
Lan Jen Chu, Electrical Engineering
Arthur E. Fitzgerald, Electrical Engineering
John G. Trump, Electrical Engineering
Karl W. Deutsch, English and History
Ascher H. Shapiro, Mechanical Engineering
Howard F. Taylor, Metallurgy

To Associate Professor:

Major Joseph F. Gricius, Jr., Air Science and Tactics
Thomas M. Hill, Business and Engineering Administration
T. William Lambe, Civil and Sanitary Engineering
George C. Newton, Jr., Electrical Engineering
William M. Pease, Electrical Engineering
Thomas H. D. Mahoney, English and History
Theodore Wood, Jr., English and History
Ernest E. Lockhart, Food Technology
August L. Hesselschwerdt, Jr., Mechanical Engineering
Brandon G. Rightmire, Mechanical Engineering
Warren M. Rohsenow, Mechanical Engineering
Lieutenant Colonel Woodrow W. Reagan, Military Science and Tactics
Lieutenant Colonel John S. Shapland, Military Science and Tactics
Major John P. Cox, Military Science and Tactics
J. Harvey Evans, Naval Architecture and Marine Engineering
Bernard T. Feld, Physics
David H. Frisch, Physics

To Assistant Professor:

Major Charley W. Haynes, Military Science and Tactics
Roland F. Beers, Jr., Biology
Myles Maxfield, Biology
Cyril C. Hermann, Business and Engineering Administration
Robert G. James, Business and Engineering Administration
George B. Baldwin, Economics and Social Science
Elspeth D. Rostow, Economics and Social Science
Charles W. Adams, Electrical Engineering
Ernest J. Angelo, Jr., Electrical Engineering
Rudolph J. Cypser, Electrical Engineering
Leslie H. Fishel, Jr., English and History
James G. Kelso, English and History
Robert L. Koehl, English and History
Arthur Mann, English and History
Samuel A. Goldblith, Food Technology
John T. R. Nickerson, Food Technology
William H. Dennen, Geology and Geophysics
George H. Allen, Graphics
Steven A. Coons, Graphics
John A. Clark, Mechanical Engineering
I-Ming Feng, Mechanical Engineering
Erwin G. Loewen, Mechanical Engineering
J. Lowen Shearer, Mechanical Engineering
Tau-Yi Toong, Mechanical Engineering
Clyde M. Adams, Jr., Metallurgy
Earle R. Marshall, Metallurgy
George E. Condoyannis, Modern Languages

APPOINTMENTS

Professor:

Eli Shapiro, Industrial Management
 Laurens Troost, Naval Architecture and Marine Engineering
 Captain James M. Hicks, Naval Architecture and Marine Engineering

Visiting Professor:

Ewart R. H. Jones, Chemistry (one term)
 Louis B. Wetmore, City and Regional Planning (one year)
 Ralph Barton Perry, English and History (one term)
 Sir Richard Livingstone, English and History (one year)
 Cornelis B. Biezeno, Mechanical Engineering (one term)
 Jan T. G. Overbeek, Metallurgy (one year)
 Carl W. Wagner, Metallurgy (one year)

Associate Professor:

Paul E. Sandorff, Aeronautical Engineering

Assistant Professor:

Theodore Pian, Aeronautical Engineering
 Jan R. Schnittger, Aeronautical Engineering
 Captain Edgar W. Nichols, Air Science and Tactics
 Captain William J. Sullivan, Air Science and Tactics
 Richard Filipowski, Architecture
 Richard C. Sanborn, Biology
 Myron J. Gordon, Business and Engineering Administration
 John R. Summerfield, Business and Engineering Administration
 Daniel F. Fairbanks, Chemical Engineering
 William McC. Siebert, Electrical Engineering
 David C. White, Electrical Engineering
 Roger Williams, English and History
 Thomas A. Staudt, Industrial Management
 Kenkichi Iwasawa, Mathematics
 Ralph A. Burton, Mechanical Engineering
 Arthur A. Fowle, Mechanical Engineering
 Shih-Ying Lee, Mechanical Engineering
 Robert D. Tyler, Mechanical Engineering (exchange)
 Major Vincent Gangemi, Air Science and Tactics
 Major Franklin B. Moon, Military Science and Tactics
 Robert A. Satten, Physics
 Felix Villars, Physics

LEAVES OF ABSENCE

Professors Stanley Backer, Roland F. Beers, Jr., Karl W. Deutsch, Harold A. Freeman, Albert G. Hill, Murray P. Horwood, Kevin A. Lynch, Rene H. Miller, G. E. Valley, Jr., Walter G. Whitman, John Wulff

Associate Professor Robert J. Van de Graaff

Assistant Professors Seibert Q. Duntley, Ralph Rapson

RETIREMENTS

John W. M. Bunker, Dean of the Graduate School
 (Remains on staff on a part-time basis as Special Adviser to the President)
 Professor Lawrence B. Chapman, Department of Naval Architecture
 Professor Jerome C. Hunsaker, Department of Aeronautical Engineering
 (Remains on staff on a part-time basis as Lecturer in Aeronautical Engineering)

RESIGNATIONS

Professors Richard M. Bissell, Captain Guy Chadwick, Ivan A. Getting, Major Thomas U. Lineham, Charles W. MacGregor
Associate Professors Duncan S. Ballantine, Zdenek Kopal
Assistant Professors John A. Beckett, E. Arthur Boyan, Nils Christensen, Bernard Cousins, Benjamin Dasher, Robert H. Eustis, James E. Forbes, Edward R. Funk, Jacob M. Geist, Robert B. Green, Nicholas Grossman, James M. Ham, Robert W. Kennedy, John G. Linvill, Roy McKissick, David A. Mooney, Harold C. Schweinler, H. Rush Spedden, Lieutenant Colonel John R. Thompson, Captain Floyd Traynham, Francis E. Vinal, Captain Horatio C. Sexton

IN MEMORIAM

During the past year the Institute suffered the loss through death of the following members of the Corporation and Faculty who served the Institute with great distinction and public spirit.

LAMMOT DU PONT, '01

(October 12, 1880-July 24, 1952)
Emeritus Life Member, M. I. T. Corporation, since August, 1951. Life member of the Corporation 1934-1951. Term member of the Corporation 1928-1933. Active on the Committee of Membership as well as on Departmental Visiting Committees in Chemistry, Chemical Engineering, Civil Engineering, Hygiene, Biology, and the Division of Industrial Cooperation.

JAMES ROBERTSON JACK

(March 30, 1866-January 6, 1952)
Emeritus Professor of Naval Architecture and Marine Engineering since 1936. Professor of Naval Architecture and of Naval Architecture and Marine Engineering, 1919-1936. Director of the Nautical Museum, 1924-1936. Dean of Navy Students, 1923-1936. In charge of the Department of Naval Architecture and Marine Engineering, 1920-1936. Largely responsible for the Institute's Nautical Museum.

ROBERT K. LAMB

(May 17, 1905-August 26, 1952)
Lecturer in the Department of English and History since 1950. Research Associate in Economics and Instructor in English and History, 1948-1949. While at M. I. T., made notable contribution to the thinking in respect to the integration of the humanities and social science disciplines.

JOSEPH SHIPLEY NEWELL, '19

(August 10, 1897-May 5, 1952)
Secretary of the Faculty and Executive Officer of the Department of Aeronautical Engineering since 1946. Professor of Aeronautical Structural Engineering since 1939. Associate Professor 1930-1939 and Assistant Professor 1929-30 of Aeronautical Structural Engineering. Assistant Professor of Structural Engineering, 1928-1929. Assistant in Civil Engineering and Instructor in Civil Engineering, 1920-1928. While at M. I. T., originated certain standard methods of stress analysis used by the aircraft industry during World War II.

CHARLES ADRIAN SAWYER, JR., '02

(August 19, 1881-January 29, 1952)
Term Member, M. I. T. Corporation, since 1950. President, M. I. T. Alumni Association and ex-officio member of the Corporation, 1949-1950. Vice President, Alumni Association, 1935-1937. Member Executive Committee, Alumni Association, 1932-1934. Member Alumni Council 1932-1944. Active on the Audit and Budget Committee. On the Alumni Fund Board since 1949. Assistant in the Department of Mining and Metallurgy, 1902-1903.

DONALD CHARLES STOCKBARGER, '19

(October 19, 1895-February 23, 1952)
Associate Professor of Physics since 1935. Assistant Professor of Physics, 1927-1935. Instructor in Physics, 1923-1927. Assistant in Physics, 1920-1923. While at M. I. T., developed the first optically usable, laboratory-grown fluoride crystals ever obtained. Also developed apparatus and a method for growing sodium nitrate crystals of optical quality.

GEORGE BOOKER WATERHOUSE

(May 25, 1883-May 10, 1952)
Emeritus Professor of Process Metallurgy since 1945. Professor of Process Metallurgy, 1939-1945. Professor of Metallurgical Production, 1937-1939, Professor of Metallurgy, 1922-1937. While at M. I. T., carried out distinguished work in iron and steel research and served as a consultant to industry and government.

Reports of the Deans of the Schools

School of Engineering

THIS REPORT on the School of Engineering represents a change from the past practice of submitting only annual reports from each of the several Engineering Departments. For this reason, and because the Institute has agreed that I might relinquish my post as Dean in order to teach, this will be my first and last report on the School of Engineering. Under the circumstances, it may not be inappropriate for me to touch upon some of the developments of the post-war years, and not confine my report to the year 1951-1952.

Three important changes in the School of Engineering have occurred during the last twenty years: the instruction in engineering has become solidly based on science rather than empirical engineering practice; the graduate program has been greatly strengthened and expanded; and the research activities have increased many fold. The last two changes have been accelerated greatly during the post-war years: the graduate program in engineering is now the most substantial in this country, and the research efforts of the School constitute the largest diversified program of engineering research and development among educational institutions.

UNDERGRADUATE INSTRUCTION IN ENGINEERING

Faculty members in Engineering have joined with those of the other Schools in an intensive study of the problems of engineering education. Stimulated by the report of the Committee on

Educational Survey in 1949, this study has been spearheaded by the Committee on Undergraduate Policy, headed in turn by Professors Walter G. Whitman and John A. Hrones of the School of Engineering. During the last three years, every curriculum in engineering has been revised to provide better arrangement of options, more provision for flexibility through electives, two new co-operative curricula, modernization of content, more effective presentation of the engineering method, and additional replacement of empirical by fundamental material. After a lapse during the war, individual theses or similar assignments are again required of all undergraduates. The replacement of stereotyped subjects of instruction by comprehensive engineering projects has been given much study, and several educational experiments along this line have been carried out this year. These generally involve student participation in small groups and are intended to provide training in the methods of attacking real engineering problems, even at the sacrifice of some coverage of subject matter. The development of this project type of engineering education requires great skill and imagination on the part of the staff, but, if successful, may prove to be the first fundamental improvement in the general pattern of engineering education in this century.

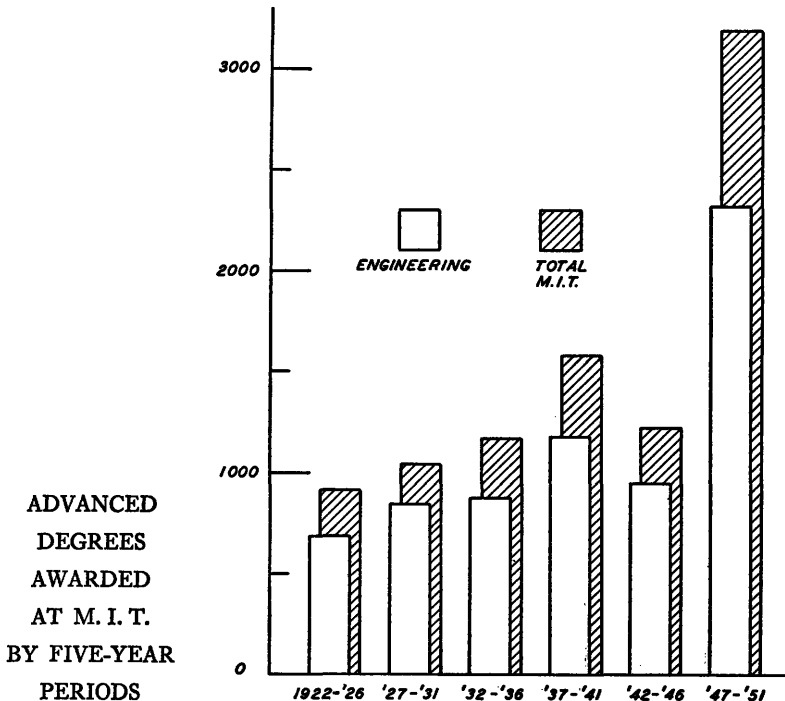
The School has been under great pressure to include more material of all kinds in the four-year curriculum — more basic sciences, more general education, and more of modern developments in technology, as well as the addition of various special subjects. I am convinced that the real needs can be met by improved methods of instruction and by skillful selection of material, and that the undergraduate program need not be extended to five or six years. The large majority of our undergraduates go on to successful careers in industry after receiving the Bachelor's degree in four years; a strong graduate program is available for those who wish to study in a specialized field at an advanced level.

The new program in general education involves a four-year planned sequence of non-vocational subjects in the fields of economics and the humanities. The development of this program, which is such an enormous improvement over the smörgåsbord "general studies" of the forties, has been strongly supported by

the Engineering School. The revised engineering curricula allot sixteen to twenty per cent of the total time to the humanities. The typical engineering curriculum at M. I. T. now includes subjects in the fields of English, history, economics, psychology, and music, plus elementary mathematics, physics, and chemistry, which total the equivalent of two full years of a college curriculum as followed by liberal arts students who are at all interested in science.

GRADUATE INSTRUCTION IN ENGINEERING

The development of the graduate program in engineering is indicated by the following chart, which shows the number of graduate degrees in engineering by five-year periods since 1921.



The steady upward trend from 1922 to 1941 is apparent; the sharp increase from 1947 to 1951 largely offsets the war-time dip, and continues the trend. In spite of the decrease in total enrollment

during the past year, the graduate enrollment would increase substantially if strict quota controls were not maintained for most Departments. During each of the last two years, the M. I. T. total of graduate degrees has been approximately two-thirds the number of Bachelor's degrees.

The magnitude of our graduate program is made evident by the figures in the following table, which shows our rank among United States schools in number of graduate engineering degrees, and the percentage of total United States graduate engineering degrees granted by M. I. T. Engineering Departments.

<i>Department</i>	<i>M. I. T. Rank Among U. S. Schools</i>	<i>M. I. T. Graduate Degrees as Per Cent of U. S. Total (1951)</i>
Aeronautical Engineering	Second	14.6
Chemical Engineering	First	10.9
Civil and Sanitary Engineering	Fourth	4.7
Electrical Engineering	First	10.2
Mechanical Engineering	First	7.8
Metallurgy	First	13.3
Naval Architecture and Marine Engineering	First	89.0

In 1951, M. I. T. granted 9.7 per cent of all graduate degrees in engineering in the United States.

ENGINEERING RESEARCH

The research program of the School of Engineering, largely supported by government contracts, has increased rapidly during the post-war years to its present rate of some \$13,000,000 per year, excluding the Lincoln Project. Following general Institute policy, the work is carried out in the departmental laboratories under the immediate supervision of members of the teaching faculty. The demand for our services has been so great that, in most instances, we have been able to choose problems of a basic nature that support the educational programs of the Departments. Three or four of the larger development projects account for more than half of the dollar volume, but the very large majority of the projects support graduate students in research of a publishable and basic character. The objective has been a live and productive research program, serving primarily to strengthen the educational

program in engineering, and this has been largely achieved. The result is a place where students may study engineering in an atmosphere of real engineering accomplishment, under teachers who are themselves leaders in the development of new theories, new engineering concepts, and new devices. More than most engineering schools, M. I. T. provides the essential factor in engineering education — an atmosphere of creative accomplishment.

THE PROBLEM

The rapid growth of both graduate education and the research program have presented a serious problem of critical importance to the Institute's future. We run a real risk of becoming a graduate school and research institute, without plan or wish to do so. We have, in fact, about reached the half-way point. The pressures are great, and each step along the way is tempting. We refuse admission of graduate students who appear to show greater professional promise than undergraduates whom we admit. Research contracts, staff appointments, fellowships, and scholarships provide graduate assistance in excess of the total graduate tuition; undergraduate scholarship funds amount to less than ten per cent of total undergraduate tuition. Even though the Administration does its best to reward good undergraduate teaching, the successful research scholar or graduate teacher is more apt to attain the prestige and to receive the recognition from his professional colleagues. We have staff members, including some of the best teachers, whose special competence is deemed essential to the success of important military research; these men are under continual pressure to devote less time to teaching and more to research. Proper balance between undergraduate education, graduate instruction, and research must be maintained if the undergraduate school is to thrive, as it must. Pressures to emphasize graduate study and research come from without; we must develop our own pressures to maintain and develop the best possible undergraduate program. The enthusiastic approach of the staff to the problem of undergraduate engineering education during the last year has been most encouraging, but this enthusiasm must continue at a high level lest the proper balance between our three main activities

be upset and we become an institution devoted entirely to graduate training and research.

STAFF

New department heads have been appointed during the past year in three of the ten Engineering Departments. Professor Gordon S. Brown has been named head of Electrical Engineering, succeeding Professor Harold L. Hazen, who has become Dean of the Graduate School. Professor Charles S. Draper replaces Professor Jerome C. Hunsaker, who has retired from the headship of the Department of Aeronautical Engineering. Professor Laurens Troost has accepted the post as head of the Department of Naval Architecture and Marine Engineering, succeeding Professor Edward L. Cochrane, who becomes Dean of the School of Engineering. Both Professor Brown and Professor Draper are long-time faculty members; Professor Troost comes from the Netherlands, where he has been head of the Dutch Model Basin at Wageningen, and Professor at Delft. Professor Cochrane has been on leave for two years as head of the U. S. Maritime Authority in Washington; during his absence, the Department has been ably administered by Professor George C. Manning as acting head. Professor Walter G. Whitman continues on leave from the Institute as Chairman of the Research and Development Board, Department of Defense, with Professor Edwin R. Gilliland serving as acting head of the Department in his absence.

Except for retirements, there have been few recent changes in the senior faculty group. Professor Manson Benedict is now on full-time duty, and the new graduate program in Nuclear Engineering will be in full swing during the coming year. Captain James Hicks, U. S. N., has replaced Captain Guy Chadwick as Commander, Naval Administrative Unit, M. I. T., and Professor of Naval Engineering. The Department of Electrical Engineering will soon appoint the first Webster Professor of Electrical Engineering, under an endowment given the Institute by the Edwin S. Webster Foundation.

Partly as a result of the Fulbright program of exchange of scholars with foreign countries, the School has had an increasing number of visiting professors and guests. During the last year

there have been approximately thirty of these visitors. This does not count the increasing number of post-doctorate research workers, of whom there were fifteen in the Metallurgy Department alone. Exchange of our own staff with English and Dutch professors continues, especially in Mechanical Engineering. Under a new plan, some of the co-operative students in Electrical Engineering (Course VI-A) now get part of their plant experience with firms in England and Sweden.

The over-all size of the Engineering faculty has now been stabilized for some three years, and the fourteen per cent decrease in enrollment from the peak of four years ago has permitted a much-needed easing of the teaching loads. I am convinced that the Engineering teaching staff is stronger than it has ever been, and that it represents the School's most important asset. The large enrollment of mature graduate students in the immediate post-war years gave the Departments an excellent opportunity to select the best young engineers for junior staff positions, and the calibre of the younger faculty members is now quite outstanding. This development has actually created something of an embarrassment, since limitations on the tenure staff have made it impossible to retain highly qualified and competent younger staff members. The assistant-professor group has largely come to recognize the situation and to accept temporary faculty appointments for the experience and as spring-boards to industrial and other teaching positions. The available new tenure posts are so few that no stigma should be attached to leaving the faculty after temporary service. The further development of this attitude will benefit both the Institute and the individual junior faculty members.

FACILITIES

The Hydrodynamics Laboratory, dedicated a year ago, is now in full operation, and is proving to be a major addition to the School's facilities. A large research program is under way, and equipment for instruction and research is being constructed over a two-year period. The associated ship model towing tank has been completely instrumented and represents a versatile teaching and research tool for naval architects.

The Metals Processing Laboratory has been completed and dedicated during the year. This new 60,000-square-foot building, provided through the generosity of Mr. Alfred P. Sloan, Jr., now houses the teaching and research activities of the Departments of Metallurgy and Mechanical Engineering in metal forming, welding, foundry, powder metallurgy, metals cutting, and machine tools. It is perhaps the finest facility of its kind in the country.

The new Transonic Wind Tunnel serves to bridge the gap between the subsonic Wright Brothers Wind Tunnel and the M. I. T.-operated Naval Supersonic Wind Tunnel, providing excellent test facilities for air speeds in the vicinity of the velocity of sound. Built with funds accumulated from the use of the Wright Brothers Tunnel for industry, it uses the Wright Brothers Tunnel as a blow-down tank for air supply.

The new Combustion Laboratory has been completed, financed jointly by M. I. T. and the Navy. This provides splendid teaching and research facilities for many aspects of combustion, especially high output combustion at high air speeds. The equipment is of sufficient size to permit research on 6-inch ram jets at speeds up to twice that of sound and at simulated altitudes of 70,000 feet.

Major space changes and renovations now under way will provide improved facilities for several Engineering Departments. Electrical Engineering and Mechanical Engineering will have greatly improved and consolidated quarters for classrooms, offices, and laboratories. The total of these space changes means as much to the School as a sizable new building.

RESEARCH ACTIVITIES

As mentioned earlier, the research program of the School is planned with the principal purpose of providing the creative atmosphere so essential to good engineering education. Literally hundreds of research projects are under way in the several Departments, and it is not possible to give more than a brief mention of a few of the more significant.

The 2,000,000-volt Van de Graaff accelerator has been

employed in a regular program for the treatment of cancer patients, with highly promising results in a number of the 300 cases of deep malignant tumors treated during the year.

After several years of development and construction, the Whirlwind digital computer has reached the mature status of a highly productive facility. Much of the machine time is devoted to urgent military problems, but some 200 of the 680 operating hours during the year were available for complex engineering problems such as oil reservoir depletion, fluctuation of weather radar echoes, optimum programs for strip-mining, and various scientific problems presented by staff and students. Industrial concerns, especially oil companies, have shown increasing interest in the machine's potentialities.

A pilot model of a servo-controlled milling machine has been completed and has aroused great interest. This prototype provides fully automatic numerical control of all motions of a 60-inch by 30-inch by 15-inch vertical milling machine, and is capable of cutting complicated shapes as directed by information supplied on a punched tape. It seems probable that this development may have wide application, especially in the aircraft industry.

The Institute's classified guided missile project (Meteor) has been very active, with important developments in several of the missile components. The control of the over-all project, including the associated industrial contractors, has been relinquished in order that we may concentrate on the development of missile components of advanced design, the integration of these into the guidance system, and the supporting research in related fields.

The large Instrumentation Laboratory has reported substantial successes in the development of precision fire control and navigational equipment, with emphasis on new gyroscopic devices and organization of complete systems. Perhaps of most significance is the development of a new and important class of gyros. It is unfortunate that most of this work is classified, since several of the Laboratory's accomplishments are quite spectacular.

The Aeroelastic and Structures Laboratory has continued its diversified research on the dynamics of aircraft structures, and has become a recognized center for work in this field. The instruction

in related subjects has been greatly strengthened by the fact that the instructors are also active research project supervisors.

The structures group in Civil Engineering has continued its active program of research on the effect of atomic blasts on structures and has become an authoritative center of information in this area. The program has involved instrumentation of test structures at bomb tests in Nevada and in the Pacific and the analysis of the resulting data.

The research program in soil chemistry, starting with a project on soil solidification for the Corps of Engineers, has led to other studies of chemical treatment of soils which show promise of wide application in the preparation of ground for building foundations, the reinforcing of oil wells, and the flocculation of chemical precipitates prior to filtration.

The research output of the Department of Metallurgy has continued at a high level, with a diversified program of fundamental research problems, including only one large "project." The research publication record since the war has been quite outstanding, and the Department's professional prestige has reached a new high. Among recent accomplishments have been new high-temperature alloys of exceptional promise.

Strong research programs in metal cutting and lubrication have been developing in Mechanical Engineering since the war. These have now been expanded to cover the physics of grinding, wear, and cavitation, including cutting, grinding, and wear of titanium. Research on materials has also been expanded to cover the physical basis of the engineering properties on non-metals, including high polymers, glass, ceramics, textiles, and wood. Liquid helium is now available on a large scale, making it possible to study the properties of metals at very low temperatures.

A new loud-speaker developed during the year shows promise of representing a major contribution. Employing several small inexpensive speakers, it makes high-fidelity sound reproduction possible with relatively inexpensive equipment and appears to have wide application for radios and record players.

MISCELLANEOUS ACTIVITIES

More than most engineering faculties, the Institute's staff members are called upon to provide various services to government, national societies, and non-profit institutions. These services, provided without compensation, represent a substantial contribution to the national welfare on the part of the Institute. An example is the participation in the Engineering Education Mission to Japan by four of the engineering faculty. This mission spent the summer of 1951 in an intensive discussion of engineering education with Japanese educators at six Japanese university centers and led to the founding of the Japanese Society for Engineering Education. No accounting of these miscellaneous staff activities has been attempted, but it seems probable that the total staff time devoted to *pro bono publico* services represents an Institute contribution of the order of one million dollars annually. The result, however, is a faculty with a professional and national perspective which makes the Institute unique.

THOMAS K. SHERWOOD

School of Science

AT THE TIME of the organization of the School of Science in 1932, its Departments functioned primarily as service groups that provided the courses needed for the scientific training of professional engineers and were only secondarily concerned with the professional education of scientists. While the former function is still important the latter now predominates, and the school produces a sizable fraction of the physicists, chemists, mathematicians, and food technologists of the country. Its contributions in the fields of biophysics and biochemistry, and in geology and geophysics, are rapidly being increased. Since the war, a large increase has taken place in the enrollment of major students, both graduate and undergraduate, in most of the Science Departments.

Research activities of the School are now at an all-time high and are probably close to the maximum level that can be maintained by the present staff with the proper balance of educational and investigative function. Able scientists can only be produced close to the front lines of scientific effort, but constant vigilance must be exercised to insure that research remains a means to the ends of education, rather than being predominantly an end in itself. While many government-supported research projects have been undertaken, most of those accepted by the Science Departments are fundamental in character and contribute much to the educative process.

It is a continuing policy of the Science Departments to review frequently all curricula and course contents, but, during the past year, special attention has been given to problems of undergraduate instruction. Professor Sanborn C. Brown of the Department of Physics made a tour of teaching laboratories in other universities; his report, containing suggestions for the improvement of the laboratory instruction of large classes, has been of great value to all Departments. The undergraduate science curricula in general have been made the subject of especially thorough study as a result of the activities of the Survey Committee and the Committee on Undergraduate Policy.

Two new department heads were appointed during the year. Professor Bernard C. Proctor, Director of the Prescott Laboratory of Food Technology, now becomes head of the Department of Food Technology, of which he had been acting head for the past year. Professor Nathaniel H. Frank is the new head of the Physics Department, succeeding Professor John C. Slater, who becomes Institute Professor and Harry B. Higgins Professor of the Solid State.

BIOLOGY

Much thought has recently been given in this Department to the organization of the teaching program at the graduate and post-doctoral levels in the fields of biophysics and biochemistry. A staff committee has been appointed to make a thorough study of the content of biophysics and of the best way of offering advanced training in this field. Following the recommendation of the

Visiting Committee, and of a special *ad hoc* committee, that emphasis on biochemistry at the Institute should be increased, a Division of Biochemistry has been set up within the framework of the Biology Department to assume charge of all teaching in biochemistry and to undertake an active program of research in modern biochemistry. Dr. John M. Buchanan, now Professor of Physiological Chemistry at the University of Pennsylvania, has been appointed Professor of Biochemistry in charge of the new Division. This program is scheduled to get under way at the beginning of the academic year 1953-1954.

The Department's program has always had a close relationship to medicine and medical research. This year, almost three-quarters of the undergraduates in the Biology Department were premedical students. Special efforts are made to help in their guidance and orientation while at the Institute; the placement of these students in medical schools has been very high, and their performance has been excellent. Eighteen post-doctoral medical Fellows were in residence during the year, of whom nine were candidates for the Ph.D. in biophysics or biochemistry in addition to the M.D. degree already obtained. To assist in the training of these pre-professional and professional medical students, two new Assistant Professors were appointed: Dr. Myles Maxfield who, in addition, taught the second-term subject in biophysics during the present year; and Dr. Roland F. Beers, Jr., who was also assigned to supervision of the laboratory teaching in elementary biochemistry. Professor Richard C. Sanborn, a specialist in the biochemistry and physiology of insects, was appointed Assistant Professor of Zoology in charge of the teaching of elementary biology.

During this year, a generous grant of The Commonwealth Fund in support of the post-doctoral medical training program became operative. Research in the Department along basic lines of physical and chemical biology continued active. Several very interesting symposia were held, including a fruitful conference on microspectroscopy of cells under the sponsorship of the United States Public Health Service.

The splendid new Dorrance Laboratories of Biology and Food Technology will be ready for occupancy shortly after the opening

of the Fall Term. This added space and modern equipment will not only greatly facilitate the Department's present program but will permit planned expansion, as in the field of biochemistry, to which the sixth floor of the new Laboratories will be devoted.

CHEMISTRY

During the past year, the series of staff seminars held during the preceding year was continued with participation by nearly a dozen foreign scientists of great distinction. Continuing the program of inviting outstanding chemists from other universities to lecture at the Institute, Professor Ewart R. H. Jones of the University of Manchester has been appointed as the first Arthur D. Little Visiting Professor in Chemistry, and will present a series of twenty lectures in the Fall Term of 1952.

The teaching and research program of the Department continues very active. A new advanced subject in the chemistry of natural products was offered last year for the first time by Professor George H. Buchi. A committee was assigned to study the revision of the undergraduate and graduate curricula in physical chemistry. The number of graduate students registered for advanced degrees in the Department continues at an all-time high, in spite of the decreased undergraduate and graduate enrollment in chemistry in the country as a whole.

FOOD TECHNOLOGY

Through the co-operation of various industrial organizations, our equipment for instruction in food technology and biochemical engineering has been augmented and improved during the past year in preparation for the move into the new Dorrance Laboratories. Of special significance are the refrigeration facilities just completed in the new building, which were provided as a nucleus for a low-temperature food research laboratory by several outstanding cold-storage warehouse companies. A small building was erected during the year to house the Cobalt-60 radiation source provided by the U. S. Atomic Energy Commission for research projects conducted in the Department relating to food sterilization. New research projects dealing with this subject have been initiated

during the year for both the Navy and the Army Quartermaster Corps.

The activities of the Department relating to biochemical engineering have been expanded appreciably during the past year under the directorship of Professor Cecil G. Dunn. Continuing research activities include work on the chemical and physical examination of food flavors, on the effect of the radiation and dehydration techniques on deterioration of food products, and on the metabolism of deuterium-labeled fatty acids.

A number of symposia were held during the year, including an outstanding one on food sterilization, and staff members participated in a conference on the same subject held at the Brookhaven National Laboratories. A very successful summer program in food technology was given for persons in industry.

Two new Assistant Professors, Dr. John T. R. Nickerson and Dr. Samuel A. Goldblith, were added to the Department during the current year. Dr. Charles N. Frey, an outstanding research director in the food industries, was appointed a Special Lecturer.

The year was marked by the election of Professor Bernard E. Proctor as President of the Institute of Food Technologists.

GEOLOGY AND GEOPHYSICS

In March, 1952, Course XII was authorized to change its name from *Geology* to *Geology and Geophysics*, and the Department set up two separate courses: Course XII-A, *Geology*, and Course XII-B, *Geophysics*. These changes were made because of our increasing emphasis on *Geophysics*, and students now enrolled in Course XII are about evenly divided between the two fields.

The fourth Summer Camp in *Geology* at Crystal Cliffs, Nova Scotia, was highly successful with Professors Walter L. Whitehead and Roland D. Parks in charge. A new summer program supplementing that of the Nova Scotia Field Station was set up in co-operation with a large geophysical exploration company, whereby senior and graduate students in *geology* and *geophysics* can be given full-time summer employment in one of thirty geophysical field parties. Fourteen Course XII students took advantage of

the plan during the past summer, and similar arrangements with this company and others may be made in future summers.

In addition to several new sponsored research projects supported by various government agencies, the Department started a new program of research on seismic responses utilizing auto-correlation analysis, a joint project with the Department of Mathematics. The program of coal research sponsored by the Nova Scotia Research Foundation continued under the supervision of Professor Whitehead.

Professor Louis H. Ahrens was given a term's leave of absence to work in South Africa under the sponsorship of the Carnegie Foundation.

MATHEMATICS

The average number of students enrolled in mathematics courses for the past few years has been stable at about 45 per cent of the student enrollment of the Institute, but increasing numbers of upperclassmen and graduate students are taking advanced subjects in mathematics. The increased teaching load coming at the more advanced level has raised the problem in the Department of providing competent teachers without either depriving the freshmen and sophomores of contact with senior staff members or cutting down on the advanced professional subjects of instruction. Two policies adopted by the Department, of utilizing the lecture system in subjects for upperclassmen, and of de-emphasizing routine teaching in the Summer Session, are helping to resolve this problem of increased teaching load.

To meet the needs of freshmen with unusual aptitude and interest in mathematics, the special program in first-year calculus available in recent years has been expanded to include more advanced calculus subjects.

It has been found that the special C. L. E. Moore Instructorships set up by the Institute play a highly significant part in graduate teaching and research. The policy of inviting prominent mathematicians from other institutions for special lecture series has been continued. Professor Mark Kac of Cornell University was Visiting Professor during the Summer, and Professor James

Dugundji of the University of Southern California and the Institute for Advanced Study was a Research Associate in the Spring.

Professor William T. Martin was absent on leave during the year for research at the Institute for Advanced Study in Princeton, and during his absence Professor Norman Levinson was Acting Department Head. Professor Norbert Wiener spent the Fall Term in France and the Spring Term in Mexico.

PHYSICS

Major changes in the undergraduate teaching of the Department consisted of the introduction of the revised versions of the elementary physics subjects taken by all Institute students described in last year's report. Further reorganization and synthesis of these subjects has been undertaken under the supervision of Professor Hans Mueller in the case of freshman subjects, and Professors Sanborn C. Brown and Francis Bitter in the case of the sophomore subjects.

The large number of students taking elementary laboratory instruction in physics, totaling some 1,400 during the past year, presented an extraordinarily difficult problem. A special committee set up in the Department initiated the study of this problem at the beginning of the academic year, and this committee, acting on Professor Brown's report based on his nation-wide tour of the larger schools which face similar situations, has evolved a definite long-range program for the continuing improvement of the laboratory instruction. Professor Brown has assumed responsibility for all undergraduate physics laboratories, and has initiated an important program of modernization and improvement of the lecture and laboratory equipment.

The third- and fourth-year physics curriculum is now under careful scrutiny and, during the coming year, the Department will embark on needed revisions. This study is of particular importance because of the rapidly increasing number of non-physics majors who are studying modern physics at this level.

The over-all size of the student body majoring in physics continues to make the Department one of the largest and most rapidly growing in the Institute as well as in the country. Because

of staff limitations, the Department has been forced to reduce the number of graduate admissions for the coming year to bring about a decrease of ten per cent in the number of physics graduate students.

The research program of the Department continues strong and active. A major part of this activity is carried on in the Acoustics Laboratory, the Electronics Laboratory, the Laboratory for Nuclear Science, and the Spectroscopy Laboratory.

The Department suffered a great loss in the sudden death of Professor Donald C. Stockbarger on February 23, 1952, a loss which is being felt keenly by all the staff and students who came into contact with him. The first-term junior laboratory which provides instruction in experimental techniques of physics stands as a monument to his memory, since this was his major teaching effort in the Department.

The year marked the absence of seven faculty members on various assignments. Professor John C. Slater was on leave at the Brookhaven National Laboratories but has now returned with a greatly augmented program in theoretical solid-state physics, and he will supervise a large group of students and post-doctoral investigators in this field. Professors Seibert Q. Duntley, Albert G. Hill, George E. Valley, and Jerrold R. Zacharias were absent on government assignments, and Professors Karl V. Ingard and Robert J. Van de Graaff were given leaves of absence because of special circumstances. The resignation of Professor Albert G. Hill as Director of the Research Laboratory of Electronics has been accepted to permit him to be appointed Director of the Lincoln Laboratory.

A research program in Machine Computation, a joint effort by the Departments of Physics, Mathematics, and Electrical Engineering, has been initiated during the year under the direction of Professor Philip M. Morse, and a sizable research group in this domain has come into being. This group is carrying out studies on problems of importance in connection with the operation of high-speed computing machines.

A number of outside guest speakers have helped provide a most satisfying series of colloquium talks, which were well

attended by students and staff. The Department was host once again to several meetings and conferences, including the M. I. T. Conference on Physical Electronics, which was held as usual in March under the able leadership of Professor Wayne B. Nottingham. The summer session for secondary school science teachers, directed by Professor Francis W. Sears and sponsored by the Westinghouse Educational Foundation, had its fourth successful summer in 1952.

Some eight distinguished foreign investigators joined the Department during the year, serving as research Guests for varying lengths of time.

The problem of adequate housing, which has become more and more acute in recent years, has been somewhat eased for the Department by the acquisition of new space.

Professor Morse was elected during the year as the first President of the newly created Operations Research Society of America. Professor George G. Harvey was appointed Executive Officer of the Department.

GEORGE R. HARRISON

School of Architecture and Planning

THE BASIC POLICY of the School of Architecture and Planning continues to be that of educating its students in the role they will be called upon to play as architects and planners in a changing society and of equipping them with the basic intellectual tools needed to become competent professionals.

Since the School is part of a technological institution, it seems proper to emphasize, even more than has been possible in the past, the technical aspects of the profession, especially the meaning of structure and of modern building techniques; but we will do so without forgetting that architecture is above all an art, and as such it must fulfill a social need of very great importance

to our nation. For this reason, the School intends to continue making visual education one of the cornerstones of its general humanistic policies, firm in its belief that an architect or a planner must first learn to see, after which he may reach artistic maturity only if he fully understands and accepts the technical implications as well as the practical limitations of his task. To that end, the School has tried as much as possible to give its students live problems to solve — that is, problems where clients, site, and soil conditions and all other requirements are real and not artificially manufactured. This will give them not only greater motivation, but an understanding of the totality of human experience.

It has been the school policy not to limit but rather to encourage the members of its teaching staff to engage in private practice, limited of course only by the time that they are expected to devote to School and Institute duties; it is believed that this policy has tended to prevent them from falling into the sterile academic thinking that has cursed architectural education for so many generations.

As another aspect of this same policy, the School has promoted conferences and symposia whereby outside experts in various fields have come to us for exchange of information and ideas on actual architectural and planning problems. Last year, it organized or participated in talks and conferences on the industrialization of house construction, architectural acoustics, prestressed concrete, shopping centers, regional planning, climate control, and other topics.

Through these efforts and with other valuable work which will be further promoted by the Bemis Foundation, the School aspires to become a center of research and study, not only for its students, but for the professions at large. Steps are now being taken to promote the establishment of a Center for Urban Studies. Already certain projects dealing with problems of industrial location have been brought to us for study; others will follow. We have confidence that such a center, drawing from the varied talents of many disciplines both at Harvard and M. I. T., will be of increasing value to the region and to our students.

In the past year, the Dean of the School has traveled exten-

sively, having served on conventions, juries, and committees in various parts of the country and made some eighteen speeches to schools, professional societies, and M. I. T. alumni gatherings. This was done for the purpose of strengthening the School's relations with the profession at large. In 1952, the Dean was honored by election to the American Academy of Arts and Sciences; he has served on the National Fine Arts Commission and as consultant to the Cambridge School Building Committee, in addition, of course, to serving as a member of M. I. T.'s Building Committee and Chairman of its Long Range Planning Committee.

ARCHITECTURE

During the past academic year, enrollment continued at previous high levels. Thirty-one students were awarded the degree of Bachelor in Architecture and twenty the degree of Master in Architecture.

A number of staff adjustments occurred during the year. Professor Ralph Rapson continued on leave as consultant for the Foreign Buildings Operations of the U. S. State Department, primarily for the design of new embassy and consular buildings for our government in European countries. Professor Robert W. Kennedy resigned as of June, 1952. Mr. Ronald Gourley left in February to serve as an exchange instructor in the Royal Academy of Fine Arts in Copenhagen. Mr. Tage Gorm Hansen of the Danish institution served the Institute as Instructor in Architectural Design from September onwards. Mr. Thomas McNulty, Instructor in Architectural Design, was during the year resident at the University of Venice, as recipient of a Fulbright award. Mr. Walter S. Pierce returned in January from a Fulbright Scholarship and served as instructor during the Spring Term.

Mr. Serge Chermayeff, formerly director of the Institute of Design in Chicago, was chief critic for fifth-year students during the Fall Term. Mr. Enrico Peressutti, a distinguished young architect of Milan, served an appointment as lecturer during the Spring Term and contributed much in his remarkable teaching of graduate students.

Mr. Ronald Gourley, in partnership with Mr. Dan Kiley, won first prize in a public competition conducted for the design of a Memorial Student Union Building for the University of New Hampshire.

During the year, two new travelling fellowships were offered, thanks to the generosity of friends of the Department. Mr. Matthew O. Goodwin, B.Arch. '52, was awarded the Skidmore, Owings and Merrill Fellowship, and Mr. John Rauma, M.Arch. '52, was awarded the Ernest A. Grunsfeld European Fellowship. In addition to these awards, five graduating students and two alumni were recipients of Fulbright awards.

A significant new development is promised in the offer and acceptance of a grant from the F. W. Wakefield Brass Company to assist the Department in establishing and maintaining a center for the study of factors of the environment that contribute to the process of seeing. The intention is to investigate problems of illumination on a sufficiently broad basis to bring out the full architectural implications of this aspect of environmental design. The Department has formed a committee made up of Professor Herbert L. Beckwith, Professor Parry Moon of the Department of Electrical Engineering, and Mr. Carl M. F. Peterson, Superintendent of Buildings and Power, with Professor Lawrence B. Anderson as Chairman, to seek personnel and to guide this work.

The operation within the School of Architecture and Planning of a Climate Control project, supervised by the Bemis Foundation and staffed by Messrs. Victor and Aladar Olgyay, has been of considerable interest and value to our students, some of whom have worked on the project. Special events of the year include two lectures by Mr. Naum Gabo in connection with his exhibition at the Hayden Library, a series of lectures by Mr. Bernard Tomson on "The Law and Engineering and Architecture," a one-day symposium on the Shoppers' World in Framingham, and a series of three lectures on modern structural thinking by Mr. Paul Weidlinger.

CITY AND REGIONAL PLANNING

The Institute's graduate Course in City and Regional Planning, which was established in 1935, is the second oldest in the

United States, and its alumni represent over 25 per cent of the total number from all schools combined. There are now at least nineteen institutions of higher learning in the United States that offer programs of graduate study leading to a professional degree in the field of city or regional planning, twelve such programs having been established during the past ten years. During this same period, our graduate enrollment has remained at a high level, while the number of candidates for the undergraduate degree has remained small. Past recipients of this degree have performed well in practice, and as only two other institutions offer a similar program at the undergraduate level and the demand for planning personnel far exceeds the number of professionally trained persons, we must look elsewhere for an explanation of the low enrollment. The relative newness of planning as an independent professional field has undoubtedly been a contributing cause, discovery of interest in the field frequently coming during the junior or senior years of college. This raises the question as to whether professional training in planning, because of the comprehensiveness of its scope, should be confined to the graduate level or, alternatively, whether more effort should not be made to inform both students and vocational guidance officials in secondary schools of the opportunities in the field. The Visiting Committee has asked the Department to make a special study of this question during the coming year.

Professor Frederick J. Adams has been on leave of absence during the past year, having been awarded the Arnold W. Brunner Scholarship by the New York Chapter of the American Institute of Architects for a report on the Objectives and Scope of City Planning. He has also been serving as Director of a Research in Planning Education which is being sponsored by the Alfred Bettman Foundation in co-operation with the American Institute of Planners and the American Society of Planning Officials. The purpose of this study is to evaluate the present status of professional education in the field of planning in the United States and to make recommendations for its improvement. It is expected that the findings of this study will be published within the next few months. Professor Adams has also been assisting the Housing and Town

and Country Planning Section of the United Nations in the preparation of a bulletin on planning education, with particular reference to the problem of professional training in the lesser-developed countries.

Professor Lloyd Rodwin has spent the past academic year as a Senior Lecturer in the Department of Civic Design at Liverpool University, under a Fulbright award. He has been making a special study on the New Towns Program in Great Britain in addition to offering lecture courses in the field of Land Economics. During his absence in England, Professor Rodwin's seminars in Housing and Land Economics at the Institute were conducted, respectively, by Mr. Charles Abrams, well-known housing expert, and Professor Leo Grebler of Columbia University.

Mr. Louis B. Wetmore, '36, Chief of the Planning Division of the Rhode Island Development Council and former Director of the Providence Redevelopment Agency, has been appointed Visiting Professor of City Planning for the coming year to develop a program leading to the establishment of a Center of Urban Studies at the Institute, which had been recommended by a special committee appointed by Dean Belluschi last year. Professor Wetmore will also assist in the teaching of city planning design during the absence of Professor Kevin Lynch, who has received a Ford Foundation grant for a year's research in the field of civic design in Italy.

At the annual meeting of the American Institute of Planners, held in Baltimore last April, Professor John T. Howard was elected Vice-President and Professor Roland B. Greeley was reappointed Managing Director of the Institute's *Journal*. Two of the three new members elected to the Board of Governors, Mr. John A. Parker and Mr. Thomas J. Kent, Jr., are alumni of the graduate course in this Department.

In addition to a number of visiting lecturers in city and regional planning, special assistance in the courses in planning design was given by Mr. Edmund N. Bacon, Director of the Philadelphia City Planning Commission, and Mr. Arthur C. Comey, well-known city planning consultant.

ALBERT FARWELL BEMIS FOUNDATION

The Foundation completed its initial investigation of the possibilities for research on the rationalization of mechanical facilities in houses. The report on this investigation by Mr. Harold Horowitz includes brief surveys of possible projects in the fields of heating, sanitation, and kitchen equipment design. In the heating field, a special report was made of research being carried on in this country on the heat pump.

Work has proceeded throughout the year under contract with the Housing and Home Finance Agency on "Methods for Applying Climatological Data in Dwelling Design, Site Selection and Planning," and the project is scheduled for completion in September, 1952. The Foundation also co-operated with the Agency in its trial-run program of preparing procurement specifications for mobile and demountable housing. Mr. Richard W. Hamilton of the Foundation staff was one of a group of experts invited to take part in the review of performance specifications for the program and in the evaluation of proposals by private designers for the construction of test units.

The Foundation again assisted the Department of Architecture in the development of a special course in mass production techniques in the building industry and sponsored a conference at the end of the course. This year, participants at the conference included nationally-known builders and promoters of mass-produced and prefabricated housing. The Foundation subsequently published the conference proceedings and student presentations in a booklet entitled *Housing — Mass Produced*.

Also published during the year was the Foundation's *Housing Bulletin No. 2*, which describes current housing research activities in the Foundation and elsewhere in the Institute and provides a means for interchange of information on an informal basis. *The Prefabrication of Houses*, by Professor Burnham Kelly, was this year included in the *Library Journal's* annual list of 100 leading technical books. Published in 1951, this book contains the results of the Foundation's survey of the prospects of industrialized housing in the United States.

The Foundation was host to the Housing Research Council at its September, 1951, meeting, and to a team of French Building Technicians whose visit was sponsored by the Mutual Security Agency. It was awarded on December 29, 1951, the Certificate of Cooperation of the Economic Cooperation Agency for previous assistance to visiting teams of technicians. Other visitors during the year included representatives of governmental and private housing interests from Great Britain, Germany, Thailand, Denmark, Sweden, Australia, Japan, Belgium, and Columbia. Mr. Stanley Woolmer, a Commonwealth Fellow from Singapore, used the Foundation as his headquarters during a period of study in the Boston area.

During the year, the Foundation became a member of the Building Research Institute in the National Research Council. Professor Burnham Kelly, Director, spoke to architectural and planning groups in Boston, Providence, Buffalo, and Toronto, to the New York Safety Council, and to the Ann Arbor Conference. He continued to serve on the Housing Research Council, on the Massachusetts Defense Council as a member of the Structural Protection Committee, and as Chairman of the Dispersion of Industry Committee of the Massachusetts Civil Defense Agency, on the Housing Association of Metropolitan Boston as a Director, and on the Commonwealth Housing Foundation as a Trustee. He also served as a consultant to the National Security Resources Board on defense housing problems and to Associated Universities, Inc., to review for Project East River the shelter and dispersal aspects of civil defense.

PIETRO BELLUSCHI

School of Humanities and Social Studies

EVENTS OF GREAT IMPORT to this School in 1951-1952 were:

1. Adoption by the Faculty of the entire new undergraduate program in liberal education;
2. Inauguration of the Sloan School of Industrial Management;

3. Organization of the Center for International Studies;
4. Establishment of the Psychology Section in the Department of Economics and Social Science.

NEW CURRICULUM

Extensive curriculum changes in the humanities and social studies have been in various stages of planning and testing since 1946. More than a year ago, the Faculty accepted the principle of a new curriculum to be required of all M. I. T. undergraduates. All underclassmen now share a common two-year core course planned to develop interest in and some capacity to think clearly about human affairs and to expose each student to the variety of disciplines which contribute to such a study. This exposure in turn is expected to help the student to decide which of eight fields he finds most exciting. He is then expected to choose that field in which to concentrate most of his work in liberal education during his upperclass years.

The Faculty adopted the underclass half of this program a year ago. In the year of this report, the new program for upperclass study was approved, to take effect in the Fall of 1952. Preparations for it were perforce serious and extensive. They were made by a committee of the School under the able chairmanship of Professor Robert L. Bishop of the Department of Economics and Social Science.

The underclass curriculum is essentially the responsibility of the Department of English and History. It remains under continuous revision, and we hope that it always will. Fun is often poked at the academic pursuit of revising the curriculum. But if revision is undertaken seriously, and if not only items of content but also the more serious matter of the underlying philosophy are challenged, gains are almost certain to ensue. Probably the stimulus to the Faculty would alone justify frequent curricular revision. It inevitably affects the tone of the teaching.

Principal revision this year was in the second semester freshman subject. Professor William C. Greene, under grant from the Carnegie Corporation, was relieved of teaching duties during the first semester to devote full time to reorganization of this

subject, which deals with the societies of Periclean Athens and of Medicean Florence. To go with *Athens in the Fifth Century B.C.*, published in 1950, Professor Greene prepared a new booklet, *Florence in the Renaissance*, which has now been published by the Technology Press.

Part of the new plan in the School calls for exhibitions in the Hayden Gallery running concurrently with and explicitly related to the subject matter of the core. With Professor Herbert L. Beckwith and Mr. Edmund A. Bowles, Professor Greene prepared an effective new Renaissance show. Much of the material used in this show remains at M. I. T. for re-use.

Mr. Bowles, in his lectures on Greek and Renaissance art, experimented again with the use of motion pictures. His experiments with these potentially powerful and inadequately exploited visual aids will be extended in the coming year. As the utility of such aids becomes clear, we shall build a permanent collection of the best ones. Perhaps the word "permanent" is dangerous. Certainly no such collection can ever be permanent, proof against continual obsolescence. The head of Nofretete may be immortal, but the ways in which students may best first sense the intimations of this immortality will not remain fixed.

Although the burden of changes in the core fell exclusively on the Department of English and History, all the Departments of the School felt the impact of the new upperclass plan. Under this new scheme of concentration, each student can do a little deep digging in a field of his liking instead of aimlessly and superficially sampling dilute nectar from a variety of blossoms. Each man is likely to do better work in a field that he has chosen as most interesting to him. It is important that each student have a substantial further choice either among subjects within this chosen field or, perhaps more importantly, among teachers. At the same time, teachers now have the opportunity to teach subjects which are close to their individual scholarly interests. Such subjects permit them to use material which is currently engaging their mature thought. When the subject is more alive to the teacher, it is inevitably more interesting to the student as well. No matter how devoted he may be, no imaginative teacher can be effective

year in and year out with identical material or with material so broad that his own particular experience can be made relevant only by a violent *tour de force*.

The development of so many new subjects has naturally required a great deal of time and some adjustments. Certainly more adjustments will have to be made, some of the present offerings will disappear, and some new ones will emerge. It is predictable that there will be disappointments and some confusion until our students learn how to deal with a multiplicity of choice which has previously not been their privilege or responsibility. But no one seems to doubt that the final result will be substantially superior to what we have previously done.

The offerings are described in detail in a new publication, *Liberal Education at M. I. T.*, which should be available almost concurrently with this report. Only one of them seems to warrant further comment here. This is in the Department of Modern Languages.

We are a nation that has reluctantly inherited heavy responsibilities throughout the world. For these responsibilities, command of and respect for languages other than English are likely to suggest a challenge to our educational mores. We are a people who have not been outstanding as linguists. Moreover, in the past years and under the pressure of more "useful" subjects, there has probably been a decline in our secondary schools both in the number of students who have studied foreign languages and in the importance which has been attributed to such study. Indeed, there are several signs that those who direct most university courses of specialized study have little sensitivity to the true significance of real command of another language.

A small knowledge of a foreign language is soon forgotten. The time spent on it is almost wasted. If two or three years of secondary school training are capped by two or more years of university study, something like command can be obtained. And once command is obtained, it will never really atrophy. This practical value is supplemental to the other merits to be found in studying the writings of great men in their own tongues and not through the tongue of some translator.

Accordingly, we were delighted to find that almost half of the students entering M. I. T. had studied enough French or German in secondary school so that they could, if they wished, continue study of one or the other language at an advanced level. Moreover, about half of them wanted to! We are setting out to make this possible in two stages.

The Department of Modern Languages has added some subjects in French and German literature so that the upperclass concentration in literature can be undertaken in either of these languages by those who are qualified.

A study is also under way that we hope will enable qualified freshmen and sophomores to take their core curriculum in French or German. There are difficulties but not impossibilities in this plan, and it will take time to bring it about. But, if it can be done, it seems clear that the students who elect this program will be aiming a stone simultaneously at two important birds with a reasonable probability of hitting both.

SCHOOL OF INDUSTRIAL MANAGEMENT

The establishment of the new School of Industrial Management is bound to have a far-reaching effect on the School of Humanities and Social Studies. This will be more clearly discernible in the future. It ought to be beneficial. The most immediate tangible effect has been the transfer of the Department of Business and Engineering Administration from the School of Humanities to the new School of Industrial Management. This has reduced the undergraduate professional registration in the School of Humanities and Social Studies to the few who major in Economics and Engineering.

The Department of Economics and Social Science remains a part of the School of Humanities. It has moved physically from the Hayden Library building to the newly acquired Sloan Building where it is immediately adjacent to the faculty of the School of Industrial Management. It is a byword that the relations between academic departments of economics and of business administration have not been easy ones on many campuses throughout the land.

This has been mutually unprofitable. The relation at M. I. T. has always been a good one, and everyone is determined that it shall remain so. Although physical propinquity will not, of course, act as a panacea, it can help. The difficulties that physical separation raises in the equally important relation between the Department of Economics and the rest of the School of Humanities are recognizable but not insurmountable and are felt to be outweighed by the advantages which will accrue. The physical shift will not affect the general directions of the activities of the Department.

In the long run, the addition of new subjects and faculty in the School of Industrial Management can strengthen the program of the School of Humanities, especially at the graduate level. Indeed, a number of graduate students in the Department of Economics are even now engaged in research financed by funds of the new School.

At the same time, the demands of this new and dynamic unit will certainly enlarge the responsibilities of the School of Humanities. A small amount of this responsibility has already been felt by the Department of English and History, particularly in the requirement for teaching of new subjects. But the brunt of the enlargement will at first fall upon the Department of Economics. In connection with the development of a new graduate program in the School of Industrial Management, the School of Humanities has already furnished a study committee consisting of Professors Elting E. Morison, Morris A. Adelman, Herbert A. Shepard, Charles A. Myers, and Paul A. Samuelson. The contributions of the Economics Department to the Executive Development Program have always been extensive and are certain to increase. Thus, it must be anticipated that the increasing load on the staff of the School of Humanities, arising from the expansion of the School of Industrial Management, will unquestionably create new staff problems in the near future. It will require additional funds if the present programs of undergraduate studies for all M. I. T. students and of undergraduate and graduate majors in economics, industrial relations, and psychology are not to suffer.

CENTER FOR INTERNATIONAL STUDIES

The School of Humanities has played an important role in these early days of the Center for International Studies. Max F. Millikan, Professor of Economics, while retaining his post in and his connection with the Department of Economics, is currently full-time Director of the new Center. Walt W. Rostow, Associate Professor of Economic History, one of the leading teachers and scholars in the Department of English and History, has been engaged in essentially full-time work connected with the Center. The loss of two men of this calibre, even on a temporary basis, is bound to be felt by the School of Humanities.

When the Center is fully operating, it is expected of course that the benefits to the School will heavily tip the scales. On the one hand it is hoped that individual members of the faculty of the School will, from time to time, find opportunity for and support of their own research interests in matters which are also of interest to the Center. On the other hand it is also expected that among the distinguished visitors who come to the Center for study there will be many who will wish to do some teaching. This should lead to a natural increase in the power of our over-all teaching program. Graduate work in the School should also be benefited by the existence of the Center.

PSYCHOLOGY SECTION

The growing importance of our work in experimental psychology, especially as related to communications, was recognized this year by the establishment of a Psychology Section in the Department of Economics and Social Science with Professor Joseph C. R. Licklider as Executive Officer. This section has extensive and well-supported research projects, will be responsible for the graduate programs in psychology, and will conduct the upperclass undergraduate subjects in a field that is becoming one of the most popular for elective concentration.

TEACHING DEVELOPMENTS

The first subject in economics, Economic Principles (14.01), will, even under the new upperclass elective program, appear in the curriculum of a very large proportion of M. I. T. under-

graduates. This subject has been improved by the addition of a compilation of supplementary readings, a teacher's manual, and a student workbook. These are designed to accompany the Samuelson text, which continues to be the most widely used economics textbook in the field and which has itself undergone large revisions in its second edition. The new book, *Readings in Economics*, was edited by Professor Paul A. Samuelson in collaboration with Professors Robert L. Bishop and John R. Coleman. Readings are arranged by topics and cover a wide range of historical view, economic philosophy, and controversial positions, classic and contemporary. As has always been the case, the purposes of M. I. T.'s course in economics are to lead students to think about economics and to show how rigor and objectivity may be attained, but not to tell them what they are to conclude.

The developmental reading program has been continued by the Department of English and History on a voluntary basis. Freshmen who scored low on a reading-comprehension test given to all members of the entering class were strongly urged to take the intensive training in reading made available for a distinctly nominal fee. More than 100 students from all levels in the Institute were enrolled during the year. In the coming Fall Term, an experiment in reading instruction will be conducted as part of the core curriculum.

The only graduate work currently offered in the School of Humanities is in the Department of Economics and Social Science, in the fields of economics, industrial relations, and psychology. In 1951-1952, 51 students were registered for graduate work. Of these, 3 were enrolled as candidates for the Master's degree and 46 for the doctorate, while 2 were not candidates for a degree. Apart from some revisions and additions in the program, there are no significant changes to report. The dinner meetings and seminars for outside speakers have been continued. As before, they were well managed by the Graduate Economics Association, a student group.

RESEARCH ACTIVITIES

The faculty of this School, like that of the whole Institute, is individually and collectively dedicated to the proposition that

scholarship and effective teaching are not separable. The extent and depth of the research increases perceptibly year by year. Results, when published, are indicated by the list of publications presented elsewhere in this *President's Report*.

Here it may be mentioned that Professor Morris A. Adelman, whose interests lie in industrial organization and price policy, has been conducting a study on industrial concentration for the Advisory Council of the United States Department of Commerce; that Professor E. Cary Brown has completed his work on the Merrill Foundation tax study with publication of the book, *Effects of Taxation: Depreciation Adjustments for Price Changes*; that the very interesting work of Professors Joseph C. R. Licklider, Alex Bavelas, and George A. Miller on applications of communication theory to problems in psychology has continued to grow in proportions; that much of our psychologists' research has remained in the realm of the classified, as were the studies of Professor Walt W. Rostow.

The research activities of the Industrial Relations Section continued at the level of which we have long been proud. A detailed accounting will be made in the forthcoming fifteenth annual report of the Section.

Under the direction of Professor Elting E. Morison and with the able assistance of Professor John M. Blum and Mr. Alfred D. Chandler, Jr., great strides have been made towards the completion of the monumental project of editing the letters of Theodore Roosevelt. Volumes Three and Four appeared in October, 1951, and Volumes Five and Six in the summer of 1952. The final two volumes will be out in 1952-1953. This work has received increasing critical acclaim and reflects great credit on its editors and through them upon their faculty, as does the work of Professor E. Neal Hartley on the early American iron industry, sponsored by the American Iron and Steel Institute.

The Department of Modern Languages continued its efforts to try to discover the way speech sounds are recognized. This work is under the direction of Professor Morris Halle who joined the staff this year, with over-all supervision from Professor William N. Locke, head of the Department. In the same area of interest

was the Conference on Speech Analysis sponsored jointly by the Department, the Acoustics Laboratory, and the Research Laboratory of Electronics of M. I. T., the Acoustical Society of America, and the Psycho-Acoustic Laboratory of Harvard University. The Conference brought to M. I. T. a dozen speakers on various aspects — psychological, linguistic, acoustical — of the study of speech, together with an audience of some two hundred representatives of the numerous biological, social, physical, and mathematical sciences interested in human communication through speech.

The members of this faculty have published an impressive number of important books during the year. These, too, are listed elsewhere. Growth in the general prestige of the Department of English and History is, however, notable and marked particularly by the increasing number of papers given at the meetings of various learned societies. Professor Carvel Collins gave two papers at the meetings of the Modern Language Association, Professors Karl W. Deutsch, Walt W. Rostow, and Duncan S. Ballantine spoke before the American Historical Association, and Professors John B. Rae and John M. Blum before the Mississippi Valley Historical Association.

OUTSIDE ACTIVITIES

Again it is possible to make mention of but a few outside activities of the staff. Professor E. Cary Brown continues as economics consultant to the United States Department of the Treasury. Professor Norman J. Padelford was a key figure in the management of the Foreign Students Committee for Overseas Summer Fellowships. Professor Robert M. Solow has been a member of the inter-disciplinary committee of the Social Science Research Council. Professor Paul A. Samuelson has just completed a term as a member of the Executive Committee of the American Economic Association and has acted as economics consultant to the United States Department of the Treasury, the Bureau of the Budget, and Rand Corporation. He was President of the Econometric Society for 1951–1952, American Editor of the *Review of Economic Studies*, representative for M. I. T. on the National Bureau of Economic Research committee, and one of the official delegates

of the United States to the International Colloquium on Econometrics in Paris in May. The Industrial Relations Section has been host to a multitude of European management, trade-union, and government officials who came to the United States under the auspices of the Economic Co-operation Administration. The Dean of the School spent three months in Australia in the autumn on the request of the Government of the Commonwealth as Adviser to the National Parliament on the program and building for the National Library at Canberra.

Of an entirely different nature but of great importance were the extra-curricular programs in music, directed by Professors Klaus Liepmann and Gregory Tucker. About 300 students have participated in the music-making of the Symphony Orchestra (60), the Concert Band (50), the Techtonians (12), the Glee Club (80), the Logarhythms (8), and the Choral Society (100).

All of this making of music is at a high level. The Orchestra, the Band, and the Glee Club gave joint concerts with kindred organizations from other institutions and appeared at Open House and at "Tech Night at the Pops." The Glee Club appeared also on the Monsanto-sponsored radio program "Songs from the New England Colleges."

The M. I. T. Choral Society is a mixed group consisting of members of the Glee Club, M. I. T. Staff, secretaries, and students' wives. In addition to participating in Mendelssohn's *Elijah* with the M. I. T. Orchestra at Jordan Hall, the Choral Society reached the peak of its season when it performed the Brahms *Requiem* in Sanders Theatre at Harvard with 40 members of the Boston Symphony Orchestra.

It must be realized that most of these concerts, including *Elijah* and the *Requiem* together with the Humanities Series concerts, were broadcast to New England over Station WGBH, the Lowell Institute Cooperative Broadcasting Council's new FM station. Thus, music from M. I. T. is purveyed to the community at large.

The concerts were also reviewed by the leading newspapers in Boston, and what they said is evidence of the progress that has been made in music at M. I. T. since Professor Liepmann took charge. The *Christian Science Monitor* said of the *Requiem*, "All

this added up to a performance of meritorious proportions. But quite apart from the quality of the music heard, there were pleasant and significant implications to this concert. That an institution devoted to technical science recognizes the need for artistic self-expression among its faculty and students is in itself heartening . . . a wholesome and pleasurable experience . . . both for those on the stage and off." And the *Boston Post* said of the *Elijah*, "The large chorus has homogeneity of sectional sound, something not too frequently encountered in more professional organizations. . . . With each public appearance the M. I. T. musical clubs improve in poise and musicianship. At the present rate of improvement we can soon expect this group to be the finest college organization presenting oratorio in New England." Thus, in a new field the old Rogers precept of "learning by doing" is applied at M. I. T.

More music is carried to the student body by the highly successful Music Library. The use of these facilities increased by eleven per cent over last year and is at capacity. The Library is kept open Saturday evenings to receive the broadcasts of the Boston Symphony Orchestra over WBGH. Recorded concerts are broadcast over the student station WMIT which has a direct line to the large player in the main room. This has not only been a convenience to the station and a pleasure to its listeners but has given impetus to the circulation of some of the more unusual records which are now heard by a larger proportion of listeners. Thus the musical curiosity of the M. I. T. community is whetted and the base of its musical understanding is broadened.

MISCELLANEOUS ACTIVITIES

Humanities Concert Series. The free concerts in the Humanities Series continued to attract capacity audiences to Huntington Hall. Visiting artists included the Schneider Quartet, Boris Goldovsky and the New England Opera Theatre in a concert version of *Pique Dame*, the Guilet String Quartet, Phyllis Curtin and Gregory Tucker, Ernst Levy, and Erwin Bodky. The financing of these concerts needs to be put on a more solid footing.

Gallery Program. Gallery exhibits included showings of paintings, sculpture, architecture, prints, and a variety of out-

standing photographs. Out of a total of eighteen exhibits, nine were originated or prepared particularly for exhibition at M. I. T. under the imaginative direction of Professor Beckwith. Several shows were of exceptional quality and attracted much attention. Among these were an exhibition of constructions and paintings by Naum Gabo, a collection of outstanding portraits loaned by the artist Yosuf Karsh, a valuable collection of trade signs and wooden Indians loaned by Mr. Rudolf F. Haffenreffer, and a Crystal Palace centennial exhibit prepared in collaboration with the Museum of Art of Smith College. The latter has been shown at Yale University and the Corning Glass Museum and is now on tour to an impressive list of American museums and colleges. Both the Karsh exhibit and the wooden Indians were discussed at length in *Time*.

During the year, the Standard Oil Company of New Jersey presented a group of 26 drawings and paintings for M. I. T.'s permanent collection. The group includes work by such artists as Peter Hurd, Thomas Benton, Adolf Dehn, and Joe Jones.

Attendance at the showings in the New Gallery has averaged about 2,500 per show.

Student Lecture Series Committee. After several years of experiment and transition, the past year has demonstrated that the student Lecture Series Committee has come of age. As little as four years ago, outside lectures on general subjects were almost entirely arranged by the Faculty. As the student Lecture Series Committee achieved maturity, more and more responsibility has been turned over to it. Today the School of Humanities is merely a friendly interceder for funds in support of the program and an adviser on personalities when called upon for advice. The whole program of important lectures, significant films, and panel discussions on vital issues is arranged and managed by the student Lecture Series Committee. The arrangements and management are thoroughly responsible, imaginative, and effective.

PEOPLE

Dr. Ralph Barton Perry served as Carnegie Visiting Professor of Philosophy in the second semester. In addition to teaching a

section of the senior Humanities subject, History of Ideas, he conducted a seminar for seniors and graduate students in the Theory of Value and gave three public lectures: "Emerson and American Democracy," "The Americanism of William James," and "What Does It Mean to be Free?" Professor Alexandre Koyré of the Sorbonne addressed a colloquium on certain elements in the history of Galileo. The Department of Modern Languages entertained Miss Eli Fischer-Jørgensen, Professor of Phonetics at the University of Copenhagen, as Guest in the second semester. Professor Heikki Waris of the University of Helsinki and Mr. Gosta Rehn, economist for the Swedish Federation of Trade Unions, paid extended visits to the Industrial Relations Section.

Mr. Ralph C. Patrick, Jr., anthropologist, and Mr. Thomas F. O'Dea, sociologist, began their appointments as Carnegie Fellows in the Department of English and History. The former left in June for three months' field research among the Havasupai Indians of Arizona. Both men have contributed much from their respective fields to the first year of the core subject.

Professors Bavelas, Millikan, and Rostow were on whole or partial leave for work on highly important government projects.

Professor Greene was on sabbatical leave during the second semester. Mr. Robert L. Koehl of the Department of English and History was on leave for the entire year to participate in and study the general education program at the University of Chicago as a Carnegie interne. His experience there should profit us on his return next fall. Mr. James E. Boyce, a member of the International Relations group in the Department of Economics and Social Science, has also been on extended leave, serving in Burma as the Director of the Burmese-American Institute in Rangoon under the Cultural Relations Program of the United States Department of State.

Mr. Brewster C. Denny resigned from the Department of English and History when he was called to active duty as an officer in the United States Navy.

Professor Richard M. Bissell, Jr., who had been on a long-term leave performing distinguished national service as Deputy Director of the Economic Co-operation Administration, resigned

from the Department of Economics and Social Science to become associated with the Ford Foundation.

Professor Duncan S. Ballantine resigned from the Department of English and History to assume the presidency of Reed College. His loss will be severely felt, for he was one of the outstanding thinkers and teachers in the Department, active and influential in all the planning of the core curriculum. He will not easily be replaced, but we congratulate Reed College on its choice. College presidents who have come from this School include Dr. Frank Aydelotte at Swarthmore and later at the Institute for Advanced Study at Princeton, Dr. Edwin S. Burdell at Cooper Union, and Dr. Douglas M. McGregor at Antioch College.

Everyone who knew him was saddened by the death of Dr. Robert K. Lamb, Lecturer in the Department of English and History. In his few years at M. I. T., Dr. Lamb left his imprint on everyone he met, student or faculty member. He was an indefatigable workman of great enthusiasm and vigor and of wide acquaintance and respect in the many fields of the social sciences, and he made notable contributions to all our thinking in the direction of integration of the humanistic and social science disciplines. He fought a courageous but losing fight against inexorable disease and to the end maintained his spirit and his confidence. His was a splendid example to the members of this faculty, and we shall not soon fill the void his departure has left.

PROBLEMS

Although we can record substantial successes and progress, it is only natural that some problems remain with us. A number of these have been mentioned in passing. Three may suitably be developed here.

We are concerned about the continued low undergraduate enrollment in Course XIV. During the past year there were 25 seniors, 6 juniors, and only 6 sophomores. We have taken steps to improve the program and to bring it more prominently to the attention of M. I. T. undergraduates. The graduate work of the Department of Economics is distinguished and thriving, but it needs a stronger underpinning in the undergraduate division.

A more difficult problem concerns the future of the English and History Department. We are convinced that our general policy in the School is sound. This policy insists that good undergraduate teaching will not ensue unless the members of the faculty are for the most part scholars in their own right. We have assembled faculties on that premise. But American university mores make it practically impossible to obtain and retain a faculty of the type we are now building in the Department of English and History and have already built in the Department of Economics and Social Science, unless the individual members of the faculty have time for study, financial support for their study, and a chance to communicate some of the implications of their study to young men near at hand, that is, to graduate students. Our faculty does have the necessary time for their scholarly pursuits and funds for many of the studies have been obtained or are obtainable. The nub of the question for the Department of English and History lies in some future arrangement which will permit members of the faculty to deal with a limited number of students who are advanced in the fields of that faculty. It is essential to bring this about without distorting the picture of M. I. T. as a limited university polarized around science and engineering. The relative paucity of good scholarship in the history of science and technology and of innovation and entrepreneurship, and the appropriateness of such study in the M. I. T. milieu indicate that there is a plausible field of endeavor. But the nature of what ought to be done remains a problem requiring intense and careful examination.

Finally, the School, like any other part of an academic institution and perhaps more so than some of the other Schools of M. I. T., has genuine and present financial problems. This is not a place to rehearse specific needs. However, it may be remarked that we need a group of people not now on the faculty to develop a proper field of concentration in art and other means of visual communication, that we need to strengthen the groups in philosophy and ethics, in the history of science and technology, and in political science, to name but three. Funds for programmatic research are no longer impossible to find, even though more money is still available for research in the natural sciences than in the social

sciences. The real Sahara of fund-giving in the United States remains in the non-project area that is so attractive to many scholars in all fields, particularly in the fields of the humanities where there is real skepticism about the effect of too much project work. It might seem ironic to observers from other planets to notice how much everyone in the United States favors general and liberal education for undergraduates, how much we all profess to love the humanities, yet how seldom any individual or foundation has felt inclined to make an impressive contribution to such simple purposes. We share this shirt of Nessus with other institutions, but the centaur's blood is none the less painful for that.

JOHN E. BURCHARD

School of Industrial Management

THIS HAS BEEN a year of transition from the progress and policies that have evolved in our nearly 40 years of existence as the Department of Business and Engineering Administration to the enlarged opportunities and responsibilities that we find in our new role as the School of Industrial Management.

About half of the original grant of \$5,250,000 from the Alfred P. Sloan Foundation, Inc., was spent in acquiring the building to house the School of Industrial Management. During the year, alterations necessary to provide facilities for classrooms, laboratories, seminar rooms, and offices for the staff were completed, permitting occupancy in May. There is now housed in what is designated the Alfred P. Sloan Building the staff of the School of Industrial Management, the Department of Economics and Social Science, the Dewey Library, some miscellaneous temporary occupants, and the M. I. T. Faculty Club, which is located on the top floor.

This School is being organized in three elements which operate inextricably. The undergraduate element of the School

is Course XV, Business and Engineering Administration, which continues under the leadership of Professor Erwin H. Schell who has been the chief architect of that Course throughout much of its existence. The graduate element consists of a two-year program for students with a Bachelor's degree in engineering or science, a one-year program for graduates of programs similar to Course XV, and an expanded, one-year Sloan Fellowship Program for men who have been in industry some ten years. The third element is research; a further grant of \$1,000,000 from the Alfred P. Sloan Foundation, Inc., is to be devoted in both principal and interest to "research, experimentation, and education in the broad field of industrial management."

OBJECTIVES OF THE NEW SCHOOL

The enlarged educational and research program made possible by these new funds has prompted a review of the objectives of education for industrial management and the ways of sound accomplishment of these objectives.

An Advisory Council of leaders of American industry was created, many of whom have contributed thoughtful ideas and suggestions. The present membership of the Council, under the chairmanship of Mr. Alfred P. Sloan, Jr., is as follows:

FRANK W. ABRAMS, Chairman of the Board of Directors, Standard Oil Company (N. J.)

ALBERT BRADLEY, Executive Vice-President, General Motors Corporation

ELLIS W. BREWSTER, Chairman of the Board of Directors, Plymouth Cordage Company

WADDILL CATCHINGS, Corporate Director and Business Economist

HARLOW H. CURTICE, Executive Vice-President, General Motors Corporation

BRADLEY DEWEY, President, Dewey & Almy Chemical Company

DAVID F. EDWARDS, Chairman of the Board of Directors, Saco-Lowell Shops

CLINTON GOLDEN, Labor Adviser, European Economics Administration

CRAWFORD H. GREENEWALT, President, E. I. DuPont de Nemours & Company

JOHN HANCOCK, Partner, Lehman Brothers

ROBERT T. HASLAM, President, United States Pipe Line Company

WAYNE J. HOLMAN, President, Chicopee Mills, Inc.

- FRANK A. HOWARD, Chairman for Scientific Policy, Sloan-Kettering Institute
- GEORGE M. HUMPHREY, President, The M. A. Hanna Company
- ANDREW T. KEARNEY, Partner, A. T. Kearney & Company
- JAMES S. KNOWLSON, President, Stewart-Warner Corporation
- JOHN L. McCAFFREY, President, International Harvester Company
- JOHN L. PRATT, Member of the Board of Trustees, Alfred P. Sloan Foundation, Inc.
- GWILYN A. PRICE, President, Westinghouse Electric Corporation
- ALFRED P. SLOAN, JR., Chairman of the Board of Directors, General Motors Corporation
- JOHN C. VIRDEN, Chairman of the Board of Directors, John C. Virden Company
- CHARLES E. WAMPLER, Vice-President, American Telephone & Telegraph Company
- ROBERT E. WILSON, Chairman of the Board of Directors, Standard Oil Company of Indiana
- ROBERT E. WOOD, Chairman of the Board of Directors, Sears, Roebuck & Company
- ARNOLD J. ZURCHER, Executive Director, Alfred P. Sloan Foundation, Inc.

During the past year, the School has received much assistance from many colleagues in the social sciences as well as in engineering and science, and it has been the beneficiary of a number of constructive suggestions from friends of the Institute in the fields of industry and labor. Notable among these contributions was a searching and penetrating report on the place of the social sciences in the School of Industrial Management, prepared by a committee under the chairmanship of Professor Elting E. Morison. The other members of the committee were Professors Morris A. Adelman, Charles A. Myers, Paul A. Samuelson, and Herbert A. Shepard. Independent of this committee, a number of the members of the School's Advisory Council reached similar conclusions with reference to the role of the social sciences, and the School has already been able to incorporate some of the constructive ideas into the graduate curriculum for 1952-1953.

Another example of deep interest in the School and the willingness of busy men to make a serious and time-consuming contribution to the welfare of the program is the "task force" on marketing which has nearly concluded its study of the role which

marketing and distribution should play in the curriculum and research activities of the School. This group is under the chairmanship of Mr. Robert Elder, marketing consultant, and includes, in addition to Professors Ross M. Cunningham and Gerald B. Tallman, a number of leaders in the field of distribution. These and other studies aim to take advantage of the great resources of M. I. T. and its engineering and scientific background as they may be brought to bear on the problems of a school of industrial management.

STAFF ADDITIONS AND PROMOTIONS

Additions to the staff have been made to build up the personnel to strength and to fill some of the new posts that will be required by the expanded program. Following proven Institute policy, there will be a single faculty for the School covering the three components of undergraduate, graduate, and research programs. Further additions to the staff will be needed as plans develop. The following new appointments have been made: Dr. Eli Shapiro, Professor of Finance; Mr. John R. Summerfield, Assistant Professor of Industrial Management; Dr. Myron J. Gordon, Assistant Professor of Accounting; Dr. Thomas A. Staudt, Assistant Professor of Marketing; Mr. Edward H. Bowman, Instructor in Industrial Management; Mr. Thomas V. Atwater, Jr., Instructor in Industrial Management; Mr. Donald R. Sohn, Instructor in Marketing; Mr. Louis B. Barnes, Instructor in Work Simplification; Dr. Alfred N. Watson, Research Associate; and Dr. Lowell W. Steele, Research Associate.

During the year, Professor Thomas M. Hill was promoted to Associate Professor of Accounting. Cyril C. Herrmann and Robert G. James were promoted to Assistant Professors. A significant step in the development of the administration of the School was the appointment in April of Professor Ronald H. Robnett as Associate Dean.

Professor Carroll Brown conducted a tour of European industrial plants during the summer months. Thirteen students visited over fifty plants in Western Europe and Great Britain on a tour lasting eleven weeks.

Continuing the practice of many years, men from industry

have participated through lectures and seminars with different groups of students. This contact with men holding responsible positions in industry is invaluable to the students planning a career in management. To these men the School is greatly indebted. This contact with industry will grow under the plans for the expanded educational and research program.

E. P. BROOKS

Reports of the Directors of Interdepartmental Laboratories

Acoustics Laboratory

NEARLY TWICE AS MANY students as in any recent year have been associated with the Acoustics Laboratory in 1951–1952. This increase seems to indicate a growing interest in acoustics on the part of the student body. It is perhaps even more significant as a commentary on the role of the Laboratory in the educational activities of the Institute, and is clearly reflected in the orientation of the Laboratory research program.

Increased student participation in Laboratory activities falls generally within three categories: thesis research on all levels; greater registration for special problem courses; and part-time employment. Significantly, it has not been accompanied by a corresponding increase in research assistantships, which have continued at about the existing level. It would seem, therefore, that there is evidence of broader interest in the field, derived, at least in part, from a growing industrial demand for engineers and scientists trained in acoustic disciplines. This evidence is reinforced by the growing number of students who have elected to undertake advanced study in the field after completion of their initial exposure at the Bachelor's or Master's level.

RESEARCH

The influx of students has brought with it new ideas and interests that have led to a broadening of the research program. No single project or development has stood out unduly, but research has been newly initiated in aero-thermoacoustics, acoustic

instrumentation, and the neurophysiology of hearing. Renewed interest has arisen in communications and chemical acoustics. The variety of research problems included in the program is symbolic of the diverse specialties often involved in typical acoustics problems.

Significant events in the Laboratory program are reported under six arbitrary classifications, listed alphabetically as follows:

1. *Architectural Acoustics*. Sound transmission through panels has been the focus of several separate studies, extending from architectural acoustics through physical acoustics into underwater sound. Pertinent here is a doctoral thesis investigation that relates the transmission loss of a wall panel to the propagation constant for flexural waves in the panel. Experiments with large panels verified the results predicted by the theory. Related studies less directly pertinent to architectural acoustics are mentioned below.

Acoustic design of rooms requires: (a) identification of the physical factors on which personal judgments of room quality are based; (b) establishment of criteria of acceptability, relating personal judgments to physical measurements; (c) physical understanding of the significant phenomena, to permit control and adjustment to meet specifications based on the criteria. Representative contributions within this long-term program included improvements in questionnaire techniques for obtaining significant personal judgments (as in audience evaluation of concert halls or personnel reaction to office noises) and studies of noise generation by ventilating fans in relation to the resulting psychological disturbance.

Two events highlighted Laboratory activities in architectural acoustics. The first was the Symposium on Building Acoustics and Noise Control, presented by members of the staff, as a part of the Industrial Liaison Program. The Symposium stressed the importance of noise criteria for disturbance, interference with speech communication, and possible damage to hearing. The second event was the course in Architectural Acoustics during the 1952 Summer Session, in which the Laboratory staff was assisted by qualified specialists from this country and abroad. The course material was based to a considerable degree on actual case studies.

2. *Chemical Acoustics.* The influence of sonic and ultrasonic irradiation on chemical reactions has long been recognized but has rarely been fully understood. Several years ago, we observed and reported the depolymerization of polystyrene by sonic agitation. Studies of the effects of sonic irradiation on the polymerization rate of various monomers have now been initiated, with several new equipments that operate over a considerable range of frequency and amplitude. Temperature-control problems and other extraneous influences have obscured the results of initial measurements, but steps are being taken to eliminate these factors.

3. *Communications Acoustics.* The system concept of generator, transmission path, and receiver provides a useful outline for recent developments in the communications program. The importance of the human being as a component in the system is emphasized by studies of speech, memory, and hearing.

The electrical analog to the human vocal tract, which is the first such device to produce realistic consonants as well as vowels, is now in use in studies of speech production. If a suitable correlation can be established between intelligible speech sounds and physical movements of the vocal tract, it may be possible to transmit voice communication in terms of vocal-tract positions with an appreciable reduction in bandwidth requirements. A wide-range electrostatic earphone was developed, and the results of an intensive investigation of loudspeaker enclosures are being prepared for publication.

The memory span of a human operator is an important factor in his effectiveness as a transmission element in a communication system. Continuous memory span has been studied in terms of delayed responses to a sequence of visual and auditory stimuli. The relation between memory span and vocabulary size has also been investigated for more complex vocabularies. A generalized solution for the current distribution in coupled tuned circuits was derived for application to the design and analysis of electroacoustic transducers. Members of the Laboratory undertook continuing collaboration with the staff of the Lowell Institute radio station WGBH in studio design, microphone placement for orchestral pickup, and over-all system calibration and testing.

In reference to receiver elements, the perception by the human ear of impulse sounds shaped by resonant circuits was the subject of a doctoral thesis. This subject is directly related to the perception of speech sounds shaped by the resonant cavities of the vocal tract. The considerable degree to which the results of measurements of pitch discrimination depend upon the test procedure employed was established and reported.

Research was initiated in electrophysiology of hearing, an area new to this Laboratory, in collaboration with staff members of Yale University and our own Research Laboratory of Electronics. The electrical responses at various locations on the cortex surface of monkeys were measured under moderate levels of anesthesia, using clicks, filtered clicks, and tone pips as stimuli. The responses were found to be less simple than those reported with deeper levels of anesthesia, and probably represent a more realistic description of normal cortical behavior.

Voice communication outdoors in the presence of wind (on shipboard, for example) is restricted considerably by the noise generated by turbulent air motion at the ear. This noise is markedly reduced by a wind-screen head set developed during the year, based on well-established practice for outdoor microphones. The analysis of non-linear performance of condenser microphones also received considerable attention. Of more general significance to the Laboratory has been the initiation of a continuing effort to build up a flexible and accurate calibration system for microphones, earphones, and loudspeakers.

4. *Instrumentation.* The refinement and application of existing instruments received somewhat greater attention this year than the design of wholly new apparatus. The variable time delay developed last year, for example, has been in constant demand for use in correlation analysis of such diverse signals as symphonic music and encephalograms. New progress has stemmed from two principal sources: electronic-computer instrumentation techniques; and a new program specifically devoted to acoustic instrumentation.

A sampling voltmeter, originally developed as a computer output device, has made possible a number of other instruments, including a novel electronic multiplier currently under investigation

and the axis crossing interval meter. The meter has been considerably refined during the year, and is now in active use in a study of complex signals. So far, this work has led to one Bachelor's thesis and to a significant extension of existing work in the field. The performance of the voltmeter itself has been greatly improved during this same period, and a number of other potential applications are under investigation. The development of a practicable flutter-free magnetic recorder, which employs the sampling voltmeter in a novel system of signal modulation and storage, has made substantial progress.

In January, a program devoted specifically to acoustic instrumentation was initiated under the sponsorship of the Office of Naval Research. This program aims to develop new instruments for acoustics research, and to utilize acoustic phenomena for instrumentation in other fields. Among the projects already under way are a high-speed recorder, to produce a graphic plot of an arbitrary function of the input signal, and a compact acoustic multiplier with numerous potential uses. Applications of correlational techniques to measurements of distance, temperature, noise generation, and absorption of acoustical materials are also being investigated under this program.

5. *Medical Acoustics.* It has been noted previously that skull-thickness variations constitute a major obstacle to the detection and localization of intracranial tumors by ultrasonic transmission methods. Bone attenuation causes signal variations that overshadow the desired signals from the brain tissue and the ventricles.

Attenuation in bone has been found to vary with frequency in a manner significantly different from attenuation in brain tissue. Compensation for bone-thickness variations may thus be realized from intercomparison of measurements at different frequencies. Automatic scanning and recording equipment incorporating this compensation technique has been constructed and is currently being evaluated.

Another potential method for bone-thickness compensation depends on the comparison of ultrasonic transmission with gamma-ray transmission. Variations in the latter depend almost entirely on absorption in the bone, and may possibly be used to derive a

bone correction for the acoustic signal. Equipment for evaluation of this method is nearly complete.

We are collaborating with the Massachusetts General Hospital in a clinical survey to compare routine X-ray ventriculograms with ultrasonic transmission patterns. The ultrasonic equipment used in this survey has no provision for bone compensation. The results of the survey should aid in the evaluation of compensation techniques.

6. *Physical Acoustics.* Activities in this field have maintained an appropriate balance between analysis and experiment, and in many instances were closely interwoven with other parts of the Laboratory program. A detailed analysis of vibrations in cylindrical shells was instigated by problems encountered in the development of a liquid-filled tube for impedance measurement. Excellent agreement between theory and experiment was obtained in a study of sound transmission through thin, damped circular plates. Transmission of sound through inhomogeneous media and reflection of sound from irregular surfaces received considerable attention. Analytical studies yielded exact solutions for the forced oscillation of a circular membrane in an infinite baffle and for the driven motion of a rectangular plate clamped at the edges.

The computer mentioned in last year's report has grown slowly, with major emphasis on terminal equipment and power supply stability. Considerable effort has been diverted to the development of instruments based on computer instrumentation. The computer itself has been used for the solution of several problems involving feedback systems and for one Bachelor's thesis program; its fuller potentialities are beginning to be realized as critical terminal components are completed.

A basic research program in aero-thermoacoustics has been initiated under Air Force sponsorship. This program is concerned with the measurement of noise generation and propagation in the turbulent flow of a fluid, with particular emphasis on the effects produced by heat sources in the moving fluid. Investigations of self-sustaining acoustic oscillations generated by a heat source and of noise generation from high-speed flow in straight and diverging conduits have already been undertaken.

ADMINISTRATION AND GENERAL ACTIVITIES

No major revisions of plant, space, and facilities took place during the year. An over-all increase of about 30 per cent in total population, including the increase in student activities, anticipated some space additions which did not materialize. A partial relief of this situation is expected in the near future.

Financial support continues to come from the Bureau of Ships, the Office of Naval Research, the United States Air Force, the National Institute of Health, and the Damon Runyon Memorial Fund. The two new contracts with the Air Force and the Office of Naval Research were written for terms of two and three years respectively. Although they constitute only a fraction of over-all Laboratory support, they demonstrate a welcome tendency toward contract periods greater than a single year, and permit increased stability in the program. A research fellowship in Architectural Acoustics was again sponsored by the Acoustical Materials Association.

Members of the staff participated in a Regional Alumni Conference in Los Angeles during January. In April, the Laboratory held a program review meeting for the Acoustics Panel of the Research and Development Board, Department of Defense.

Dr. Walter A. Rosenblith, formerly on the staff of the Psycho-Acoustic Laboratory at Harvard University, joined us as Associate Professor of Communications Biophysics in the Department of Electrical Engineering. Dr. Ziaoddin Esmail-Begui, Professor of Physics at the University of Teheran, Iran, was associated with the Laboratory throughout the year under a Fulbright Grant.

Eighteen theses were completed: two doctoral, ten Masters', and six Bachelors'. Publications included eleven journal articles and thirty-one papers presented before various societies and organizations.

RICHARD H. BOLT

Research Laboratory of Electronics

THE RESEARCH LABORATORY OF ELECTRONICS has continued work in established fields and has added other promising programs. Approximately 40 members of the Faculty and 100 graduate students, largely from the Departments of Physics and Electrical Engineering, were engaged in the research program; and the Laboratory was host to 17 guests and visiting staff members drawn from 12 countries.

The Physics staff of the Laboratory has continued the active program of the past several years with little change in emphasis. However, as a result of the creation of an applied division of the Laboratory two years ago (under a separate Signal Corps contract) and its subsequent integration into the Lincoln Laboratory, extensive changes have been made in the communications program.

The appointment of Dr. Albert G. Hill as Director of the Lincoln Laboratory and of Dr. George G. Harvey as Executive Officer of the Physics Department removed these men from the Laboratory administration.

The Physics program includes the work of the Low Temperature Laboratory under Professor Melvin A. Herlin's supervision; the research on microwave gaseous discharges directed by Professors Sanborn C. Brown and William P. Allis; Professor Francis Bitter's Magnet Laboratory; the microwave spectroscopy investigations in gases and solids directed by Professor Malcom W. P. Strandberg; the extensive work on surface properties of materials and high-vacuum techniques carried out by Professor Wayne B. Nottingham and his students; and the Molecular Beam Laboratory program directed by Professor Jerrold R. Zacharias and Dr. Vincent Jaccarino.

The research on generation of millimeter waves was halted and the equipment transferred to the University of Illinois, where Dr. Paul D. Coleman, who had carried out this work as part of his doctoral program, is now located.

Portions of the Electrical Engineering program in the Laboratory have continued with little change in orientation or magnitude. Among these are the network theory group under the direction of

Professor Ernst A. Guillemin and Dr. Manuel V. Cerrillo; the meteor guidance group headed by Professor Henry J. Zimmermann; the microwave tube group under the direction of Mr. Louis D. Smullin and Professor Lan J. Chu; the special-purpose computer section supervised by Professors Ronald E. Scott and James M. Ham; and the frequency modulation research group of Professor Lawrence B. Arguimbau.

Other portions of the Electrical Engineering program have been radically altered. Two research programs, the high-power magnetron program and the meteor telemetering development, were completed, and work on them was terminated. Because of the urgent need for technical supervision in the applied laboratory, parts of the communication program were greatly reduced. A group led by Professor William N. Locke continued some of the work previously begun in the field of speech analysis, and Dr. Clifford M. Witcher carried on the research on sensory replacement devices.

Several new activities were begun, a number of them in co-operation with the Lincoln Laboratory. Professors Richard B. Adler and Samuel J. Mason, together with a group of students, are studying transistor circuits. Professors William H. Radford and Jerome B. Wiesner have formed an applied propagation group with a field station on the Round Hill estate at South Dartmouth, Massachusetts, where communication research is carried out for the Department of State. Dr. Yehoshua Bar-Hillel, who joined the Laboratory in the past year, has been investigating semantic information theory, the logic of language, and a number of applied problems such as that of mechanical translation. A new microwave laboratory, in which several of the Laboratory staff members will participate, has been organized.

For several years, because of the large areas of mutual interest, members of the communication group have engaged in co-operative research activities with scientists interested in the mechanisms of hearing and more general information processes in animals. An outgrowth of these communication interests are two new research activities in the Laboratory.

Professor Walter A. Rosenblith has equipped a laboratory

and started an investigation of the neural processes employed in the brain to analyze auditory information. This work is carried out in co-operation with members of the staff of the Harvard Psycho-acoustics Laboratory and the Massachusetts General Hospital.

Dr. Warren S. McCulloch, formerly a member of the faculty at the University of Illinois Medical School, and his associates, Dr. Jerome Y. Lettvin and Mr. Walter H. Pitts, have transferred to the Research Laboratory of Electronics their researches on synaptic transmission and neural networks. At the University of Illinois, and for the first four months at M. I. T., this work was supported by a contract with the Office of Naval Research. Continued support is provided by a contract from the Bell Telephone Laboratories.

As in the past, the Laboratory continues to receive most of its financial support from the three military services, through a Joint Services contract with the Signal Corps. The applied Signal Corps contract that has given support to some special activities in the Laboratory terminated July 31, 1952.

In the past year, the contract with RAND that supported the studies in Group Networks expired, and the continuing effort in this field is supported by the basic contract.

In addition to the Joint Services contract, the Laboratory continued to receive support from the Navy Bureau of Ordnance for the work of Project Meteor; from three industrial organizations — Federal Telecommunication Laboratories, Inc., Sperry Gyroscope Company, and the Radio Corporation of America — for the support of the fellowship program; and from the Department of State for special communication studies.

The research program was also aided by several new sources of support. A grant from the Rockefeller Foundation made it possible to continue Dr. Bar-Hillel's research on mechanical translation and to hold a conference on this subject. As mentioned, a contract with the Bell Telephone Laboratories provides the basic support for the new group doing neurophysiological research.

The School of Humanities has received a grant from the Human Resources Center of the Air Force to form a Human Resources

Research Laboratory, and the Research Laboratory of Electronics will assist in the establishment of this Laboratory by providing administrative assistance.

The Industrial Fellows appointed for the academic year 1951-1952 were: Mr. D. A. Huffman, Mr. A. L. McWhorter, Mr. H. E. Rorschach, Jr., and Mr. B. T. Subbotin. Mr. Robert Price was a Sperry Fellow for this period.

JEROME B. WIESNER

Spectroscopy Laboratory

THE ACTIVITIES of the Spectroscopy Laboratory include a wide range of investigations dealing with the structures of atoms and molecules. Research is carried on by staff and students from the Departments of Physics, Chemistry, and Biology, and support for the work is provided through Institute channels by government agencies, private research foundations, and industrial firms, as well as by the Institute.

The special summer course in infrared spectroscopy given by the Laboratory was expanded to a double course in 1952, one half being devoted to the techniques of infrared spectroscopy and the other half to its applications to academic and industrial research problems. As in previous years, Dr. Foil A. Miller of the Mellon Institute of Industrial Research assisted in the presentation of the courses. In addition, Dr. R. Norman Jones, National Research Council of Canada, Dr. R. C. Gore, American Cyanamid Company, and Dr. E. R. Blout, Polaroid Corporation, gave lectures dealing with special applications in their respective laboratories.

RICHARD C. LORD

Laboratory for Nuclear Science

THE LABORATORY FOR NUCLEAR SCIENCE has continued its basic researches on approximately the same scale as last year. With the substantial completion of the large Office of Naval Research Electrostatic Generator, which has been used regularly for nuclear energy level studies since early this year at energies up to 8 Mev, the period of construction of facilities is over, and full attention is now being given to the researches themselves. Active experimental research programs are under way involving all of the Laboratory's high-energy accelerators: the 350 Mev Electron Synchrotron, the 17 Mev Linear Accelerator, the Cyclotron, and the Laboratory's several Van de Graaff Generators. Demands on the Synchrotron have been particularly heavy, and it has been operated almost continuously on a full-time basis over the past year.

Studies in the Laboratory continue to uncover new physical phenomena in almost every field: the interaction of cosmic rays with nuclear matter; the production, by photons, of charged and neutral mesons, neutrons, protons, and more complex products up to fission fragments; the dynamics of scattering of elementary nucleons by nuclei and by each other; discovery and classification of energy-levels of nuclei through scattering, transmutation, and decay-scheme measurements; studies of the electromagnetic interactions of nuclear and atomic particles; chemical researches on the products of nuclear reactions; chemical studies using nuclear techniques; theoretical interpretation and prediction of nuclear and subnuclear behavior.

JERROLD R. ZACHARIAS

Nuclear Engineering Laboratory

AT THE REQUEST OF the Atomic Energy Commission, the Institute has organized a Nuclear Engineering Project to undertake engineering studies for the Reactor Development Division of the AEC.

During the summer of 1952, a group of around 25 scientists and engineers, led by Professor Manson Benedict of our Chemical Engineering Department, carried out the first assignment of this Project. Although the Project staff has now largely returned to academic duties, activity may be resumed on new assignments in future summers, if considered desirable by the Institute and the AEC.

In addition to the utility of its results to the AEC, the Project has been valuable to M. I. T. in bringing the problems and recent developments of the AEC to the attention of M. I. T. Staff members and graduate students.

MANSON BENEDICT

AUDITORS' CERTIFICATE

To the Auditing Committee of the Massachusetts Institute of Technology:

We have examined the balance sheet of Massachusetts Institute of Technology as at June 30, 1952 (pages 110 and 111) and the statement of income and expense (page 112) for the year ended June 30, 1952. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying statements present fairly the financial position of Massachusetts Institute of Technology at June 30, 1952, and the results of its operations for the year then ended on a basis consistent with that of the preceding year.

LYBRAND, ROSS BROS. & MONTGOMERY

Boston, Massachusetts
September 15, 1952

REPORT OF THE AUDITING COMMITTEE

To the Corporation of the Massachusetts Institute of Technology:

The Auditing Committee reports that Lybrand, Ross Bros. & Montgomery were employed to make an audit of the books and accounts of the Institute for the fiscal year ended June 30, 1952 and their certificate is submitted herewith.

Respectfully,

REDFIELD PROCTOR
HAROLD BUGBEE
HENRY E. WORCESTER, *Chairman*

Report of the Treasurer

FINANCIAL REVIEW

Operations. The total volume of operations in 1951-1952 was \$32,518,000 as compared with \$23,469,000 in 1950-1951 and an annual average of \$21,303,000 during the five years 1947-1951. Due primarily to a single large project, net research contract revenues rose to \$23,489,000 from \$14,419,000 in the preceding year. The volume of academic operations and auxiliary activities decreased moderately to \$9,029,000 from \$9,050,000. The peak in academic operations during the last five years occurred in 1949-1950 with volume at \$9,093,000, while research operations were at the highest level for this period during 1951-1952. Income from tuition declined for the third consecutive year, but this reduction in income was offset by an increase in gifts and other receipts used for current expenses and an increase in income from dormitory operations and other auxiliary activities. Overhead allowances on research contracts increased to \$4,247,000 from \$2,580,000 last year, reflecting the expansion in the research program and higher administration and plant expenses.

Salaries and wages for the fiscal year were \$18,974,000 and 58 per cent of all expenses, increasing from \$14,875,000 in 1950-1951. Research salaries and wages reimbursable directly by contract were 73 per cent of the total of all academic and research salaries and wages in 1951-1952.

With the conclusion of the intensive first phase of the Development Program last year, development expenses declined sharply in 1951-1952. The total of all other general and administration expenses, however, was up 21 per cent in con-

trast to the increase in total operating income of 38 per cent. Plant expenses showed a year-to-year increase of 65 per cent, due largely to special repairs and the expenses of renovating space made available in existing structures by additional building facilities along with alterations closely associated with contract research operations. Special repairs and space changes of a non-recurring nature were 40 per cent of all plant expenses in 1951-1952 and 13 per cent of this expense classification in 1950-1951.

Funds. On June 30, 1952, the invested and other funds of the Institute were \$60,632,000 at book value, and on June 30, 1951, the funds were \$56,818,000. The net increase of \$3,814,000 in the funds during the year was equivalent to 92 per cent of the net addition of \$4,135,000 to the funds in the preceding year. For the year 1951-1952, the net increase consisted of increases of \$2,461,000 in the endowment funds, \$1,581,000 in invested funds for current purposes, \$812,000 in other classes of funds, and a decrease in building funds of \$1,040,000. The Faculty Salary Fund was brought to \$3,096,000 by the addition of \$2,096,000, and this was the principal change in the endowment funds during the year. The Research Fund of \$1,000,000 provided for the School of Industrial Management by the Alfred P. Sloan Foundation, Inc., is included in the increase in the invested funds for current purposes. Building funds were used to meet construction expenditures to the extent of \$2,360,000, and other funds of \$1,200,000 were transferred to building funds. At the end of the year, 72 per cent of the funds were endowment or funds functioning as endowment and loan funds, while 28 per cent of the funds were temporarily invested or included with current assets that may be withdrawn for operating expenses or other purposes.

Plant. The book value of the plant of the Institute was \$31,364,000 on June 30, 1952, and \$28,578,000 on June 30, 1951. Additions to plant during the year were represented by expenditures of \$2,765,000, and special repairs and space changes included in operating expenses were \$1,088,000, a combined total of \$3,853,000. In 1950-1951, plant additions were \$4,364,000, while special alterations were \$209,000, a total of \$4,573,000. The near completion of the Metals Processing Laboratory, the

interior renovation of the Sloan Building, and the expenditures for construction in progress on the John Thompson Dorrance Laboratory together made up more than 85 per cent of the addition to the dollar value of the plant during the fiscal year. Construction in progress on June 30, 1952, required further estimated expenditures of over \$1,000,000, which was set aside and included in the building funds at the close of the year.

Gifts. The gifts, grants, and bequests of \$6,953,000 received during the year included payments of \$1,998,000 toward subscriptions by alumni and friends of M. I. T. during 1948-1951 to the Development Program. Gifts of \$4,955,000 were from sources other than maturing pledges, with the partial distribution from the bequest of Mrs. H. Sylvia A. H. G. Wilks of \$1,645,000 and the Research Fund for the School of Industrial Management of \$1,000,000 making up more than half of the gifts received over and above the contributions flowing from the Development Program. During the five years preceding the Development Program, gifts to the Institute ranged from \$1,368,000 to \$2,550,000.

Endowment gifts of \$341,000 for designated purposes included the initial payment of \$150,000 by the Webster Foundation to establish the Edwin S. Webster Professorship in Electrical Engineering and \$134,000 for endowed scholarship funds. Mrs. Wilks' bequest, the Development Fund, a distribution from the estate of Arthur J. Conner, and a further contribution from the Ford Motor Company Fund were among the unrestricted gifts received. \$2,096,000 out of the total unrestricted gifts of \$2,851,000 was added to the endowment funds. The Alumni Fund, with a total of \$140,000, and contributions of \$1,275,000 from the Alfred P. Sloan Foundation, Inc., are a part of the gifts received for designated purposes and invested with other funds of the Institute.

Grants from companies in the Industrial Liaison Program were \$1,110,000 in the total contributions of \$2,094,000 received for current purposes in 1951-1952. During the year under review, \$839,000 in grants was allocated to the support of the current program in education and research, and \$365,000 was added to funds for immediate use or to meet subsequent

expenditures. Gifts for current use applied to current operations continue to be a major source of operating revenues. For 1951-1952, gifts actually used are included with gifts and other receipts at \$2,433,000 in the Statement of Income and Expense. Gifts and grants for current expenditures not only meet current needs but also conserve funds that otherwise would be expended.

Investments. Total investment income in 1951-1952 was \$2,618,000, a slight increase over the previous year, when investment income was \$2,583,000. A somewhat smaller proportion of income was used for current expenses in the year ended June 30, 1952, with \$1,334,000 allocated in the Statement of Income and Expense, but a greater proportion was added to fund balances for redistribution against current expenditures, and this was \$763,667 for the twelve-month period. \$520,000 was added to the unallocated investment income reserve, bringing this reserve at the close of the year to \$1,297,000, or more than half of the income on the General Investments of \$2,411,000 for the year ended June 30, 1952. Continuing the practice of allocating the greater part of dormitory and other operating income to the reserve for investment amortization and allied purposes brought this reserve to \$318,000 by the addition of \$121,000 during the year.

63.2 per cent of the income on General Investments was dividends on common stocks, 17.3 per cent represented bond interest, and 11.4 per cent was real estate income, with these three classes of investments furnishing 91.9 per cent of the income in the fiscal year. The change in the source of income by class of investment from the previous year was not marked, with common stocks, bonds, and real estate making up 94.3 per cent of the income on General Investments in 1950-1951. The rate of income earned for the funds sharing in the General Investments was 5.18 per cent on the average book value of the funds, and in 1950-1951 the rate was 5.02 per cent. For the fifth consecutive year, 4 per cent was allocated to the funds. During the past three years, income over and above 4 per cent has been added to unallocated investment income.

The investment in common stocks at market value continued the upward trend of recent years, reaching 46.9 per cent

on June 30, 1952, while bonds and real estate were down somewhat from the level of June 30, 1951, at 27 per cent and 15.6 per cent, respectively, of the General Investments. A part of the funds temporarily on hand and held for current use were invested in commercial paper on June 30, 1952, and advances of Institute funds of \$2,132,000 to finance contract research operations supplemented advances by the U. S. Government of \$4,731,000 at the end of the year.

General. The endowment funds of the Institute have grown from \$33,238,000 to \$41,249,000 during the ten years ended June 30, 1952. Over 75 per cent of the increase in endowment of \$8,011,000 in this decade was added during the past three years. Less than half of the new endowment received since 1942 was given as endowment, and more than 50 per cent was represented by appropriations of unrestricted funds. The accelerated growth of endowment in recent years recognizes but does not meet the need to stabilize the operations of the Institute by the provision of endowment funds more in keeping with the size of the plant and scale of activities of M. I. T. Funds for the direct support of current operations are of major importance and make an indirect contribution to the financial strength of the Institute, particularly when other funds are consequently released for allocation to endowment. To achieve a balance among the several sources of income consistent with objectives of the program of education and research will require a further increase of substantial proportions in the endowment capital of the Institute.

JOSEPH J. SNYDER

SCHEDULE A

BALANCE SHEET

JUNE 30, 1952

INVESTMENTS

General investments:		
U. S. Government bonds	\$15,507,195	
Other bonds	2,594,530	
Preferred stocks	247,274	
Common stocks	17,143,348	
Real estate (including \$5,433,050 devoted to Institute use) and mortgages	10,432,708	
Commercial paper	4,646,164	
Advances for current operations (per contra) . .	1,923,266	
	<hr/>	
Total general investments (A-1)	\$52,494,485	
Investments of funds separately invested (A-2)	4,621,427	
Students' notes receivable (A-12)	655,417	
	<hr/>	
	\$57,771,329	

CURRENT AND DEFERRED ASSETS

Cash:		
General purposes	\$ 2,275,664	
Segregated for certain research contracts	418,634	
Students' safe-keeping deposits	109,198	\$ 2,803,496
	<hr/>	
Accounts receivable:		
U. S. Government (A-13)	\$ 3,012,214	
Other (A-13)	173,387	3,185,601
	<hr/>	
Contracts in progress, primarily U. S. Government . . . (A-14)	4,335,617	
Inventories, deferred charges and other assets (A-15)	1,189,333	
	<hr/>	
	\$11,514,047	

EDUCATIONAL PLANT

Land, buildings and equipment (A-19)	\$31,364,732	
	<hr/>	
	\$100,650,108	

BALANCE SHEET

111

SCHEDULE A

BALANCE SHEET

JUNE 30, 1952

INVESTED FUNDS

Endowment funds:	
Income for general purposes.....(A-3)	\$31,195,467
Income for designated purposes.....(A-4)	10,053,044
Total endowment funds.....	\$41,248,511
Student loan funds.....(A-5)	2,594,775
Building funds.....(A-6)	2,059,622
Invested funds for current use:	
General purposes.....(A-7)	\$ 1,615,583
Designated purposes.....(A-8)	4,813,060
Total invested funds for current use.....	6,428,643
Unexpended endowment income for designated purposes.....(A-4)	983,183
Agency and annuity funds.....(A-9 & 10)	960,587
General investments—gain and loss account.....(A-11)	3,496,008
	<u>\$57,771,329</u>

CURRENT LIABILITIES, FUNDS AND SURPLUS

Advances from invested funds (per contra).....	\$ 1,923,266
Accounts payable and accrued wages.....	1,289,472
Students' advance fees and deposits.....(A-16)	224,696
Students' safe-keeping deposits.....	109,198
Withholdings, deposits and other credits..(A-17)	517,323
Advances by U. S. Government for certain research contracts.....	4,731,243
Total current liabilities.....	\$ 8,795,198
Gifts and other receipts for current expenses.....(A-18)	1,563,355
Investment income unallocated to funds.....	1,296,911
Deficit from operations.....	(141,417)
	<u>\$ 11,514,047</u>

EDUCATIONAL PLANT CAPITAL

Endowment for educational plant.....(A-20)	\$ 31,364,732
	<u>\$100,650,108</u>

SCHEDULE B
STATEMENT OF INCOME AND EXPENSES
FOR YEAR ENDED JUNE 30, 1952

INCOME

Educational and General		
Tuition and other fees (B-1)	\$	3,628,294
Investment income used for current expenses (B-2)		1,334,305
Gifts and other receipts used for current expenses . . . (B-2)		2,432,970
Research contracts:		
Reimbursement for direct expenses . . (B-3)	\$20,032,737	
Allowances for expenses of administration and plant operation (B-3)	3,455,640	23,488,377
Other income (B-4)		51,928
Total educational and general	\$30,935,874	
Auxiliary activities — dormitories, dining services and housing projects (B-13)		1,581,768
Total operating income	\$32,517,642	

EXPENSES

Educational and General		
Academic expenses (including research expenses of academic departments):		
Salaries and wages (B-5)	\$	4,037,682
Departmental expenses (B-6)		931,941
Library and museum (B-7)		253,692
		\$ 5,223,315
Research contracts — direct expenses:		
Salaries and wages (B-3)	\$10,922,089	
Materials and services (B-3)	6,406,470	
Subcontracts, travel and other (B-3)	2,704,178	20,032,737
General and administrative expenses (B-9)		2,552,363
Plant operation (B-10)		2,721,673
Medical department (B-11)		149,908
Undergraduate budget board (B-12)		273,006
Total educational and general	\$30,953,002	
Auxiliary activities — dormitories, dining services and housing projects (B-13)		1,581,023
Total operating expenses	\$32,534,025	
Excess of operating expenses over operating income for year . . .	\$	16,383
Deficit June 30, 1951		191,601
		\$ 207,984
Net reduction of unexpended balances of appropriated income, \$42,546, and other prior year adjustments		66,567
Deficit June 30, 1952	\$	141,417

REPORT OF THE TECHNOLOGY LOAN FUND COMMITTEE
COMPARATIVE BALANCE SHEET

ASSETS				
	<i>June 30, 1951</i>		<i>June 30, 1952</i>	
Cash.....	\$ 61,607.21		\$ 15,488.39	
Investments (Schedule A-2).....	1,569,218.38	\$1,630,825.59	1,572,028.49	\$1,587,516.88
Student Notes Receivable:				
Loans 1930 to date.....	\$2,341,516.75		\$ 2,540,297.75	
Less Repayments (including \$9,403.54 charged off).....	1,821,150.89	520,365.86	1,902,283.94	638,013.81
TOTAL ASSETS.....		<u>\$2,151,191.45</u>		<u>\$2,225,530.69</u>
LIABILITIES				
Technology Loan Fund:				
Total Subscriptions.....		\$1,451,295.18		\$1,451,450.18
Add:				
Investment Income (net).....	\$ 691,311.66		\$758,754.19	
Interest from Loans.....	234,184.65		239,797.71	
Class of 1895 Memorial Fund.....	5,824.00	931,320.31	6,824.00	1,005,375.90
		\$2,382,615.49		\$2,456,826.08
Deduct:				
Net Loss on Sales of Securities.....	\$ 189,840.26		\$ 189,652.76	
Written Off, Deceased Borrowers.....	5,125.32		5,125.32	
Legal Settlements.....	4,219.37		4,278.22	
Life Insurance Premiums.....	32,239.09	231,424.04	32,239.09	231,295.39
TOTAL LIABILITIES		<u>\$2,151,191.45</u>		<u>\$2,225,530.69</u>

RECEIPTS AND EXPENDITURES FOR 1951-1952

RECEIPTS	
Income (Investments).....	\$ 67,442.53
Interest (Loans).....	5,613.06
Class of 1895 Memorial Fund.....	1,000.00
Gifts.....	155.00
Net Gains on Sales of Securities.....	187.50
	<u>\$ 74,398.09</u>
EXPENDITURES	
Loans made during year.....	\$ 198,781.00
Less: Repayments (plus charge-offs).....	81,133.05
	<u>\$ 117,647.95</u>
Legal Settlements.....	58.85
	<u>117,706.80</u>
NET DECREASE IN CASH AND INVESTMENTS.....	<u>\$ 43,308.71</u>

TECHNOLOGY LOAN FUND COMMITTEE
Karl T. Compton, *Chairman*

Gerard Swope
Pierre S. du Pont

William C. Potter
Joseph J. Snyder

REPORT OF THE TREASURER
REPORT OF THE TRUSTEES OF THE
M. I. T. PENSION ASSOCIATION
COMPARATIVE BALANCE SHEET

ASSETS

	<i>June 30, 1951</i>	<i>June 30, 1952</i>
Cash	\$ 59,572.67	\$ 98,488.47
Investments (page 115)	3,178,118.88	3,585,526.84 ¹
Total	\$3,237,691.55	\$3,684,015.31

¹ Market Value June 30, 1952, \$4,242,476.35.

LIABILITIES

Teachers' Annuity Fund (5% salary deduction, plus interest)	\$1,749,113.53	\$2,006,517.79
*M.I.T. Pension Fund (3% appropriation, plus interest)	1,173,136.25	1,369,670.24
Special Reserves for Annuity Payments	280,954.49	275,373.21
Total Liabilities	\$3,203,204.27	\$3,651,561.24
Reserve Fund (including undistributed income)	34,487.28	32,454.07
Total	\$3,237,691.55	\$3,684,015.31

* The Institute appropriates annually the equivalent of the 5% salary deduction, using 2% for payment of group insurance premiums.

RECEIPTS AND EXPENDITURES FOR 1951-1952

RECEIPTS

5% salary deductions added to Teachers' Annuity Fund	\$ 256,675.08
3% appropriations added to M.I.T. Pension Fund	154,131.04
Income from investments (net)	133,575.97
Net gain on sales of securities	39.45
Total Receipts	\$ 544,421.54

EXPENDITURES

Paid on account of withdrawal or decease of members	\$ 87,307.41
Pension paid directly to retired former members	10,790.37
Total Expenditures	98,097.78
Net Increase of Ledger Assets	\$ 446,323.76

TRUSTEES OF THE M.I.T. PENSION ASSOCIATION

Karl T. Compton
Ralph E. Freeman

Joseph J. Snyder
John R. Macomber

PENSION ASSOCIATION REPORT

115

A RECORD OF INVESTMENTS HELD FOR ACCOUNT OF THE TRUSTEES OF THE M.I.T. PENSION ASSOCIATION

<i>Par Value or Shares</i>				<i>Book Value</i>	<i>Net Income</i>
\$175,000	U. S. Treasury	2¼s	1959-62	\$ 175,705.00	\$ 3,766.25
150,000	U. S. Treasury	2½s	1963-68	150,700.00	3,571.77
250,000	U. S. Treasury	2½s	1964-69	251,600.00	6,112.50
150,000	U. S. Treasury	2½s	1965-70	151,780.00	3,600.00
100,000	U. S. Treasury, "B"	2¾s	1975-80	100,000.00	2,750.00
1,010,000	U. S. Savings, "G"	2½s	1954-63	1,010,000.00	25,250.00
34,000	Alabama Power	3½s	1972	34,000.00	1,207.50
50,000	Am. Tel. & Tel.	2¾s	1961	53,200.00	975.00
50,000	Am. Tel. & Tel.	2¾s	1980	50,080.00	1,365.00
50,000	Aluminum Co. of America	3¼s	1964	50,000.00	(21.70)
50,000	Aluminum Co. of Canada, Ltd.	3⅞s	1970	50,750.00	(145.31)
50,000	Comm. Edison	3s	1977	52,200.00	1,400.00
50,000	Louisiana Pr. & Lt.	3s	1974	51,170.00	1,428.00
50,000	Pac. Gas & Elec.	3s	1974	51,350.00	1,425.00
50,000	Philadelphia Electric	2¾s	1974	50,250.00	1,350.00
100,000	Pittsburgh Plate Glass	3s	1967	100,000.00	(63.33)
25,000	Puget Sound Power & Light	4¼s	1972	26,300.00	763.19
50,000	United Gas Corp.	3⅝s	1971	52,080.00	582.51
35,000	So. California Edison	3s	1965	36,400.00	950.00
25,000	Balt. & Ohio	4s	1975	24,987.50	1,000.00
50,000	Northern Pacific Ry.	4s	1997	51,590.00	798.33
1,000	Draper Corporation			22,403.35	350.00
800	du Pont			29,504.20	2,840.00
1,334 ³⁰ / ₁₀₀	Eastman Kodak			28,510.58	2,231.80
1,500	General Electric			63,519.71	4,500.00
1,200	General Motors			29,332.24	4,800.00
1,800	Gulf Oil			67,460.86	4,050.00
553 ³⁰ / ₁₀₀	Int. Business Machines			26,443.18	2,160.00
1,600	Sears Roebuck			29,391.89	4,400.00
1,000	Standard Oil Company (Indiana)			42,892.95	4,175.00
1,825	Standard Oil Company (New Jersey)			45,440.46	8,187.50
1,500	Union Carbide and Carbon			41,575.54	3,000.00
1,500	United Fruit			38,575.21	6,000.00
1,200	United Shoe Machinery			66,904.62	3,000.00
200	Am. Telephone & Telegraph			32,877.59	1,800.00
1,200	Cleveland Electric Illuminating			44,110.95	3,000.00
1,800	Houston Lighting & Power			26,132.53	1,440.00
2,000	Middle South Utilities, Inc.			33,214.83	2,400.00
1,000	Public Service of Indiana			29,482.87	1,800.00
3,025	Virginia Electric & Power			60,391.07	3,437.50
560	Bankers Trust, N. Y.			26,737.50	1,120.00
500	First National Bank, Boston			27,300.00	1,125.00
100	Guaranty Trust, N. Y.			23,989.50	1,400.00
1,100	National City Bank, New York			50,508.28	1,390.00
1,440	Fireman's Fund Insurance			40,950.00	2,304.00
267	Hartford Fire			18,338.67	801.00
600	Insurance Co. of North America			16,000.00	1,500.00
	Real Estate, Albany, N. Y.			49,395.76	2,264.46
	Income from bonds sold				35.00
	<i>Total Pension Association</i>			<u>\$3,585,526.84</u>	<u>\$133,575.97</u>

STATEMENT ON ACCOUNTS

Supporting schedules for the Balance Sheet as of June 30, 1952, and the Statement of Income and Expenses for the year then ended have been drawn from the Institute's books of account and are presented herewith. Schedule A-1 through A-20 relate to the Balance Sheet, Schedule A; and Schedules B-1 through B-13 to the Statement of Income and Expense, Schedule B.

D. L. RHIND
Bursar

J. A. LITTLE, C.P.A.
Accounting Officer

W. A. HOKANSON
Assistant Bursar

SCHEDULE A-1
GENERAL INVESTMENTS

<i>Par Value</i>	U. S. GOVERNMENT BONDS	<i>Book Value</i>	<i>Net Income</i>
\$4,000,000	U. S. Treasury Bills.....1952	\$ 3,998,666.67	.....
1,000,000	U. S. Treasury Certificate of		
	Indebtedness A... 1 7/8's 1953	1,002,385.28	\$ (2,465.75)
450,000	U. S. Treasury... 2 3/8's 1958	450,000.00	.....
1,000,000	U. S. Treasury... 2 1/4's 1962-59	997,118.06	22,500.00
1,500,000	U. S. Treasury... 2 1/2's 1968-63	1,469,218.75	37,500.00
6,100,000	U. S. Treasury... 2 1/2's 1969-64	6,149,500.00	125,461.75
1,000,000	U. S. Treasury... 2 1/2's 1971-66	1,023,139.29	23,000.00
417,000	U. S. Savings "G" 2 1/2's 1953-56	417,000.00	10,425.00
225	U. S. Savings "F".....1963-64	166.50	.....
	Income from bonds sold.....		127,913.36
	Total U. S. Government Bonds...	<u>\$15,507,194.55</u>	<u>\$ 344,334.36</u>
	CANADIAN BONDS		
\$ 200,000	Aluminum Co. of		
	Canada, Ltd... 3 7/8's 1970	\$ 203,000.00	\$ (581.25)
200,000	Interprovincial		
	Pipe Line..... 3 1/2's 1970	197,375.00	6,753.24
	Total Canadian Bonds.....	<u>\$ 400,375.00</u>	<u>\$ 6,171.99</u>
	PUBLIC UTILITY BONDS		
\$ 200,000	Am. & For. Pr.... 5's 2030	\$ 197,182.41	\$ 10,000.00
78,000	Puget Sound Pr. Lt. 4 1/4's 1972	79,479.53	3,115.00
	Total Public Utility Bonds.....	<u>\$ 276,661.94</u>	<u>\$ 13,115.00</u>
	RAILROAD BONDS		
\$ 100,000	Baltimore & Ohio.. 4's 1975	\$ 86,985.00	\$ 4,000.00
50,000	B. & O., P.,		
	L. E. & W. Va... 4's 1980	48,643.75	2,000.00
115,000	Northern Pacific.. 4's 1997	105,228.29	4,600.00
153,000	Southern Pacific... 4 1/2's 1981	150,781.75	6,885.00
	Income from bonds sold.....	.....	45.50
	Total Railroad Bonds.....	<u>\$ 391,638.79</u>	<u>\$ 17,530.50</u>
	OTHER BONDS		
\$1,000,000	Com'l Credit Co... 2 3/4's 1954-57	\$ 1,000,000.00	\$ 27,500.00
300,000	International Bank 3's 1976	300,000.00	9,000.00
85,000	Shamrock Oil & Gas		
	Corp..... 3 1/2's 1967	85,850.00	(1.46)
140,000	Southern		
	Production Co... 3 3/4's 1967	140,004.14	(452.63)
	Total Other Bonds.....	<u>\$ 1,525,854.14</u>	<u>\$ 36,045.91</u>
	<i>Shares</i>		
	PREFERRED STOCKS		
200	Christiana Sec. Co. \$7.00	\$ 28,400.00	\$ 1,400.00
602	Merck & Company,		
	Inc. 4.00	64,373.97	1,143.80
1,500	N. E. Gas & Elec. 4.50	154,500.00	6,750.00
	Total Preferred Stock.....	<u>\$ 247,273.97</u>	<u>\$ 9,293.80</u>

REPORT OF THE TREASURER

SCHEDULE A-1 — (Continued)

<i>Shares</i>		<i>Book Value</i>	<i>Net Income</i>
	INDUSTRIAL COMMON STOCKS		
	<i>Agricultural Equipment</i>		
4,000	Caterpillar Tractor Co.	\$ 92,194.13	\$ 12,000.00
6,000	International Harvester Co.	79,912.25	12,000.00
	<i>Automobile</i>		
4,275	Chrysler Corporation	150,144.60	27,787.50
52,746	General Motors Corp.	2,093,449.78	210,964.00
	<i>Building Supplies</i>		
6,000	Johns-Manville Corp.	187,886.86	25,500.00
12,600	National Lead Co.	118,093.64	18,900.00
6,000	Pittsburgh Plate Glass Co.	83,197.11	12,000.00
2,000	Sherwin Williams Co.	100,988.10	7,000.00
	<i>Chemicals</i>		
4,008	Allied Chemical & Dye Corp.	169,777.26	12,821.60
500	American Cyanamid Co.	50,919.54	2,000.00
268	Christiana Securities Co.	729,174.35	70,569.10
1,639 $\frac{1}{8}$	Dow Chemical Company	99,342.75	3,809.40
1,579	E. I. du Pont de Nemours & Company	130,538.50	5,450.05
30,200	Eastman Kodak Company	398,105.80	54,360.00
10,000	Hercules Powder Co.	492,799.94	30,000.00
18,060	Merck & Co., Inc.	108,717.47	15,050.00
4,100	Monsanto Chemical Company	96,803.58	10,250.00
13,777	Union Carbide & Carbon Corp.	273,602.10	27,554.00
	<i>Containers</i>		
13,200	American Can Company	326,388.57	15,750.00
6,070	Owens-Illinois Glass Co.	348,022.10	24,280.00
	<i>Electrical Equipment</i>		
15,750	Thomas A. Edison, Inc.	180,000.00	15,375.00
9,171	General Electric Company	246,062.97	27,045.00
3,200	General Radio Company	73,850.00	800.00
6,000	Westinghouse Electric Corp.	107,827.11	12,000.00
	<i>Food and Beverages</i>		
3,150	Liquid Carbonic Corp.	53,551.11	4,252.50
12,306	United Fruit Company	202,533.18	49,224.00
	<i>Machinery</i>		
6,000	Draper Corporation	96,132.10	9,300.00
6,000	United Shoe Machinery Corp.	352,340.53	15,000.00
	<i>Metal Mining</i>		
4,850	International Nickel Company	163,067.43	13,580.00
3,943	Kennecott Copper Corp.	245,819.30	23,658.00

INVESTMENTS

119

SCHEDULE A-1 — (Continued)

<i>Shares</i>	<i>Book Value</i>	<i>Net Income</i>
INDUSTRIAL COMMON STOCKS — (Continued)		
<i>Office Equipment</i>		
1,166 ⁸⁰ / ₁₀₀ International Business Machines Corp.	\$ 48,873.23	\$ 4,534.00
3,180 National Cash Register Co.	96,166.04	10,176.00
<i>Oil</i>		
7,000 Gulf Oil Corporation.	184,894.62	15,750.00
16,000 Humble Oil & Refining Co.	339,294.10	38,240.00
3,500 Ohio Oil Company.	106,531.25	11,375.00
6,000 Phillips Petroleum Company.	168,069.52	14,400.00
14,748 Socony Vacuum Oil Co., Inc.	253,513.50	30,918.00
11,350 Standard Oil of California.	343,751.66	31,780.00
7,087 Standard Oil (Indiana).	288,178.12	29,443.24
18,587 Standard Oil (New Jersey).	441,427.93	83,430.50
4,268 Texas Company.	117,349.92	14,297.80
<i>Paper</i>		
10,008 International Paper Co.	180,484.79	30,024.00
<i>Retail Trade</i>		
4,000 Montgomery Ward & Company. .	261,266.32	12,000.00
5,000 J. C. Penney Company.	154,666.05	16,250.00
6,866 Sears, Roebuck & Company.	155,589.79	18,842.00
<i>Soap</i>		
7,500 Procter & Gamble Co.	261,143.86	19,500.00
<i>Steel</i>		
6,000 Inland Steel Co.	198,474.49	21,000.00
6,600 National Steel Corp.	149,488.34	19,800.00
<i>Tobacco</i>		
2,428 American Tobacco Co.	175,740.75	8,399.00
2,625 Liggett & Myers Tobacco Co.	183,606.14	13,125.00
<i>Miscellaneous</i>		
2,500 Consolidated Rendering Co.	169,500.00	12,500.00
4,016 Minnesota Mining & Mfg. Co.	74,380.40	4,016.00
Income on stocks sold. ....	.....	4,977.00
Total Industrial Common Stocks.	\$12,203,632.98	\$1,233,057.69

REPORT OF THE TREASURER

SCHEDULE A-1 — (Continued)

<i>Shares</i>		<i>Book Value</i>	<i>Net Income</i>
PUBLIC UTILITY COMMON STOCKS			
8,757	American Gas & Electric Co.	\$ 340,845.38	\$ 25,958.25
1,015	American Tel. & Tel. Co.	129,053.13	9,112.50
4,080	Boston Edison Company	147,729.74	11,424.00
8,085	Commonwealth Edison Co.	230,486.77	14,544.00
3,500	Illinois Power Company	127,251.83	7,700.00
4,000	Southern California Edison Co.	141,089.14	8,000.00
6,000	Texas Gas Transmission Corp.	102,750.00	3,000.00
9,756	Virginia Electric & Power Co.	191,625.93	11,086.25
	Total Public Utility Common Stocks	\$1,410,831.92	\$ 90,825.00
RAILROAD COMMON STOCKS			
4,086	Atchison, Topeka & Santa Fe Ry.	\$ 184,244.69	\$ 18,387.00
2,000	Great Northern Railway Co. Pfd.	95,877.13	8,000.00
1,000	Northern Pacific Railway Co.	61,696.95	1,125.00
	Income on stocks sold . . . . .	.....	4,800.00
	Total Railroad Common Stocks	\$ 341,818.77	\$ 32,312.00
BANK STOCKS			
3,750	Bankers Trust Co., New York.	\$ 189,613.75	\$ 7,500.00
2,285	The Hanover Bank, New York	233,581.79	9,140.00
3,031	Cont. Ill. Nat. Bank, Chicago	174,542.92	9,700.00
4,986	The First National Bank, Boston.	298,492.06	11,218.50
1,152	Guaranty Trust Co. of New York.	321,949.04	16,128.00
833	Harris Trust & Savings, Chicago.	146,362.00	9,996.00
6,800	National City Bank of New York.	292,278.20	13,600.00
	Total Bank Stocks	\$1,656,819.76	\$ 77,282.50
INSURANCE STOCKS			
4,167	Boston Insurance Company	\$ 197,914.51	\$ 10,417.50
2,125	Continental Ins. Co., New York.	68,383.05	6,693.75
7,180	Fireman's Fund Ins. Co., Calif.	207,774.20	11,488.00
2,308	Hartford Fire Ins. Co., Conn.	112,547.69	6,924.00
6,400	Insurance Co. of North America	161,635.55	16,000.00
	Total Insurance Stocks	\$ 748,255.00	\$ 51,523.25

SCHEDULE A-1 — (Continued)

<i>Shares</i>		<i>Book Value</i>	<i>Net Income</i>
OTHER STOCKS			
6,000	Am. Research & Development Corp.	\$ 150,000.00	.....
10,250	Bond Investment Trust of America	202,031.50	\$ 8,200.00
16,522	Railway & Light Securities Co.	238,836.41	16,522.00
1,000	Stone & Webster, Inc.	29,507.65	2,250.00
	Investment in 26 other securities.	161,613.69	10,870.67
	Total Other Stocks	\$ 781,989.25	\$ 37,842.67
MORTGAGE NOTES			
	Common Street, Belmont	\$ 6,162.00	\$ 293.80
	Park Avenue, Arlington	7,823.88	364.43
	Putnam Place, Roxbury	2,100.00	110.03
	Ruby Avenue, Marblehead	5,900.00	276.75
	Spear and Wibird Streets, Quincy.	1,100.00	135.42
	Alpha Tau Omega	9,500.00	475.00
	Beta Theta Pi	18,000.00	937.50
	Delta Kappa Epsilon	10,000.00	655.08
	Kappa Sigma	9,000.00	450.00
	Lambda Chi Alpha	11,869.34	785.68
	Pi Lambda Phi	5,000.00	137.50
	Phi Gamma Delta	1,000.00	90.63
	Phi Kappa	15,175.00	664.20
	Phi Mu Delta	5,000.00	275.00
	Sigma Chi	3,500.00	175.00
	Total Mortgage Notes	\$ 111,130.22	\$ 5,826.02
REAL ESTATE DEVOTED TO INSTITUTE USE			
<i>Dormitories and Housing</i>			
	111 Bay State Road, Boston	\$ 16,600.00	\$ 664.00
	120 Bay State Road, Boston	29,000.00	798.64
	Graduate House	647,951.94	2,279.06
	Baker House	2,064,180.53	6,836.17
	Burton House	1,670,503.77*	.....
	Westgate Veterans' Housing	459,492.60	10,155.88
	Total Dormitories and Housing . . .	\$4,887,728.84	\$ 20,733.75
<i>Research</i>			
	565 Memorial Drive, Cambridge . . .	\$ 200,560.50	\$ 10,028.00
	209 Mass. Ave., Cambridge	100,000.00	5,000.00
	Wood Street, Lexington, Mass.	68,074.04	3,403.00
	68-92 Albany Street, Cambridge . . .	176,686.35	13,151.66
	Total for Research	\$ 545,320.89	\$ 31,582.66

*Not including first mortgage of \$397,739.35.

REPORT OF THE TREASURER

SCHEDULE A-1 — (Continued)

	<i>Book Value</i>	<i>Net Income</i>
OTHER REAL ESTATE		
80 Memorial Drive, Cambridge...	\$ 896,728.19	\$ 44,715.43
100 Memorial Drive, Cambridge..	153,510.85	3,200.04
333 Memorial Drive, Cambridge..	40,000.00	.....
500 Memorial Drive, Cambridge (Building and Fixtures).....	76,094.68	2,796.79
540-550 Memorial Drive, Cam- bridge (Land).....	351,524.51	14,196.30
640 Memorial Drive, Cambridge..	467,929.57*	25,904.90
Gloversville, N. Y.....	223,449.89	11,203.58
New London, Conn.....	230,830.82	11,085.17
Plattsburgh, N. Y.....	174,526.92	8,018.92
Taunton, Mass.....	188,812.82	8,591.21
Waltham, Mass.....	642,189.97	32,181.28
Willimantic, Conn.....	154,416.13	6,972.40
Main Street, Worcester, Mass....	186,916.71	8,503.97
Federal Street, Worcester, Mass...	367,637.61	17,744.21
Bexley Hall, Cambridge.....	145,280.61	11,366.55
76-94 Mass. Ave., Cambridge....	438,678.74	5,568.75
Franklin Street, Boston.....	150,000.00	10,889.08
Total Other Real Estate.....	\$4,888,528.02	\$222,938.58
 <i>Par Value</i>		
COMMERCIAL PAPER		
\$1,000,000 Com. Inv. Trust, Inc.... 1952	\$994,569.44	.....
750,000 Com. Inv. Trust, Inc.... 1953	736,690.10	.....
1,000,000 Gen. Elec. Credit Corp.... 1952	997,500.00	\$ 25,000.00
500,000 Gen. Elec. Supply Corp... 1952	494,491.32	.....
100,000 General Motors Acceptance Corp..... 1952	98,118.06	.....
100,000 General Motors Acceptance Corp..... 1952	98,104.17	.....
1,000,000 General Motors Acceptance Corp..... 1952	981,111.11	.....
250,000 General Motors Acceptance Corp..... 1953	245,579.86	.....
Income from notes matured.....		71,706.60
Total Commercial Paper and Notes	\$ 4,646,164.06	\$ 96,706.60
Advances for current operations..	\$1,923,266.39	\$ 84,100.00
Total General Investments.....	\$52,494,484.49	\$2,411,222.28
	(Schedule A)	

*Not including first mortgage \$467,500.00.

SCHEDULE A-2

INVESTMENTS OF FUNDS SEPARATELY INVESTED

<i>Par Value or Shares</i>		<i>Book Value</i>	<i>Net Income</i>
INVESTMENTS, AVOCA FUND			
3,600	General Radio.....	\$ 76,200.00	\$900.00
INVESTMENTS, BABSON FUND			
\$2,000	U. S. Treasury..... 2¼s 1956-59	\$ 2,000.00	\$ 45.00
1,000	U. S. Savings "G"..... 2½s 1961	1,000.00	25.00
1,000	U. S. Savings "G"..... 2½s 1963	1,000.00	25.00
20	E. I. du Pont de Nemours & Co.....	1,722.86	71.00
80	United Stores, Cum. Conv. Pfd.....	8,034.54	480.00
80	United Stores, 2d Pfd.....	1,284.62	80.00
30	Standard Oil, Ind.....	1,429.30	126.75
	<i>Total Babson Fund.....</i>	<i>\$ 16,471.32</i>	<i>\$ 852.75</i>
INVESTMENTS, MALCOLM COTTON BROWN FUND			
\$2,500	U. S. Savings "G"..... 2½s 1954	\$ 2,500.00	\$ 62.50
1,000	U. S. Savings "G"..... 2½s 1961	1,000.00	25.00
30	General Electric.....	1,019.70	90.00
	<i>Total Brown Fund.....</i>	<i>\$ 4,519.70</i>	<i>\$ 177.50</i>
INVESTMENTS, CLASS OF 1919 FUND			
\$4,650	United States Savings "F".... 1955-57	\$ 3,441.00	.....
INVESTMENTS, CLASS OF 1920 FUND			
\$3,150	U. S. Savings "F"..... 1957	\$ 2,331.00	.....
2,175	U. S. Savings "F"..... 1958	1,609.50	.....
	<i>Total Class 1920 Fund.....</i>	<i>\$ 3,940.50</i>	<i>.....</i>
INVESTMENTS, DRAPER FUND			
\$29,900	U. S. Savings "G"..... 2½s 1954	\$ 29,900.00	\$ 747.50
24,000	U. S. Savings "G"..... 2½s 1955	24,000.00	600.00
10,000	U. S. Savings "G"..... 2½s 1959	10,000.00	250.00
21,000	U. S. Savings "G"..... 2½s 1960	21,000.00	525.00
5,000	Baltimore & Ohio..... 4s 1975	5,000.00	200.00
5,000	Northern Pacific..... 4s 1997	4,598.31	200.00
5,000	Southern Pacific..... 4½s 1981	5,000.00	225.00
100	du Pont de Nemours.....	4,731.05	355.00
60	Standard Oil, N. J.....	2,010.78	270.00
	<i>Total Draper Fund.....</i>	<i>\$106,240.14</i>	<i>\$3,372.50</i>

REPORT OF THE TREASURER

SCHEDULE A-2 — (Continued)

<i>Par Value or Shares</i>		<i>Book Value</i>	<i>Net Income</i>
INVESTMENTS, ARTHUR D. LITTLE MEMORIAL FUND			
\$40,000	U. S. Treasury 2s 1953-51	\$ 40,000.00	\$ 800.00
40,000	U. S. Treasury 2s 1954-52	40,000.00	800.00
466	Arthur D. Little, Inc., Pfd.	46,600.00	2,796.00
5,543	Arthur D. Little, Inc., Com.	110,860.00	38,801.00
	<i>Total Little Fund</i>	<u>\$237,460.00</u>	<u>\$43,197.00</u>
 INVESTMENTS, RICHARD LEE RUSSEL FUND			
\$3,000	Mortgage Note, Spear and Wibird Sts. Quincy	\$ 3,000.00	\$69.58
1,000	Mortgage Note (participation)	1,000.00	50.00
	<i>Total Russel Fund</i>	<u>\$ 4,000.00</u>	<u>\$ 119.58</u>
 INVESTMENTS, SOLAR ENERGY FUND			
5,000	Godfrey L. Cabot, Inc.	\$647,700.00	\$32,500.00
530	General Electric	20,171.83	1,590.00
324	Mission Corporation	6,291.00	577.86
	<i>Total Solar Energy Fund</i>	<u>\$674,162.83</u>	<u>\$34,667.86</u>
 INVESTMENTS, RESEARCH FUND, SCHOOL OF INDUSTRIAL MANAGEMENT			
20,000	General Motors Corporation	<u>\$1,000,000.00</u>	<u>\$40,000.00</u>

INVESTMENTS

125

SCHEDULE A-2 — (Continued)

<i>Par Value or Shares</i>			<i>Book Value</i>	<i>Net Income</i>
INVESTMENTS, JONATHAN WHITNEY FUND				
\$331,000	U. S. Savings "G" 2½s	1954-58	\$331,000.00	\$ 8,275.00
40,000	Niagara Mohawk Pr. 2½s	1980	40,000.00	1,150.00
40,000	Pacific Gas & Elec. 3s	1974	40,603.37	700.00
410	Bankers Trust, N. Y.		18,937.50	820.00
500	Boston Edison		18,567.12	1,400.00
374	Boston Insurance		19,145.78	935.00
300	Chrysler		16,594.85	1,950.00
400	du Pont		15,279.10	1,420.00
250	First National Bank of Boston		11,425.30	562.50
500	General Electric		13,188.05	1,500.00
66	Guaranty Trust, N. Y.		18,087.30	924.00
400	Inland Steel		16,120.12	1,400.00
750	International Paper		14,642.60	2,250.00
450	National City, N. Y.		20,792.55	900.00
644	Standard Oil, N. J.		12,311.87	2,898.00
450	United Fruit		10,690.25	1,800.00
<i>Total Whitney Fund</i>			<u>\$617,385.76</u>	<u>\$28,884.50</u>
INVESTMENTS, TECHNOLOGY LOAN FUND				
\$600,000	U. S. Savings "G" 2½s	1954-60	\$600,000.00	\$15,000.00
20,000	U. S. Treasury 1½s	1955	20,000.00	300.00
100,000	U. S. Treasury 2s	1953-51	100,000.00	2,000.00
96,000	U. S. Treasury 2¼s	1962-59	96,000.00	2,160.00
88,000	U. S. Treasury 2½s	1958-56	88,000.00	2,200.00
100,000	Gen. Motors Acceptance Corporation 2½s	1952	98,111.11	.....
35,000	American Tel. & Tel. 2¾s	1980	35,000.00	962.50
15,000	Pacific Gas & Elec. 3s	1974	15,000.00	450.00
1,980	American Can		40,814.83	2,362.50
1,200	Cleveland Electric Illuminating		46,337.47	3,000.00
800	du Pont		29,304.00	2,840.00
1,000	General Electric		25,813.25	3,000.00
177	Guaranty Trust, N. Y.		50,333.82	2,478.00
1,250	Gulf Oil		32,630.80	2,812.50
1,210	National Cash Register		38,458.96	3,872.00
1,250	National City, N. Y.		46,541.50	2,500.00
2,000	Public Service of Indiana		54,680.84	3,600.00
750	Procter & Gamble		29,511.45	1,950.00
280	St. Paul Fire & Marine Ins.		6,737.50	224.00
1,286	Standard Oil, N. J.		24,864.43	5,787.00
1,200	Union Carbide and Carbon		27,726.00	2,400.00
900	United Fruit		21,360.20	3,600.00
534	Hartford Fire Insurance of Conn.		44,802.33	1,602.00
	Income from bonds sold . . . . .		.....	2,342.03
<i>Total Technology Loan Fund</i>			<u>\$1,572,028.49</u>	<u>\$67,442.53</u>

SCHEDULE A-2 — (Continued)

<i>Par Value or Shares</i>			<i>Book Value</i>	<i>Net Income</i>
INVESTMENTS, JOSEPH HEWETT FUND				
\$11,000	U. S. Treasury 2¼s	1959-62	\$ 10,893.44	\$ 247.50
67,000	U. S. Savings "G" 2½s	1954-61	67,000.00	1,675.00
15,000	Alabama Power 3½s	1972	15,000.00	525.00
4,000	Puget Sound Pr. & Lt. 4¾s	1972	4,000.00	170.00
12,000	Baltimore & Ohio 4s	1975	12,000.00	480.00
10,000	Northern Pacific 4s	1997	10,350.00	350.00
10,000	Southern Pacific 4½s	1981	10,165.00	435.00
12,000	Texas & New Orleans 3½s	1990	12,000.00	405.00
120	Bankers Trust, N. Y.		4,775.00	240.00
22	Guaranty Trust, N. Y.		5,078.70	308.00
440	American Can		8,570.00	525.00
200	du Pont		8,271.55	710.00
300	General Electric		8,107.50	900.00
181	National Cash Register		5,406.74	579.20
200	St. Paul Fire & Marine Insurance		4,812.50	160.00
200	Standard Oil Company (Indiana)		9,498.65	835.00
443	Standard Oil Company (New Jersey)		8,868.38	1,988.50
300	Union Carbide and Carbon		6,944.20	600.00
300	United Fruit		7,120.00	1,200.00
<i>Total Hewett Fund</i>			<u>\$218,861.66</u>	<u>\$12,333.20</u>
INVESTMENTS, GEORGE S. WITMER FUND				
\$17,800	U. S. Savings "G" 2½s	1954-61	\$ 17,800.00	\$445.00
4,000	Am. Tel. & Tel. 2¾s	1971	4,000.00	110.00
5,000	Atlantic Coast Line 4s	1952	4,854.44	200.00
5,000	Northern Pacific 4s	1997	4,903.79	200.00
4,000	Southern Pacific 4½s	1981	3,942.68	180.00
150	Commonwealth Edison		5,081.51	270.00
205	Middle South Utilities		1,384.05	246.00
168	Pacific Gas & Electric		6,307.32	280.00
295	United Gas Corporation		2,123.22	295.00
120	St. Paul Fire & Marine Insurance		2,887.50	96.00
50	General Electric		1,718.25	150.00
90	General Motors		2,503.46	360.00
100	Hershey Chocolate		4,000.00	50.00
100	R. J. Reynolds Tobacco		4,200.00	200.00
100	The Sperry Corporation		2,500.00	200.00
43	Standard Oil Company (Indiana)		1,967.70	179.70
87	Standard Oil Company (New Jersey)		1,782.20	390.50
90	Union Carbide and Carbon		2,051.85	180.00
65	Bankers Trust, N. Y.		3,071.50	130.00
22	Guaranty Trust, N. Y.		5,920.20	308.00
	Real Estate, Sanford, Fla.		3,715.91	238.64
<i>Total Witmer Fund</i>			<u>\$ 86,715.58</u>	<u>\$4,708.84</u>
<i>Total of Investments of Funds Separately Invested</i>			<u>\$4,621,426.98</u>	<u>\$236,656.26</u>
			(Schedule A)	

INVESTMENTS — SUMMARY

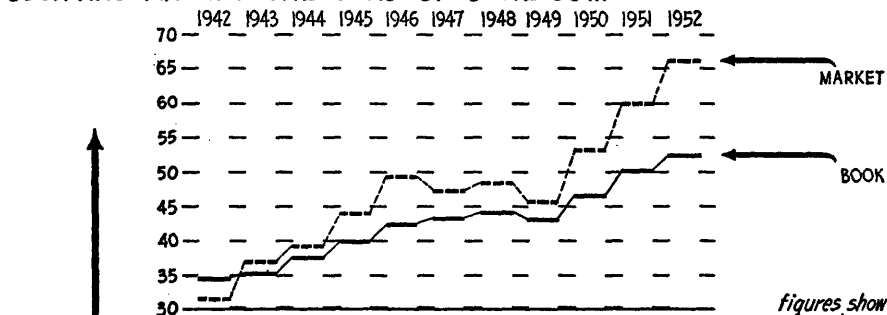
JUNE 30, 1952

General Investments	Book Value	Market Value	Per Cent	Net Income	Per Cent
Bonds					
U. S. Government.....	\$15,507,195	\$15,324,763	23.1	\$ 344,334	14.3
Canadian.....	400,375	391,500	.6	6,172	.3
Public Utility.....	276,662	255,510	.4	13,115	.5
Railroad.....	391,639	414,394	.6	17,530	.7
Other.....	1,525,854	1,522,612	2.3	36,046	1.5
Total.....	\$18,101,725	\$17,908,779	27.0	\$ 417,197	17.3
Preferred Stocks.....	\$ 247,274	\$ 249,370	.4	\$ 9,294	.4
Common Stocks					
Industrial.....	\$12,203,633	\$24,402,473	36.8	\$1,233,058	51.2
Public Utility.....	1,410,832	1,727,807	2.6	90,825	3.8
Railroad.....	341,819	558,972	.8	32,312	1.3
Bank.....	1,656,820	1,803,990	2.7	77,282	3.2
Insurance.....	748,255	1,735,986	2.6	51,523	2.1
Other.....	781,989	905,218	1.4	37,843	1.6
Total.....	\$17,143,348	\$31,134,446	46.9	\$1,522,843	63.2
Mortgage Notes.....	\$ III,130	\$ III,130	.2	\$ 5,826	.2
Real Estate					
For Institute Use.....	\$ 5,433,050	\$ 5,433,050	8.2	\$ 52,316	2.2
Other Property.....	4,888,528	4,888,528	7.4	222,939	9.2
Total.....	\$10,321,578	\$10,321,578	15.6	\$ 275,255	11.4
Commercial Paper.....	\$ 4,646,164	\$ 4,646,164	7.0	\$ 96,707	4.0
Advanced for Current Operations.....	\$ 1,923,266	\$ 1,923,266	2.9	\$ 84,100	3.5
Total General Investments.....	\$52,494,485	\$66,294,733	100.0	\$2,411,222	100.00
Special Investments.....	\$ 4,621,427	\$ 5,573,899		\$ 236,656	
Students' Notes Receivable.....	\$ 655,417	\$ 655,417			*
Charge for financial services.....				\$ (30,000)	
Total Investments.....	\$57,771,329	\$72,524,049		\$2,617,878	

* Interest credited directly to student loan funds.

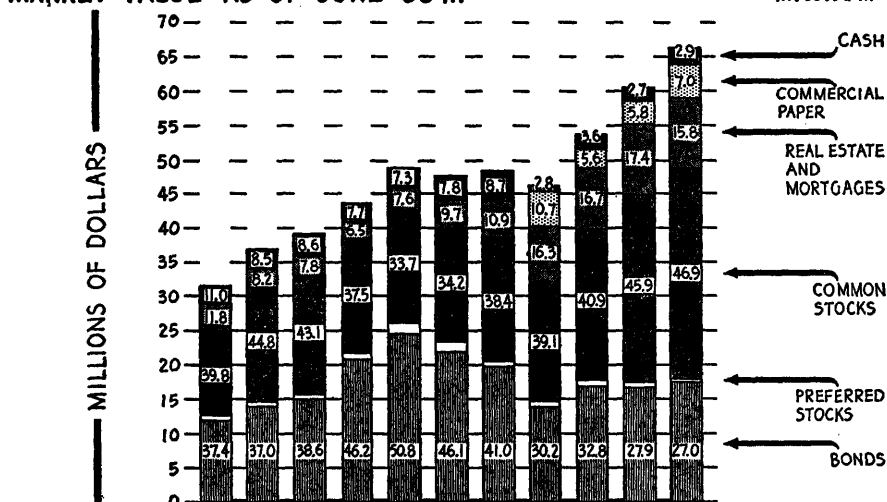
GENERAL INVESTMENTS ... 1942 - 1952

BOOK AND MARKET VALUE AS OF JUNE 30th

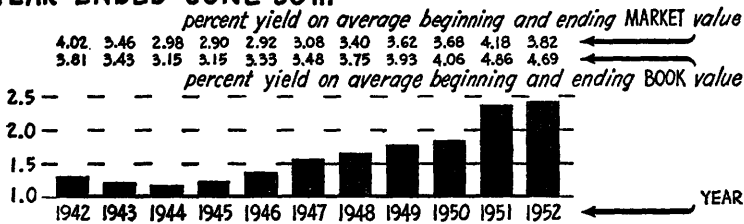


Figures show percent invested in

MARKET VALUE AS OF JUNE 30th



INCOME YEAR ENDED JUNE 30th



SUMMARY OF FUNDS

	<i>Balance, June 30, 1951</i>	<i>Gifts and Other Receipts</i>	<i>Investment Income</i>	<i>Transfers In-(Out)</i>	<i>Expenses</i>	<i>Other Charges</i>	<i>Balance, June 30, 1952</i>
Endowment funds:							
Income for general purposes.....(A-3)	\$29,090,419	\$ 7,740	\$1,162,808	\$2,096,497	\$1,161,997		\$31,195,467
Income for designated purposes.....(A-4)	9,697,282	340,757	.....*	15,005			10,053,044
Student loan funds.....(A-5)	2,503,761	8,982	81,091	1,000		\$ 59	2,594,775
Building funds.....(A-6)	3,099,982	40,308	79,064	1,200,100		2,359,832	2,059,622
Invested funds for current use:							
General purposes.....(A-7)	1,427,696	2,850,889	91,632	(2,708,853)	45,781		1,615,583
Designated purposes.....(A-8)	3,419,763	2,474,954	168,908	(414,768)	382,995	452,802	4,813,060
Unexpended endowment income for designated purposes.....(A-4)	903,422	5,621	475,723	(49,967)	125,129	226,487	983,183
Agency and annuity funds.....(A-9 and 10)	947,941	78,149	38,746	(28,624)	1,867	73,758	960,587
General investments gain and loss account.....(A-11)	3,319,320	176,688	.....	.....	.....	.....	3,496,008
Total invested funds.....	\$54,409,586	\$5,984,088	\$2,097,972	\$ 110,390	\$1,717,769	\$3,112,938	\$57,771,329
Gifts and other receipts for current expenses....(A-18)	1,634,574	2,336,266	.....	(110,390)	2,049,506	247,589	1,563,355
Investment income unallocated to funds.....	773,421	.....	519,906	.....	.....	(3,584)	1,296,911
	<u>\$56,817,581</u>	<u>\$8,320,354</u>	<u>\$2,617,878</u>	.....	<u>\$3,767,275</u>	<u>\$3,356,943</u>	<u>\$60,631,595</u>
Gifts received during the year per list, page 101.....	\$6,953,106	.....	.....	.....	.....	.....	.....
Other receipts (research contract allowances for use of facilities; sales of services, publications, etc.; royalties and miscellaneous receipts)	1,367,248	<u>\$8,320,354</u>	.....	.....	.....	.....	.....
Investment income used for expenses per statement of Income and Expenses.....	.....	.....	.....	.....	\$1,334,305	.....	.....
Gifts and other receipts used for expenses per statement of Income and Expenses.....	.....	.....	.....	.....	2,432,970	.....	.....
	.....	.....	.....	.....	<u>\$3,767,275</u>	.....	.....
Expenditures for buildings added to Educational Plant.....	.....	.....	.....	.....	.....	\$2,764,593	.....
Scholarship and fellowship awards charged to funds.....	.....	.....	.....	.....	.....	344,676	.....
Other charges to funds not representing operating expenses.....	.....	.....	.....	.....	.....	<u>247,674</u>	.....
	.....	.....	.....	.....	.....	<u>\$3,356,943</u>	.....

* Investment income on endowment funds for designated purposes is included below in "Unexpended endowment income for designated purposes."

REPORT OF THE TREASURER

ENDOWMENT FUNDS

PRINCIPAL		INCOME						
Balance June 30, 1951	Gifts, Receipts and Transfers	Balance June 30, 1952	GENERAL PURPOSE	Balance June 30, 1951	Investment Income	Expended	Transfers and Other Charges	Balance June 30, 1952
			Schedule A-3					
\$ 5,000.00	\$ 5,000.00	101 George Robert Armstrong.....	.....	\$ 200.00	\$ 200.00	.....	.....
1,825.00	\$ 3,600.00	5,425.00	102 Henry E. Bemis Memorial.....	.....	132.00	132.00	.....	.....
1,025,103.95	274.57	1,025,378.52	103 George Blackburn Memorial.....	.....	41,008.00	41,008.00	.....	.....
12,514.55	12,514.55	105 Clara H. Briggs.....	.....	500.00	500.00	.....	.....
17,170.01	17,170.01	107 James A. Carney.....	.....	688.00	688.00	.....	.....
35,858.15	35,858.15	109 Charles Choate.....	.....	1,436.00	1,436.00	.....	.....
19,736.64	1,034.47	20,771.11	110 Class of 1909.....	.....	800.00	800.00	.....	.....
107,618.75	107,618.75	111 Eben S. Draper.....	.....	3,372.50	3,372.50	.....	.....
221,325.48	221,325.48	113 Coleman du Pont.....	.....	8,852.00	8,852.00	.....	.....
9,498,869.55	9,498,869.55	115 Eastman Contract.....	.....	379,956.00	379,956.00	.....	.....
261,148.19	261,148.19	117 Charles W. Eaton.....	.....	10,444.00	10,444.00	.....	.....
7,573,855.60	7,573,855.60	119 Educational Endowment.....	.....	302,956.00	302,956.00	.....	.....
30,000.00	30,000.00	121 Martha Ann Edwards.....	.....	1,200.00	1,200.00	.....	.....
25,000.00	25,000.00	123 William Endicott.....	.....	1,000.00	1,000.00	.....	.....
1,000,000.00	2,096,497.71 Tr.	3,096,497.71	124 Faculty Salary Endowment.....	.....	40,000.00	40,000.00	.....	.....
1,000,000.00	1,000,000.00	125 Francis Appleton Foster.....	.....	40,000.00	40,000.00	.....	.....
299,926.65	299,926.65	127 John W. Foster.....	.....	11,996.00	11,996.00	.....	.....
5,000.00	5,000.00	129 Alexis H. French.....	.....	200.00	200.00	.....	.....
91,009.64	91,009.64	131 Jonathan French.....	.....	3,640.00	3,640.00	.....	.....
2,208,482.92	2,208,482.92	133 Henry C. Frick.....	.....	88,340.00	88,340.00	.....	.....
1,529,999.00	1,529,999.00	135 General Endowment.....	.....	61,200.00	61,200.00	.....	.....
21,568.43	21,568.43	137 Eliot Granger.....	.....	864.00	864.00	.....	.....
1,000,000.00	1,000,000.00	139 Charles Hayden.....	.....	40,000.00	40,000.00	.....	.....
366,430.96	366,430.96	141 John Marshall Hills.....	.....	14,656.00	14,656.00	.....	.....
36,809.70	36,809.70	142 Walter W. Hodges.....	.....	1,472.00	1,472.00	.....	.....

FUNDS

163,654.21	.....	143 James Fund.....	6,548.00	6,548.00	.....
68,893.95	.....	145 Dale G. Kilburn.....	2,756.00	2,756.00	.....
100.00	100.00	146 Charles C. Ladd.....	8.00	8.00	.....
15,000.00	.....	147 Thomas McCammon.....	600.00	600.00	.....
5,150.00	.....	148 Charles T. and Charles R. Main Memorial	208.00	208.00	.....
25,000.00	.....	149 Kate M. Morse.....	1,000.00	1,000.00	.....
25,000.00	.....	151 Everett Mors.....	1,000.00	1,000.00	.....
1,200.00	.....	152 Samuel Munch Memorial.....	48.00	48.00	.....
50,000.00	.....	153 Richard Perkins.....	2,000.00	2,000.00	.....
83,452.36	.....	155 J. W. and B. L. Randall.....	3,340.00	3,340.00	.....
1,021,475.00	.....	156 John D. Rockefeller, Jr.....	40,860.00	40,860.00	.....
250,225.00	.....	157 William Barton Rogers Memorial.....	10,008.00	10,008.00	.....
70,303.87	703.00 Tr.	159 Saltonstall Fund.....	2,812.00	2,109.00	\$ 703.00 Tr.
4,990.63	840.00	160 Homer E. Sargent.....	208.00	208.00	.....
4,764.40	.....	161 Samuel E. Sawyer.....	192.00	192.00	.....
50,000.00	.....	163 Andrew Hastings Spring.....	2,000.00	2,000.00	.....
4,677.35	.....	165 George G. Stone.....	188.00	188.00	.....
25,061.62	.....	167 Seth K. Sweetser.....	1,004.00	1,004.00	.....
45,242.61	.....	168 Henry P. Talbot.....	1,808.00	1,808.00	.....
23,613.59	.....	169 William J. Walker.....	944.00	944.00	.....
4,500.00	.....	170 Richard Westcoat Memorial.....	180.00	180.00	.....
36,057.19	.....	171 Horace Herbert Watson.....	1,444.00	1,444.00	.....
6,712.28	.....	172 Arthur P. Watt Memorial.....	268.00	268.00	.....
5,000.00	.....	173 Albion B. K. Welch.....	200.00	200.00	.....
175,994.00	800.00	175 Everett Westcott.....	7,056.00	7,056.00	.....
248,304.87	1,090.76	177 Marion Westcott.....	9,944.00	9,944.00	.....
27,088.65	108.00 Tr.	179 George Wiggesworth.....	1,084.00	976.00	108.00 Tr.
254,703.94	.....	181 Edwin A. Wyeth.....	10,188.00	10,188.00	.....
\$ 29,090,418.69	\$ 7,739.80 Gifts	<i>Totals.....</i>	\$1,162,808.50	\$1,161,997.50	\$ 811.00 Tr.
	\$2,097,308.71 Tr.				
	(Schedule A)				

Note: The number beside the fund name is a reference from alphabetical list of funds at end of this report. Items not otherwise identified in the Gifts, Receipts and Transfers column are gifts. Tr. identifies a transfer; O.R., other Receipt; O.C., Other Charge, T., Tuition.

REPORT OF THE TREASURER

PRINCIPAL		ENDOWMENT FUNDS				INCOME		
Balance June 30, 1951	Gifts, Receipts and Transfers	Balance June 30, 1952	Schedule A-4	Balance June 30, 1951	Investment Income	Expended	Transfers and Other Charges	Balance June 30, 1952
\$ 13,082.20	\$ 13,082.20	DEPARTMENTS AND RESEARCH	\$ 74.00	\$ 528.00	\$ 450.00	.....	\$ 152.00
19,134.25	{ \$7,823.71	27,845.96	201 William Parsons Atkinson (English)...	.....	888.00	.....	888.00 Tr.	.....
308,941.88	{ 888.00 Tr. }	308,941.88	202 Julian M. Avery (Research).....	57,338.30	14,512.00	21,550.57	361.40 Tr.	49,938.33
25,200.00	25,200.00	203 Albert Farwell Bemis (Bemis Fdn.)...	15,513.38	1,628.00	1,621.26	.....	15,520.12
20,000.00	20,000.00	205 Frank Walter Boles Memorial (Arch.)...	68.00	800.00	52.56	.....	815.44
10,000.00	10,000.00	206 William Felton Brown (Architecture)...	676.00	428.00	.....	.....	1,104.00
50,000.00	50,000.00	207 Godfrey L. Cabot (Chemical Eng.)...	2,504.20	2,088.00	2,400.00	.....	2,192.20
7,309.77	7,309.77	208 Samuel Cabot (Chemical Engineering)...	266.05	304.00	55.00	.....	515.05
1,633.60	1,633.60	209 William E. Chamberlain (Architecture)	57.85	68.00	24.72	.....	101.13
95,955.67	95,955.67	211 Crosby Honorary (Geology).....	.....	3,840.00	3,840.00	.....	.....
400,000.00	400,000.00	213 Susan E. Dorr (Physics).....	.....	.....	.....	.....	.....
10,000.00	10,000.00	215 George Eastman	.....	16,000.00	16,000.00	.....	.....
75,001.48	75,001.48	(Chemistry and Physics).....	315.23	412.00	400.00	.....	327.23
67,058.49	67,058.49	217 Harold H. Fletcher (Medical).....	1,317.78	3,052.00	3,000.00	.....	1,369.78
250,000.00	250,000.00	219 William R. Kales (Medical).....	2,891.47	2,796.00	.....	.....	5,687.47
158,675.53	158,675.53	221 Arthur E. Kennelly (Mathematics)....	5,826.00	10,232.00	.....	.....	16,058.00
5,000.00	5,000.00	222 Kresge Foundation (Chapel).....	3,310.98	43,197.00	.....	7,500.00 Tr.	39,007.98
4,250.00	4,250.00	223 Arthur D. Little Memorial	.....	200.00	.....	.....	200.00
5,000.00	5,000.00	(Chemistry and Chem. Eng.).....	.25	172.00	.....	.....	172.25
395,676.29	395,676.29	225 Katherine Bigelow Lowell (Physics)....	.88	200.00	200.88	.....	.....
12,000.00	1,000.00	13,000.00	227 George Henry May (Chemistry).....	.....	15,828.00	15,828.00	.....	.....
15,076.05	15,076.05	231 Edward D. Peters (Geology).....	260.00	508.00	.....	.....	768.00
30,000.00	30,000.00	233 Pratt Naval Architecture.....	11,457.52	1,060.00	.....	.....	12,517.52
.....	234 Raymond B. Price (Chemistry).....	21,089.78	2,044.00	2,100.00	.....	21,033.78
.....	235 Ellen H. Richards (Sanitary Chemistry)	.....	.....	.....	.....	.....
.....	237 Charlotte B. Richardson	.....	.....	.....	.....	.....
.....	(Chemical Eng.).....	.....	.....	.....	.....	.....

2,723.00	2,277.71	5,000.71	Henry Darwin Rogers (Research).....	.....	176.00	.....	176.00
208,408.25	7,230.52 Tr.	215,638.77	William Barton and Emma Savage Rogers (Research)...	.....	8,336.00	7,230.52 Tr.	.....
2,000.00	.....	2,000.00	Frances E. Roper (Mechanical Eng.)..	168.00	88.00	.....	256.00
25,000.00	.....	25,000.00	Arthur Rotch (Architecture).....	.....	1,000.00	.....	1,000.00
1,000.00	.....	1,000.00	Dorothy B. Schwarz Memorial (Textile Tech.).....	.....	40.00	.....	40.00
643,511.63	.....	643,511.63	Solar Energy (Research).....	85,730.75	34,667.86	17,811.08 Tr.	102,587.53
297,138.26	2,974.00 Tr.	300,112.26	Edmund K. Turner (Civil Engineering)	326.00	11,896.00	2,974.00 Tr.	748.00
250,000.00	.....	250,000.00	United Fruit Company (Food Technology).....	6,736.00	10,268.00	10,000.00 Tr.	7,004.00
15,000.00	.....	15,000.00	William R. Ware (Architecture).....	856.91	636.00	.....	1,198.46
1,174.53	8,539.48	9,714.01	Stephen H. Wilder (Research).....	4.00	188.00	.....	192.00
\$ 3,424,950.88	\$ 19,640.90 Gifts	\$ 3,445,684.30		\$ 216,789.33	\$ 188,080.86	\$ 77,422.92	\$ 46,765.00 Tr.
\$	\$ 11,092.52 Tr.						\$ 280,682.27

FUNDS

LIBRARY

\$ 10,000.00	.....	\$ 10,000.00	Walter S. Barker.....	\$ 643.56	\$ 424.00	\$ 421.00	.....	\$ 646.56
20,000.00	.....	20,000.00	Samuel Berke.....	1,807.83	864.00	973.58	.....	1,698.25
2,275.00	2,725.00	5,000.00	Davis R. Dewey.....	16.00	136.00	.....	.....	152.00
5,000.00	.....	5,000.00	Charles Lewis Flint.....	960.55	240.00	242.67	.....	957.88
5,000.00	.....	5,000.00	Edith Morrill Hobbs.....	272.01	212.00	200.88	.....	283.13
2,000.00	.....	2,000.00	William Hall Kerr.....	2,975.81	200.00	35.88	.....	3,139.93
10,000.00	.....	10,000.00	George A. Osborne.....	3,694.98	548.00	269.27	.....	3,973.71
5,000.00	.....	5,000.00	Arthur Rotch (Architectural).....	.....	200.00	200.00	.....	.....
2,500.00	.....	2,500.00	John Hume Todd.....	1,699.98	164.00	100.10	.....	1,673.88
68,072.34	.....	68,072.34	Theodore N. Vail Memorial.....	3,484.50	2,864.00	2,700.00	.....	3,648.50
\$ 129,847.34	\$ 2,725.00 Gifts	\$ 132,572.34		\$ 15,465.22	\$ 5,852.00	\$ 5,143.38	.....	\$ 16,173.84

REPORT OF THE TREASURER

ENDOWMENT FUNDS

PRINCIPAL		INCOME				
Balance June 30, 1951	Gifts, Receipts and Transfers	Balance June 30, 1951	Investment Income	Expended	Transfers and Other Charges	Balance June 30, 1952
\$ 36,551.31	.....	.....	\$ 1,464.00	.....	.....	\$ 1,464.00
500.00	.....	.....	20.00	.....	.....	20.00
20,000.00	.....	.....	800.00	.....	.....	800.00
18,800.00	.....	.....	752.00	.....	.....	752.00
3,130.00	{ \$ 5,145.00 2,500.00 Tr. }	\$ 92.00	312.00	.....	.....	404.00
18,800.00	.....	.....	752.00	.....	.....	752.00
25,000.00	.....	.....	1,000.00	.....	.....	1,000.00
350,000.00	.....	16,858.98	14,676.00	\$ 15,655.24	.....	15,879.74
25,000.00	.....	.....	1,000.00	.....	.....	1,000.00
23,700.00	.....	.....	948.00	.....	.....	948.00
.....	150,000.00	.....	3,000.00	.....	.....	3,000.00
\$ 521,481.31	\$ 155,145.00 Gifts 2,500.00 Tr.	\$ 16,950.98	\$ 24,724.00	\$ 15,655.24	.....	\$ 26,019.74

SALARIES

281 Samuel C. Cobb.....	.....	.....	.....	.....	.....	.....
283 Sarah H. Forbes.....	500.00	.....	20.00	.....	.....	20.00
285 George A. Gardner.....	20,000.00	.....	800.00	.....	.....	800.00
287 James Hayward.....	18,800.00	.....	752.00	.....	.....	752.00
288 Dugald C. Jackson Professorship.....	10,775.00	\$ 92.00	312.00	.....	.....	404.00
289 William P. Mason.....	18,800.00	.....	752.00	.....	.....	752.00
291 Henry B. Rogers.....	25,000.00	.....	1,000.00	.....	.....	1,000.00
293 Alfred P. Sloan Professorship.....	350,000.00	16,858.98	14,676.00	\$ 15,655.24	.....	15,879.74
295 Nathaniel Thayer.....	25,000.00	.....	1,000.00	.....	.....	1,000.00
297 Elihu Thomson.....	23,700.00	.....	948.00	.....	.....	948.00
299 Edwin S. Webster Professorship.....	150,000.00	.....	3,000.00	.....	.....	3,000.00
		\$ 16,950.98	\$ 24,724.00	\$ 15,655.24	.....	\$ 26,019.74

GRADUATE SCHOLARSHIPS AND FELLOWS

301 Edward Austin.....	.....	\$ 64,794.79	\$ 16,812.00	.....	\$ 26,500.00 Tr.	\$ 55,106.79
303 William Sumner Boles.....	25,000.00	7,223.27	1,288.00	.....	500.00 Tr.	8,011.27
305 Malcolm Cotton Brown.....	1,506.25	2,444.54	177.50	.....	400.00 Tr.	2,222.04
307 Francis W. Chandler.....	7,988.02	4,108.62	476.00	\$ 80.00	920.00 Tr.	3,584.62
309 Collamore.....	10,100.00	5,042.43	596.00	.....	1,000.00 Tr.	4,638.43

FUNDS

5,000.00	.....	5,000.00	311 Dalton Graduate Chemical.....	3,273.04	332.00	.....	400.00 T.	3,205.04
108,772.07	.....	108,772.07	313 Richard C. du Pont Memorial.....	13,175.56	4,876.00	3,000.00	{ 1,100.00 T. 1,000.00 Tr. }	12,931.56
20,000.00	.....	20,000.00	315 Clarence J. Hicks Memorial.....	669.25	828.00	700.00	.....	797.25
5,000.00	.....	5,000.00	316 Edith Morrill Hobbs.....	362.00	216.00	.....	200.00 T.	378.00
6,540.00	.....	6,540.00	317 Rebecca R. Joslin.....	7,938.33	580.00	.....	.....	8,518.33
5,000.00	.....	5,000.00	319 Wilfred Lewis.....	3,513.76	340.00	.....	.....	3,853.76
37,137.44	.....	37,137.44	321 Moore.....	4,312.43	1,660.00	500.00	800.00 T.	4,672.43
59,592.11	.....	59,592.11	323 James F. Norris.....	3,076.00	2,508.00	1,600.00	800.00 T.	3,184.00
6,000.00	.....	6,000.00	325 Willard B. Perkins.....	2,419.13	308.00	1,900.00	.....	827.13
20,057.03	.....	20,057.03	327 Henry Bromfield Rogers.....	7,744.05	1,112.00	.....	1,100.00 T.	7,756.05
2,000.00	.....	2,000.00	329 Richard Lee Russel.....	3,109.79	119.58	.....	400.00 T.	2,829.37
10,000.00	.....	10,000.00	331 Henry Saltonstall.....	2,996.41	512.00	.....	800.00 T.	2,708.41
10,000.00	.....	10,000.00	333 James Savage.....	4,399.73	576.00	.....	120.00 T.	4,855.73
10,000.00	.....	10,000.00	335 Susan H. Swett.....	2,714.55	504.00	.....	800.00 T.	2,418.55
100,050.00	.....	100,050.00	337 Gerard Swope.....	8,067.50	4,324.00	400.00	1,600.00 T.	10,391.50
10,000.00	.....	10,000.00	339 Frank Hall Thorp.....	2,320.56	488.00	.....	700.00 T.	2,108.56
1,900.00	.....	1,900.00	340 Tillotson.....	248.00	84.00	.....	.....	332.00
409,018.92	.....	409,018.92	341 Thomas Upham.....	741.00	16,392.00	.....	.....	17,133.00
10,000.00	.....	10,000.00	343 Luis Francisco Verges.....	3,099.22	524.00	.....	.....	3,623.22
520,818.85	.....	520,818.85	345 Jonathan Whitney.....	86,909.13	28,884.50	.....	35,080.00 T.	80,713.63
<u>\$ 1,761,480.69</u>	.....	<u>\$ 1,761,480.69</u>		<u>\$244,703.09</u>	<u>\$ 84,517.58</u>	<u>\$ 8,180.00</u>	<u>\$ 73,220.00 T.</u>	<u>\$246,820.67</u>

REPORT OF THE TREASURER

ENDOWMENT FUNDS

PRINCIPAL

INCOME

PRINCIPAL		INCOME				
Balance June 30, 1951	Gifts, Receipts and Transfers	Balance June 30, 1952	Investment Income	Expended	Transfers and Other Charges	Balance June 30, 1952
\$ 400.00	20,000.00	\$ 20,000.00	\$ 400.00	.....	.....	\$ 400.00
5,000.00	400.00	16.00	.....	.....	38.37
2,172.24	5,000.00	204.00	.....	.....	126.08
39,932.49	864.00 Tr.	40,796.49	88.00	.....	.....	79.89
50,000.00	50,000.00	1,728.00	.....	.....	2,309.62
6,550.64	6,550.64	264.00	.....	.....	101.50
10,000.00	10,000.00	420.00	.....	.....	376.15
10,000.00	10,000.00	412.00	.....	.....	202.10
571,759.49	571,759.49	25,884.00	.....	.....	70,660.96
.....	84,000.00	84,000.00	1,028.00	.....	.....	1,028.00
6,024.79	6,024.79	280.00	.....	.....	874.96
30,000.00	30,000.00	1,232.00	.....	.....	1,232.00
25,000.00	25,000.00	1,044.00	.....	.....	960.34
12,265.07	12,265.07	520.00	.....	.....	579.96
4,000.00	4,000.00	208.00	.....	.....	356.72
1,462.50	1,462.50	60.00	.....	.....	76.00
25,000.00	25,000.00	1,000.00	.....	.....	.....
20,515.88	5.00	20,520.88	988.00	.....	.....	3,193.63
1,529.35	1,529.35	80.00	.....	.....	556.64
5,000.00	5,000.00	212.00	.....	.....	354.26
36,018.50	36,018.50	1,528.00	.....	.....	1,979.23
153,415.61	153,415.61	7,348.00	.....	.....	33,679.20
25,000.00	25,000.00	1,084.00	.....	.....	1,479.89
3,500.00	3,500.00	172.00	.....	.....	953.58
13,100.00	13,100.00	536.00	.....	.....	800.00

UNDERGRADUATE SCHOLARSHIPS

Schedule A-4 Continued	Balance June 30, 1951	Investment Income	Expended	Transfers and Other Charges	Balance June 30, 1952
349 Anonymous K.....	.....	\$ 400.00	.....	.....	\$ 400.00
351 Louie G. Applebee.....	22.37	16.00	.....	.....	38.37
353 Elisha Atkins.....	122.08	204.00	.....	.....	126.08
357 Thomas Wendell Bailey.....	191.89	88.00	.....	.....	79.89
359 Charles Tidd Baker.....	4,445.62	1,728.00	.....	.....	2,309.62
361 Billings Student.....	.....	2,000.00	.....	.....	.....
363 Huse Templeton Blanchard.....	187.50	264.00	.....	.....	101.50
365 Levi Boles.....	456.15	420.00	.....	.....	376.15
367 Jonathan Bourne.....	290.10	412.00	.....	.....	202.10
369 Albert G. Boyden.....	81,175.96	25,884.00	.....	.....	70,660.96
370 Bertram Brewer.....	.....	1,028.00	.....	.....	1,028.00
371 Harriet L. Brown.....	1,094.96	280.00	.....	.....	874.96
372 Godfrey L. Cabot.....	800.00	1,232.00	.....	.....	1,232.00
373 Mabel Blake Case.....	1,116.34	1,044.00	.....	.....	960.34
375 Nino Tasher Catlin.....	859.96	520.00	.....	.....	579.96
377 Lucius Clapp.....	348.72	208.00	.....	.....	356.72
378 A. V. Clarke.....	216.00	60.00	.....	.....	76.00
379 Class of 1895 Memorial.....	.....	1,000.00	.....	.....	.....
385 Class of 1922.....	5,205.63	988.00	.....	.....	3,193.63
389 Class of 1938.....	476.64	80.00	.....	.....	556.64
393 Fred L. and Florence L. Coburn.....	342.26	212.00	.....	.....	354.26
397 Coffin Memorial.....	2,451.23	1,528.00	.....	.....	1,979.23
399 William A. Conant.....	30,331.20	7,348.00	.....	.....	33,679.20
401 Albert Conroy.....	2,595.89	1,084.00	.....	.....	1,479.89
403 George R. Cooke.....	781.58	172.00	.....	.....	953.58
404 John G. Crane.....	264.00	536.00	.....	.....	800.00

REPORT OF THE TREASURER

ENDOWMENT FUNDS

PRINCIPAL

INCOME

PRINCIPAL		INCOME					
Balance June 30, 1951	Gifts, Receipts and Transfers	Balance June 30, 1952	Undergraduate Scholarships (Continued)	Investment Income	Expended	Transfers and Other Charges	Balance June 30, 1952
\$ 5,955.89	\$ 5,955.89	441 Loren C. Holm.....	\$ 248.00	.....	200.00 T.	\$ 308.00
24,200.36	24,200.36	442 Elias Howe, Jr.....	1,004.00	.....	1,000.00 T.	884.00
7,495.80	7,495.80	443 Samuel P. Hunt.....	316.00	.....	300.00 T.	431.25
3,000.00	3,000.00	444 T. Starry Hunt.....	124.00	.....	200.00 T.	59.76
5,000.00	5,000.00	447 William F. Huntington.....	208.00	.....	200.00 T.	250.08
25,000.00	25,000.00	449 David L. Jewell.....	1,068.00	.....	1,300.00 T.	1,487.99
41,254.33	41,254.33	451 Edward A. Jones.....	1,728.00	.....	2,000.00 T.	1,831.50
7,500.00	7,500.00	453 Joy Scholarships.....	532.00	.....	600.00 T.	5,753.35
18,000.00	18,000.00	454 Amelia S. Kneiser.....	780.00	.....	1,000.00 T.	1,304.75
.....	\$ 8,584.00	8,584.00	455 Louise Knight and Charles Parks.....	144.00	.....	.....	144.00
2,220.00	2,220.00	456 Kurrelmeyer.....	104.00	.....	.....	481.29
10,474.75	10,474.75	457 Jacob and Jennie Lichter.....	452.00	.....	350.00 T.	746.00
5,000.00	5,000.00	458 William Litchfield.....	208.00	.....	200.00 T.	232.91
10,000.00	10,000.00	459 Charles E. Locke Memorial.....	460.00	.....	400.00 T.	2,119.31†
5,000.00	5,000.00	460 Elisha T. Loring.....	208.00	.....	200.00 T.	229.88
2,314.76	2,314.76	461 Lowell Institute.....	164.00	.....	.....	1,951.89
523.00	225.00	748.00	462 Alice Maclaurin.....	28.00	.....	.....	28.00
2,000.00	2,000.00	463 Rupert A. Marden.....	88.00	.....	.....	255.23
10,000.00	10,000.00	464 Waldo A. Martin.....	416.00	.....	300.00 T.	548.00
6,750.00	6,750.00	465 M. I. T. Club of Chicago.....	304.00	.....	{ 800.00 T. (425.00) Gift }	844.25
111,682.17	111,682.17	467 Margaret A. Mathews.....	5,192.00	.....	2,450.00 T.	20,840.50
5,000.00	5,000.00	469 George Henry May.....	592.00	.....	.....	13,022.13†
75,856.47	75,856.47	471 Robert W. Milne.....	3,072.00	.....	3,250.00 T.	792.75
2,500.00	2,500.00	473 James H. Mirrlees.....	104.00	.....	100.00 T.	139.48
2,000.00	2,000.00	475 Fred W. Morrill.....	100.00	.....	.....	553.80
5,000.00	5,000.00	477 Nichola.....	204.00	.....	200.00 T.	100.77

FUNDS

35,378.77	.....	35,378.77	478	Wm. E. Nickerson.....	1,616.00	.....	1,800.00 T.	1296.00
5,000.00	.....	5,000.00	479	Charles C. Nichols.....	231.40	.....	200.00 T.	239.40
5,000.00	.....	5,000.00	481	John Felt Osgood.....	216.88	.....	200.00 T.	224.88
17,641.69	.....	17,641.69	483	George L. Parmelee.....	254.00	.....	800.00 T.	170.00
59,731.18	.....	59,731.18	484	Frank Stetson Pecker.....	1,492.00	.....	2,800.00 T.	1,140.00
50,000.00	.....	50,000.00	485	Richard Perkins.....	857.21	.....	2,400.00 T.	493.21
47,646.29	.....	47,646.29	486	Charles H. and Helen Bartlett Pray...	1,092.00	.....	1,000.00 T.	2,040.00
7,689.28	.....	7,689.28	487	Florence E. Prince.....	402.50	.....	400.00 T.	326.50
21,117.00	.....	21,117.00	489	Thomas Adelbert Read.....	745.42	.....	1,000.00 T.	617.42
2,850.00	.....	2,850.00	491	Willis Ward Reeves.....	244.00	.....	.....	368.00
31,719.32	.....	31,719.32	493	Charles A. Richards.....	894.22	.....	1,600.00 T.	598.22
6,290.20	.....	6,290.20	494	John Roach.....	771.51	.....	400.00 T.	655.51
25,000.00	.....	25,000.00	495	Karl Robbins.....	332.00	.....	.....	1,344.00
36,504.83	.....	36,504.83	496	William B. Rogers.....	24,966.69†	.....	2,400.00 T.	25,168.75†
3,557.42	.....	3,557.42	497	William P. Ryan Memorial.....	2,801.72†	.....	{ 2,400.00 T. (196.06)Int. }	3,053.72†
43,821.12	.....	43,821.12	499	John P. Schenkl.....	2,476.01	.....	2,200.00 T.	2,120.01
4,800.00	.....	4,800.00	500	Paul D. Seghers, Jr.....	228.00	.....	200.00 T.	228.00
10,000.00	.....	10,000.00	501	Frank Arnold Sherman.....	482.00	.....	500.00 T.	402.00
5,000.00	.....	5,000.00	503	Thomas Sherwin.....	404.48	.....	200.00 T.	420.48
10,000.00	.....	10,000.00	505	G. H. Miller Smith.....	1,110.25	.....	500.00 T.	1,054.25
5,000.00	.....	5,000.00	506	H. Hilliard Smith.....	116.00	.....	100.00 T.	220.00
33,019.41	.....	33,019.41	507	Horace T. Smith.....	2,582.54	.....	800.00 T.	3,206.54
600.00	.....	600.00	509	Sons and Daughters of New England Puritan Colony.....	317.88	.....	.....	353.88
10,896.14	.....	10,896.14	511	Anna Spooner.....	269.12	.....	500.00 T.	217.12

† Includes students' notes receivable.

REPORT OF THE TREASURER

ENDOWMENT FUNDS

PRINCIPAL		INCOME				
Balance June 30, 1951	Gifts, Receipts and Transfers	Balance June 30, 1952	Schedule A-4 Continued	Balance June 30, 1951	Transfers and Other Charges	Balance June 30, 1952
\$ 2,338.16	.....	\$ 2,338.16	UNDERGRADUATE SCHOLARSHIPS (Continued)	.....	.....	.....
465.00	.....	465.00	513 Samuel E. Tinkham.....	\$ 258.70	\$ 100.00 T.	\$ 262.70
1,000.00	.....	1,000.00	515 F. B. Tough.....	547.64	.....	587.64
1,000.00	.....	1,000.00	517 Susan Upham.....	68.00	.....	112.00
25,000.00	\$ 15,000.00	40,000.00	519 Samson R. Urbino.....	225.35	.....	273.35
66,718.27	.....	66,718.27	521 Vermont Scholarship.....	4,967.95	1,350.00 T.	5,065.05
9,761.45	.....	9,761.45	523 Ann White Vose.....	348.00	2,500.00 T.	292.00
50,000.00	.....	50,000.00	525 Arthur M. Waitt.....	3,836.09	400.00 T.	252.09
13,359.48	600.00	13,959.48	527 Grant Walker.....	421.75	3,384.00 Ret. of Inv. Inc.	437.75
4,000.00	.....	4,000.00	529 James Watt.....	580.30	2,000.00 T.	352.30
5,000.00	.....	5,000.00	531 Louis Weisbein.....	173.36	800.00 T.	344.36
5,000.00	.....	5,000.00	533 Frances Erving Weston.....	4,012.78	.....	4,372.78
4,515.65	.....	4,515.65	535 Samuel Martin Weston.....	304.79	200.00 T.	316.79
5,065.51	.....	5,065.51	537 Anasa J. Whiting.....	175.37	200.00 T.	163.37
66,538.18	.....	66,538.18	539 Elizabeth Babcock Willmann.....	713.48	.....	945.48
			541 Morrill Wyman.....	2,795.53	4,000.00 T.	1,543.53
\$ 3,542,556.29	\$ 134,515.64 Gifts 864.00 Tr.	\$ 3,677,935.93		\$ 157,572.00	\$ 2,621.00	\$ 370,913.03
				\$153,267.00 O.C.	(5,621.06) O.I.	
					1,864.00 Tr.	

FUNDS

PRIZES									
\$ 12,649.18	.....	\$ 12,649.18	.....	\$ 5,356.50	.....	\$ 852.75	.....	.....	.....
5,000.00	.....	5,000.00	.....	2,077.91	.....	284.00	\$ 280.00	.....	.....
647.00	.....	647.00	.....	456.71	.....	44.00	.....	.....	.....
23,785.16	\$ { 7,965.66 } 150.00 Tr.	31,900.82	.....	836.00	.....	1,164.00	.....	.....	2,000.00
2,145.00	.....	2,145.00	.....	745.95	.....	116.00	.....	.....	861.95
9,824.00	.....	9,824.00	.....	640.00	.....	408.00	1,000.00	.....	48.00
1,050.00	.....	1,050.00	.....	27.00	.....	44.00	40.00	.....	31.00
1,210.00	.....	1,210.00	.....	356.00	.....	60.00	281.25	.....	134.75
56,314.02	704.56	57,018.58	.....	536.00	.....	2,288.00	.....	.....	2,824.00
2,700.00	.....	2,700.00	.....	1,778.13	.....	180.00	101.32	.....	1,856.81
5,000.00	.....	5,000.00	.....	3,040.97	.....	356.00	356.00	.....	3,940.97
5,000.00	.....	5,000.00	.....	10,884.63	.....	636.00	.....	.....	11,520.63
1,000.00	.....	1,000.00	.....	386.51	.....	56.00	120.05	.....	322.46
5,000.00	.....	5,000.00	.....	.....	.....	200.00	.....	.....	216.00
1,880.00	.....	1,880.00	.....	.....	.....	76.00	76.00	.....	.....
\$ 133,204.36	\$ 8,670.22 Gifts 150.00 Tr.	\$ 142,024.58	.....	\$ 28,038.31	.....	\$ 6,764.75	\$ 2,254.62	.....	\$ 32,548.44

REPORT OF THE TREASURER

ENDOWMENT FUNDS

PRINCIPAL		INCOME				
Balance June 30, 1951	Gifts, Receipts and Transfers	Balance June 30, 1951	Investment Income	Expended	Transfers and Other Charges	Balance June 30, 1952
\$ 30,390.47	\$ 224.80 O.R.	\$ 1,132.00	\$ 1,260.00			\$ 2,392.00
11,454.28	{ 858.33 60.00 Tr. }	79.52	480.00	\$ 42.82		516.70
978.99	978.99	20.00	40.00			60.00
10,000.00	10,000.00	200.00	408.00	608.00		1,957.97
13,965.16	13,965.16	1,831.80	612.00	505.83		
1,510.00	1,510.00	70.00	64.00			134.00
10,000.00	10,000.00	2,455.17	500.00	132.35		2,822.82
	{ 17,931.22 338.40 Tr. }		360.00	21.60	\$ 338.40 Tr.	
	1,045.58					
100,000.00	100,000.00	8,921.69	4,216.00	12,298.00		839.69
4,002.50	4,002.50	485.24	180.00	243.00		422.24
1,559.64	1,559.64	787.63	92.00			879.63
\$ 183,761.04	\$ 19,835.13 Gifts 224.80 O.R. 398.40 Tr.	\$ 16,003.05	\$ 8,212.00	\$ 13,851.60	\$ 338.40 Tr.	\$ 10,025.95
\$ 9,697,281.91	\$ 340,531.89 Gifts 15,004.92 Tr. 224.80 O.R.	\$ 903,421.95	\$ 475,723.19	\$ 125,128.76	\$ 49,967.40 Tr. 226,487.00 Tr. (5,621.06) O.I.	\$ 983,183.04

(Schedule A)

(Schedule A)

SCHEDULE 4-5

STUDENT LOAN FUNDS

	Balance June 30, 1951	Gifts and Other Receipts	Investment Income	Transferred	Expense	Other Charges	Balance June 30, 1952
583 Bursar's.....	\$ 40,239.88†	88.04 O.R.	\$ 1,484.00	.....	.....	.....	\$ 41,811.92†
585 Dean's.....	13,300.58†	38.56 O.R.	372.00	.....	.....	.....	13,711.14†
587 Carl P. Dennett.....	2,139.80†	66.08 O.R.	28.00	.....	.....	.....	2,233.88†
588 Ethel L. Fryer.....	2,540.00†	.....	92.00	.....	.....	.....	2,632.00†
589 Nathan R. George.....	38,710.12	.....	1,548.00	.....	.....	.....	40,258.12
590 Lamson-Virgin.....	11,923.50	.....	476.00	.....	.....	.....	12,399.50
591 George J. Mead.....	227,412.07	2,818.24	9,152.00	.....	.....	.....	239,382.31
592 Medical Department.....	5,726.96†	45 O.R.	112.00	.....	.....	.....	5,839.41†
593 Minnie Hempel Rogers.....	1,491.54	.....	60.00	.....	.....	.....	1,551.54
595 Summer Surveying Camp...	3,349.83†	14.76 O.R.	96.00	.....	.....	.....	3,460.59†
596 Technology Loan.....	2,151,191.45†	{ 155.00 5,800.56 O.R. }	67,442.53 \$	(1,000.00)	.....	\$58.85	2,225,530.69†
597 William H. Timbie.....	5,735.50	.....	228.00	.....	.....	.....	5,963.50
Totals.....	\$2,503,761.23 \$	2,973.24 Gifts 6,008.45 O.R.	\$81,090.53 \$	(1,000.00)	.....	\$58.85	\$2,594,774.60

(Schedule A)

† Includes students' notes receivable.

REPORT OF THE TREASURER

SCHEDULE A-6
BUILDING FUNDS

	<i>Balance June 30, 1951</i>	<i>Gifts and Other Receipts</i>	<i>Investment Income</i>	<i>Transferred</i>	<i>Expense</i>	<i>Other Charges</i>	<i>Balance June 30, 1952</i>
598 Biology Building Fund.....	.....	.....	\$32,664.00	\$(1,500,000.00)	.....	\$1,296,753.11	\$ 235,910.89
599 Campbell Soup Company.....	\$ 231,049.38	.....	.....	.....	.....	231,049.38	.....
600 Chapel Building Fund.....	.....	1,010.00	.....	.....	.....	.....	1,010.00
601 Arthur J. Conner.....	246,961.87	.....	9,880.00	.....	.....	.....	256,841.87
602 Development Building Fund.	1,500,000.00	50.00	4.00	749,900.00	.....	136,884.47	613,269.53
603 George Eastman.....	145,817.95	.....	5,832.00	.....	.....	.....	151,649.95
604 Electronics Laboratory.....	208.00	.....	8.00	.....	.....	.....	216.00
605 Facilities Building Fund.....	.....	.....	.....	(450,000.00)	.....	253,810.85	196,189.15
606 Faculty Club.....	284.00	11,328.00	168.00	.....	.....	11,780.00	.....
609 Matilda A. Fraser.....	1,191.98	.....	48.00	.....	.....	.....	1,239.98
611 Hydrodynamics Laboratory and Towing Tank.....	.....	6,120.00	.....	.....	.....	6,120.00	.....
612 Kresge Foundation.....	511,654.00	.....	20,268.00	.....	.....	9,748.12	522,173.88
614 Low Temperature Refrigeration Laboratory..	12,272.00	11,800.00	712.00	.....	.....	.....	24,784.00
615 Metals Processing Laboratory	16,923.97	10,000.00	420.00	.....	.....	.....	27,343.97
619 Alfred P. Sloan Metals Processing Laboratory.....	414,230.68	.....	8,284.00	.....	.....	413,686.45	8,282.23
621 Charles D. Waterbury.....	19,388.65	.....	776.00	.....	.....	.....	20,164.65
<i>Total.....</i>	<i>\$3,099,982.48</i>	<i>\$ 40,308.00</i>	<i>\$79,064.00</i>	<i>\$(1,200,100.00)</i>	<i>.....</i>	<i>\$2,359,832.38</i>	<i>\$2,059,622.10</i>

SCHEDULE A-7
OTHER INVESTED FUNDS

	Balance June 30, 1951 \$	Gifts and Other Receipts	Investment Income	Transferred	Expense	Other Charges	Balance June 30, 1952 \$
GENERAL PURPOSES							
623 Anonymous H.	10,000.00		\$ 400.00				10,400.00
625 Anonymous J.	4,902.00		196.00				5,098.00
626 Anonymous LE.	25,000.00		1,000.00				26,000.00
627 Anonymous M.	6,500.00		260.00				6,760.00
629 Anonymous R.	67,150.00		2,688.00	\$	2,688.00		67,150.00
633 Edmund Dana Barbour.	20,736.94		828.00				21,564.94
634 Stephen L. Bartlett.	2.10						2.10
635 Birney C. Batcheller.	\$ 85,240.00						85,240.00
636 John Randolph Brittain.		18,549.85	552.00				19,101.85
637 Class of 1890.	25,000.00		1,000.00				26,000.00
638 Class of 1899.	15,621.00		624.00				16,245.00
639 Class of 1900.	15,411.00		616.00				16,027.00
640 Class of 1901.	69,368.25	367.40	2,776.00		367.40		72,144.25
641 Class of 1923.	63,319.67		2,532.00				65,851.67
642 Class of 1924.	81,328.28		3,252.00				84,580.28
643 Class of 1925.	43,611.00	500.00	1,748.00				45,859.00
644 Class of 1926.	64,694.64	85.00	2,588.00	\$ 200.00	43.18		67,124.46
645 Class of 1927.			1,064.00	(26,562.56)			27,626.56
646 Arthur J. Conner.	101,245.54		4,756.00	284,440.89	4,756.00		.....
647 Co-operative Foundation.	1,577.44	183,195.35	64.00				1,641.44
648 Dane Fund.		18,000.00	300.00				18,300.00
649 Development Fund.	31,339.21	550,938.79	16,340.00	591,618.00	7,000.00		.....
650 Development Fund 1951.		93,369.00	2,224.00	49,614.15			45,978.85
651 Charles H. Eames.	20,000.00	33,142.48	1,572.00				54,714.48
652 Ford Motor Co.		166,665.00	1,668.00	166,665.00	1,668.00		.....
653 Erastus C. Gaffield.	1,796.58		72.00				1,868.58
654 Walter A. Gleason.		2,000.00	52.00				2,052.00
655 Edward C. Hall.	7,151.69		288.00				7,439.69
656 William T. Henry.	70,044.55	24,030.00	3,308.00		3,307.85		94,074.70

OTHER INVESTED FUNDS (Continued)

SCHEDULE A-7 — (Continued)

GENERAL PURPOSES (Continued)	Balance June 30, 1951	Gifts and Other Receipts	Investment Income	Transferred	Expense	Other Charges	Balance June 30, 1952
	\$		\$				\$
657 Ernest R. Hosbach.....	1,000.00	.....	40.00	.....	40.00	.....	1,000.00
659 Keller.....	54.27	.....	4.00	.....	.....	.....	58.27
661 Edwin J. Lewis, Jr.....	24,303.54	.....	972.00	.....	.....	.....	25,275.54
663 Augustus B. Martin, Jr.....	66,170.74	.....	2,648.00	.....	2,706.58	.....	66,112.16
664 M. I. T., Little Trust.....	4,941.67	14,300.04	484.00	.....	.....	.....	19,725.71
665 Alice Butts Metcalf.....	50,000.00	.....	2,000.00	.....	2,000.00	.....	50,000.00
666 Leonard Metcalf Memorial..	99,305.58	2,786.96	4,936.00	.....	.....	.....	106,128.54
667 John Wells Moss.....	50,000.00	.....	2,000.00	.....	2,000.00	.....	50,000.00
668 National Public Health Overhead.....	11,887.00	.....	524.00	(2,514.00)	.....	.....	14,925.00
669 E. Mortimer Newlin.....	64.49	1,019.05	20.00	.....	.....	.....	1,103.54
670 William E. Nickerson.....	35,378.78	.....	1,416.00	.....	1,416.00	.....	35,378.78
671 Morris A. Stewart.....	.....	915.00	24.00	.....	.....	.....	939.00
672 Edward A. Sumner.....	10,694.44	10,393.53	600.00	.....	600.00	.....	21,087.97
673 Herman W. Tamkin.....	14,860.13	.....	596.00	.....	596.00	.....	14,860.13
675 Towle.....	9,073.00	.....	364.00	.....	.....	.....	9,437.00
677 Charles A. Tripp.....	57,773.50	.....	2,312.00	.....	2,312.00	.....	57,773.50
679 Grant Walker.....	35,482.93	.....	1,420.00	.....	1,420.00	.....	35,482.93
681 Edwin S. Webster.....	25,217.50	.....	1,008.00	.....	1,008.00	.....	25,217.50
682 Harry C. Wiess.....	163,569.50	.....	6,544.00	.....	.....	.....	170,113.50
683 H. Sylvia A. H. G. Wilks...	.....	1,645,391.82	10,968.00	1,645,391.82	10,968.00	.....	.....
684 Belle A. Williston.....	17,118.68	.....	684.00	.....	684.00	.....	17,118.68
686 Edwin J. Wood.....	5,000.00	.....	200.00	.....	200.00	.....	5,000.00
Totals.....	\$1,427,695.64	\$2,850,889.27	\$91,632.00	\$ 2,708,853.30	\$ 45,781.01	.....	\$1,615,582.60

(Schedule A)

SCHEDULE A-3

	Balance June 30, 1951	Gifts and Other Receipts	Investment Income	Transferred	Expense	Other Charges	Balance June 30, 1952
DEPARTMENTS AND RESEARCH							
701 Anonymous S.....	\$ 34,751.00	.....	\$ 1,392.00	.....	.....	.....	\$ 36,143.00
703 Applied Mathematics.....	6,065.50	.....	244.00	.....	.....	.....	6,309.50
705 Badger — Chemical Engineering.....	6,284.56	.....	252.00	..... \$	.....	.....	6,441.16
710 Samuel Berke, Humanities...	5,100.00	.....	132.00 \$	3,478.97	.....	.....	1,753.03
715 Carnegie Corporation, Humanities Grant.....	146,900.00	.....	5,504.00	22,274.89	.....	.....	130,129.11
717 Chemical/Engineering Practice	208,829.06	.....	7,556.00	.....	46,752.73	.....	169,632.33
718 Collins Helium Cryostat.....	2,944.13 \$	2,715.60 O.R.	96.00	.....	4,650.00	.....	1,105.73
720 Theodore M. Edison Research	92,700.00	.....	3,708.00	.....	.....	.....	96,408.00
721 Electronics, Research Laboratory of.....	74,636.50	200.00	3,124.00	(5,000.00)	133.38	.....	82,827.12
722 Electronics, Industrial Fellowships in.....	104,588.25	20,000.00	4,452.00	(5,000.00)	6,875.00 \$	2,950.00	124,215.25
723 Food Technology.....	21,240.13	20,000.00	608.00	28,359.32	1,000.00	.....	12,488.81
724 Ford Motor Co. — Ind. Rel..	25,784.00	.....	1,032.00	.....	500.00	800.00	25,516.00
725 William B. Given.....	.....	10,000.00	116.00	.....	.....	8,080.40	2,035.60
727 John A. Grimmons.....	7,672.22	3,967.95	360.00	.....	.....	.....	11,999.27
729 Harvey Non-Ferrous Forgings	11,708.00	.....	468.00	.....	.....	.....	12,176.00
733 Industrial Economics, Graduate.....	36,603.55	5,000.00	1,420.00	.....	3,900.00	2,850.00	36,273.55
737 Industrial Fund.....	422,549.23	119,443.11*	15,064.00	17,433.59	2,000.00	100,000.00	437,622.75
739 Industrial Relations Section.	152,163.74	24,600.00	5,976.00	(34.67)	16,346.72	2,400.00	164,027.69
741 Instrumentation Fund.....	174,524.24	.....	5,420.00	26,740.00	5,250.00	11,546.77	136,407.47

* Appropriation of research revenues (see Schedule B-3) and royalties.

REPORT OF THE TREASURER

OTHER INVESTED FUNDS (Continued)
SCHEDULE A-8— (Continued)

	Balance June 30, 1951	Receipts	Gifts and Other	Investment Income	Transferred	Expense	Other Charges	Balance June 30, 1952
DEPARTMENTS AND RESEARCH (Continued)								
743 A. Norton Kent.....	\$ 220.00	.....	.....	\$ 8.00	.....	.....	.....	\$ 228.00
746 Arthur D. Little Low Temperature Res.....	11,716.00	.....	.....	468.00	.....	.....	.....	12,184.00
749 John Lawrence Mauran.....	3,114.87	.....	.....	132.00 \$	(450.00)	.....	.....	3,696.87
750 Merrill Foundation.....	2,983.37 \$	25,000.00	.....	896.00	.....	7,495.69	.....	21,383.68
751 Susan Minns.....	40,000.00	.....	.....	.....	.....	.....	.....	40,000.00
753 Forris Jewett Moore.....	27,954.17	.....	.....	1,104.00	.....	682.66	.....	28,375.51
755 Nuclear Science and Engineering.....	1,064.00	.....	.....	44.00	.....	.....	.....	1,108.00
757 F. Ward Paine.....	4,023.87	.....	.....	160.00	.....	.....	.....	4,183.87
758 Theodore B. Parker Memorial	2,394.00	.....	.....	96.00	.....	.....	.....	2,490.00
759 Pratt Spectroscopy.....	39,460.00	.....	.....	1,500.00	.....	4,134.49	.....	36,825.51
760 Radioactivity Center.....	35,347.00	.....	.....	1,412.00	.....	.....	.....	36,759.00
761 Richards Memorial.....	1,002.98	.....	.....	40.00	.....	.....	.....	1,042.98
763 W. T. Sedgwick.....	42,798.81	.....	.....	1,712.00	.....	1,900.00	.....	42,610.81
765 Servomechanism Laboratory.	564.25	.....	.....	16.00	580.25	.....	.....	.....
767 Servomechanism Research...	56,695.33	.....	.....	2,268.00	.....	.....	.....	58,963.33
768 Sloan Automotive Laboratory	5,284.17	.....	.....	212.00	.....	.....	.....	5,496.17
769 Industrial Mgt. Operating.....	.....	275,000.00	.....	4,584.00	4,317.85	153,192.20	101,124.00	20,949.95
770 Industrial Mgt. Research.....	.....	1,000,000.00	.....	40,000.00	.....	350.00	.....	1,039,650.00
771 Special Research, Padelford..	3,070.42	.....	.....	124.00	.....	110.00	.....	3,084.42
772 Spofford Room.....	.....	.....	.....	.....	(10,000.00)	.....	.....	10,000.00
773 Standard Oil of Indiana.....	.....	.....	.....	4,000.00	(150,000.00)	.....	.....	154,000.00
775 Henry N. Sweet.....	1,218.72	.....	.....	48.00	.....	.....	.....	1,266.72
777 Swift Amino Acid.....	10,200.00	.....	.....	408.00	.....	.....	.....	10,608.00
781 Nellie Florence Treat.....	765.00	.....	.....	32.00	.....	.....	.....	797.00
783 Twentieth Century Fox Film Corporation.....	3,018.75	.....	.....	120.00	.....	.....	.....	3,138.75
785 William Lyman Underwood..	9,283.92	.....	.....	372.00	.....	.....	.....	9,655.92
Totals.....	\$1,837,223.74	\$1,383,767.05	Gifts	\$116,680.00	\$ (67,299.80)	\$255,368.27	\$ 229,751.17	\$3,042,009.86
		122,158.71	O.R.					

LIBRARY

791	Boston Stein Club.....	\$ 9,087.38	.....	\$ 364.00	.....	.....	.....	\$ 9,451.38
792	Carnegie S. A. L. Center.....	1,942.00	.....	76.00	.....	.....	.....	2,018.00
793	Frank Harvey Cilley.....	84,887.59	.....	3,344.00	\$ 2,300.00	\$ 1,200.00	.....	84,731.59
795	Class of 1874.....	293.67	.....	12.00	.....	11.00	.....	294.67
797	Arthur Elison.....	571.31	.....	24.00	.....	20.00	.....	575.31
799	Library Growth.....	5,317.49	.....	212.00	.....	.....	.....	5,529.49
800	Charles W. Tucker.....	516.00	.....	16.00	.....	229.60	.....	302.40
		\$ 102,615.44	.....	\$ 4,048.00	\$ 2,300.00	\$ 1,460.60	.....	\$ 102,902.84

FUNDS

801	Albert.....	\$ 4,346.50	.....	\$ 128.00	.....	\$ 667.50	\$ 2,307.00	\$ 1,500.00
802	Anonymous P.....	103,096.00	.....	2,060.00	.....	.....	105,156.00	.....
803	Athletic Fields Special.....	232.66	.....	8.00	.....	16.18	.....	224.48
804	Bess Bigelow.....	37,226.24	.....	1,488.00	.....	.....	.....	38,714.24
806	Class of 1898.....	26,990.42	\$ 1,222.50	1,104.00	.....	.....	1,104.00	28,212.92
807	Class of 1917.....	1,367.81	.....	56.00	.....	.....	.....	1,423.81
808	Class of 1918 Organ.....	110.88	.....	4.00	.....	.....	.....	114.88
809	Ralph E. Curtis Scholarship.....	.....	2,000.00	40.00	.....	.....	.....	2,040.00
810	Arthur Dean.....	83,272.10	.....	3,332.00	.....	.....	.....	86,604.10
811	Davis R. Dewey Memorial.....	679.70	.....	28.00	.....	.....	.....	707.70
812	Drama Club Theatre.....	648.39	.....	24.00	.....	.....	.....	672.39
813	Haffenreffer Foundation.....	25,584.00	.....	1,024.00	.....	.....	.....	26,608.00
814	Oscar H. Horovitz.....	2,290.75	.....	92.00	.....	.....	.....	2,382.75
815	Llora C. Krueger.....	543.36	.....	20.00	.....	.....	.....	563.36

OTHER INVESTED FUNDS (Continued)
SCHEDULE A-8 — (Continued)

MISCELLANEOUS FUNDS AND DEPOSITS (Continued)	Balance June 30, 1951	Gifts and Other Receipts	Investment Income	Transferred	Expense	Other Charges	Balance June 30, 1952
816 Lever Bros. Co.	\$ 1,004.00	.....	\$ 40.00	.....	.....	.....	\$ 1,044.00
817 Arthur D. Little Memorial Lectureship	7,753.19	\$ 5,000.00	404.00	.....	\$ 2,790.91	.....	10,366.28
818 John R. Macomber	659.40	902.82	28.00	.....	890.55	.....	699.67
820 M. I. T. Alumni 1940-52	86,667.42	.....	3,280.00	\$ (68,189.26)	.....	.....	152,136.68
821 M. I. T. Alumni 1950-51	1,348.50	.....	.....	1,348.50	.....	.....	.....
822 Alumni Fund 1951-52 .....	.....	139,710.20	1,228.00	66,840.76	.....	\$ 74,997.44	.....
823 M. I. T. Teachers Insurance.	285,859.34	102,754.04	O.R.	.....	.....	47,385.93	352,899.45
824 John D. Mitsch Memorial	3,079.00	.....	124.00	.....	.....	.....	3,203.00
825 Henry A. Mors Nautical	67.90	5,000.00	104.00	.....	.....	.....	5,171.90
829 President's, Special	7,808.61	.....	284.00	1,000.00	400.00	.....	6,692.61
830 Tubby Rogers	334.38	50.00	12.00	.....	.....	.....	396.38
831 William Patrick Ryan, Special	227.06	.....	8.00	.....	.....	.....	235.06
833 Sedgwick Memorial Lecture.	19,559.37	120.24	O.R.	.....	19.98	.....	20,443.63
835 Tau Beta Pi Memorial Scholarship	2,801.85	.....	112.00	.....	.....	.....	2,913.85
839 Technology Press	58,715.80	.....	1,948.00	.....	20,000.00	.....	40,663.80
Totals	\$ 756,274.63	\$ 153,885.52	\$ 29,436.00	\$ 1,000.00	\$ 24,785.12	\$ 230,950.37	\$ 786,634.94
		102,874.28	O.R.				

REPORT OF THE TREASURER

 AGENCY FUNDS
 SCHEDULE A-9

ALUMNI AND CLASS FUNDS	Balance June 30, 1951	Gifts and Other Receipts	Investment Income	Transferred	Expense	Other Charges	Balance June 30, 1952
881 Class of 1887.....	\$ 4,882.86	.....	\$ 196.00	.....	.....	.....	\$ 5,078.86
883 Class of 1889.....	197.63	.....	8.00	.....	.....	.....	205.63
885 Class of 1902.....	2,060.00	.....	..... \$	2,060.00	.....	.....	.....
886 Class of 1903.....	15,848.00 \$	395.00	644.00	.....	.....	.....	16,887.00
887 Class of 1904.....	804.00	.....	32.00	.....	.....	.....	836.00
888 Class of 1905.....	100.00	.....	4.00	.....	.....	.....	104.00
889 Class of 1910.....	413.00	2,820.00	60.00	.....	.....	.....	3,293.00
890 Class of 1914.....	1,144.62	.....	44.00	.....	.....	.....	1,188.62
891 Class of 1915.....	.....	100.00	4.00	.....	.....	.....	104.00
892 Class of 1916.....	.....	4,334.00	68.00	.....	.....	.....	4,402.00
893 Class of 1917.....	4,544.49	3,317.26	188.00	.....	..... \$	3,257.26	4,792.49
894 Class of 1919, Special.....	3,441.00	.....	.....	.....	.....	.....	3,441.00
895 Class of 1920.....	4,147.25	.....	.....	.....	.....	.....	4,147.25
896 Class of 1921.....	7,279.75	.....	292.00	.....	.....	7,000.00	571.75
905 Class of 1927.....	26,562.56	.....	.....	26,562.56	.....	.....	.....
906 Class of 1927, Joseph W. Hammond Memorial.....	50.00	.....	4.00	.....	.....	.....	54.00
907 Class of 1928.....	53,591.22	25.00	2,144.00	.....	.....	.....	55,760.22
909 Class of 1929.....	21,418.86	4.20	856.00	.....	.....	.....	22,279.06
911 Class of 1930.....	17,686.38	.....	708.00	.....	.....	.....	18,394.38
912 Class of 1933.....	22.82	727.12	12.00	.....	.....	512.68	249.26

AGENCY FUNDS (Continued)
SCHEDULE A-9

	Balance June 30, 1951	Gifts and Other Receipts	Investment Income	Transferred	Expense	Other Charges	Balance June 30, 1952
STUDENT ACTIVITIES							
951 Alpha Chi Sigma House.....	\$ 6,346.85	.....	\$ 252.00	.....	.....	.....	\$ 6,598.85
952 Major Briggs.....	37,408.93	.....	1,380.00	.....	\$ 7,024.23	.....	31,764.70
953 Charles Francis Park Memorial	6,401.25	.....	256.00	.....	.....	.....	6,657.25
954 Sailing Pavilion Fund.....	.....	\$ 31,810.66	520.00	.....	.....	3,802.93	28,527.73
955 Sailing Pavilion Reserve — New Equipment.....	697.00	906.00 O.R.	40.00	.....	.....	.....	1,643.00
956 Lillie C. Smith.....	6,816.99	.....	272.00	.....	.....	.....	7,088.99
957 Walter B. Snow.....	11,313.82	.....	452.00	.....	.....	.....	11,765.82
958 Technology Christian Assoc..	2,232.00	.....	88.00	.....	.....	.....	2,320.00
959 Technology Matrons' Teas..	9,109.62	.....	364.00	.....	.....	358.89	9,114.73
960 M. I. T. Women's Dormitory	1,359.33	{ 6.50 120.00 O.R. }	52.00	.....	.....	232.20	1,305.63
962 Tech Show Trust.....	1,069.27	500.00 O.R.	52.00	.....	.....	.....	1,621.27
963 Undergraduates Activities Trust	1,848.87	306.00 O.R.	72.00	.....	.....	200.00	2,026.87
965 Undergraduate Publications Trust	4,806.23	.....	112.00	.....	.....	4,000.00	918.23
967 Undergraduate Dues, Athletics	20,762.87	1,750.00 O.R.	816.00	.....	.....	400.00	22,928.87
969 Undergraduate Dues, Reserve and Contingent.....	18,996.95	855.19 O.R.	772.00	.....	.....	.....	20,624.14
	\$ 129,169.98	\$ 31,817.16 Gifts 4,437.19 O.R.	\$ 5,500.00	.....	\$ 16,018.25	.....	\$ 154,906.08
Totals.....	\$ 423,162.37	\$ 45,710.72 Gifts 4,437.19 O.R.	\$ 15,932.00	\$ 28,622.56	\$ \$ 36,219.11	.....	\$ 424,400.61

ANNUITY FUNDS

SCHEDULE A-10

	Balance June 30, 1951	Gifts and Other Receipts	Investment Income	Transferred	Expense	Other Changes	Balance June 30, 1952
981 Anonymous Q.....	\$ 16,699.50	\$ 10,000.00	\$ 836.00	.....	.....	.....	\$ 27,535.50
983 Anonymous X.....	20,541.12	.....	820.00	.....	.....	775.00	20,586.12
985 Avoca.....	134,868.00	.....	2,500.00	\$ 1,867.00	.....	16,801.00	118,700.00
987 Joseph Hewett.....	225,221.19	.....	12,333.20	.....	.....	12,053.91	225,500.48
988 Percival Lowell Scholarship..	23,201.64	.....	900.00	.....	.....	1,500.00	22,601.64
989 Anonymous E. M.....	.....	14,000.00	.....	.....	.....	.....	14,000.00
990 Knight W. Wheeler.....	18,828.00	.....	716.00	.....	.....	1,700.00	17,784.00
991 George S. Witmer.....	85,419.06	4,000.00	4,708.84	.....	.....	4,649.00	89,478.90
Totals.....	\$ 524,778.51	\$ 28,000.00	\$22,814.04	\$ 1,867.00	\$ 37,538.91		\$ 536,186.64

FUNDS

GENERAL INVESTMENTS GAIN AND LOSS ACCOUNT

SCHEDULE A-11

995 Endowment Reserve.....	\$3,496,007.86	\$3,496,007.86
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REPORT OF THE TREASURER

SCHEDULE A-12

STUDENTS' NOTES RECEIVABLE

	<i>Notes Receivable</i> <i>June 30, 1951</i>	<i>Loans Made</i> <i>1951-52</i>	<i>Loans Repaid</i> <i>1951-52</i>	<i>Notes Receivable</i> <i>June 30, 1952</i>	<i>Interest</i> <i>Received</i> <i>1951-52</i>
Technology loan fund	\$520,365.86	\$198,781.00	\$81,133.05*	\$638,013.81	\$5,613.06
Bursar's fund	3,581.95	2,665.00	3,851.32	2,395.63	88.04
William B. Rogers fund	1,330.00	.....	290.00	1,040.00	196.06
Dean's fund	4,190.06	3,828.48	4,653.48	3,365.06	38.56
Dean's fund special	580.00	2,400.00	1,980.00	1,000.00	12.95
C. E. Summer Camp fund	1,165.00	480.00	415.00	1,230.00	14.76
Carl P. Dennett fund	1,363.00	225.00	156.90	1,431.10	66.08
George Henry May fund	2,650.00	.....	100.00	2,550.00	.....
Medical special fund	2,565.36	946.60	250.00	3,261.96	.45
Charles E. Locke Memorial fund	600.00	.....	.....	600.00	.....
William P. Ryan Memorial fund	120.70	.....	91.01	29.69	.....
Ellen F. Loomis Foreign . Student fund	100.00	100.00	200.00	.....	.46
Ethel I. Fryer fund . . . . .	.....	500.00	.....	500.00	.....
<i>Totals</i>	<u>\$538,611.93</u>	<u>\$209,926.08</u>	<u>\$93,120.76*</u>	<u>\$655,417.25</u>	<u>\$6,030.42</u>

(Schedule A)

* Includes notes written off.

SCHEDULE A-13

ACCOUNTS RECEIVABLE

United States Government:		
Research contracts		\$2,901,272.54*
Veterans Administration		96,976.35
Other tuition fees		13,964.59
<i>Total United States Government</i>		<u>\$3,012,213.48</u>
Industrial corporations — research contracts	\$86,474.30*	
Others:		
Students' fees and deposits	1,584.85	
Miscellaneous accounts	85,328.30	173,387.45
<i>Total (Schedule A)</i>		<u>\$3,185,600.93</u>

*Total under direction of Division of Industrial Cooperation \$3,077,746.84.

SCHEDULE A-14

CONTRACTS IN PROGRESS

Department of Defense and other government agencies research contracts	\$3,549,220.38
Industrial Corporations research contracts	28,708.24
Costs unallocated to above contracts represented by accounts payable and accrued wages	<u>746,321.93</u>
Total under direction of the Division of Industrial Cooperation	\$4,324,250.55
U. S. Government Weather Bureau Research Program	6,183.92
Other departmental research	<u>5,182.35</u>
<i>Total</i> (Schedule A)	<u><u>\$4,335,616.82</u></u>

SCHEDULE A-15

INVENTORIES, DEFERRED CHARGES AND OTHER ASSETS

Inventories:

Department of buildings and power:

Maintenance supplies	\$ 94,164.42
Oil	5,861.06

\$100,025.48

Laboratory supplies	99,365.57
Dining halls, food and supplies	38,545.40
Dormitories, room service supplies	21,867.81
Photographic supplies and equipment	21,574.87
Microreproduction supplies	5,766.77
Stationery and stamps	3,032.95
Technology store, lecture notes	1,470.60
Civil Engineering summer camp	652.06

Total Inventories \$292,301.51

Deferred Charges:

Deposits with mutual fire insurance companies	\$158,429.54
Unexpired insurance premiums	39,475.28
Faculty Club — working capital advance	12,000.00
Cooperative Foundation Plan — insurance premiums	27,729.19
Expenses deferred, Summer Session	3,226.32
Equipment — dining halls, less depreciation	11,068.21
Equipment acquired by Division of Industrial Cooperation, less depreciation	71,431.93
Division of Industrial Cooperation:	
Deferred charges to operations. \$13,013.11	
Due from vendors	2,884.84
	15,897.95

Other deferred charges (principally accounts payable and accrued wages for expenses undistributed)	125,641.92
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Total Deferred Charges 464,900.34

Unallocated Construction Costs:

Power plant boiler improvement	\$324,556.67
Metals processing laboratory	62,052.14
Super voltage X-ray machine	39,152.52
Westgate West ground costs	6,370.01

Total Other Assets 370,079.20

Total (Schedule A) \$1,189,333.19

SCHEDULE A-16

STUDENTS' ADVANCE FEES AND DEPOSITS

1952 Summer Term:		
Tuition fees	\$187,840.13	
Students' deposits	3,160.27	
Dormitory rentals	27,108.00	
Summer surveying camp	2,080.00	
Other	941.20	\$221,129.60
		<hr/>
1951-52 Students' deposits returnable		938.62
1952-53 Tuition fees		2,250.00
1952-53 Dormitory rentals		332.75
1952-53 Other		45.00
		<hr/>
<i>Total</i> (Schedule A)		<u>\$224,695.97</u>

SCHEDULE A-17

WITHHOLDINGS, DEPOSITS, AND OTHER CREDITS

Payroll withholdings:		
Additional group insurance	\$ 565.97	
Blue Cross hospital program	16,109.50	
Federal Insurance Contribution Act	21,239.69	
U. S. Government savings bonds	10,246.57	
U. S. Government withholding tax	230,060.26	\$278,221.99
		<hr/>
Division of Industrial Cooperation — prepaid income		188,403.10
Division of Industrial Cooperation — overhead suspense		15,516.71
Deposits for designated student expenses:		
Iraqi Educational Directorate	\$ 1,924.14	
J. N. Tata Endowment	260.00	
Ku Lee Hazen	625.00	
S. I. Chimura	1,010.00	
Kurt Spiegler	400.00	4,219.14
		<hr/>
Deposits of student activities:		
Sailing account, I.C.Y.R.A.	\$ 1,112.59	
Nautical Association	362.00	
Technology Christian Association	11.00	
World Student Service Fund	128.49	1,614.08
		<hr/>
Combustion Symposium Committee		21,025.00
Other deposits		8,323.06
		<hr/>
<i>Total</i> (Schedule A)		<u>\$517,323.08</u>

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES 161

Architecture:								
Acoustics — Arch. Teaching Support	253.93	405.71	Approp.	659.64				
City Planning Conference	100.00	525.00	O.R.	505.28				119.72
Housing Research Special No. 1899	1,745.40							1,745.40
Floyd Naramore	3.59							3.59
Commodore Wakefield Research		10,000.00						10,000.00
Biology and Biological Engineering:								
American Cancer Society	5,770.86	9,045.00		6,567.79				8,248.07
American Cancer Society — Bear		5,400.00		5,365.63				34.37
American Cancer Society — Vallee	1,424.12			211.90				1,212.22
American Cancer Society — Fellowship Expense		1,500.00	Approp.	1,500.00				
American Cancer Society — Fitzgerald	30.00	400.00		21.78		408.22		
American Cancer Society — Hoch	215.82			165.82		50.00		
American Cancer Society — Beers		500.00		500.00				
American Cancer Society — Robertson		500.00		117.00		383.00		
American Cancer Society — Scott		5,000.00		2,982.75				2,017.25
American Cancer Society — Snell		500.00				500.00		
American Cancer Society — Spectro	4,690.50	14,772.20		13,871.03				5,591.67
Armour & Co. Research — Waugh		12,000.00		9,792.10		438.40		1,769.50
Baruch Comm. on Physical Medicine Fellowship								
Childrens' Medical Center	73.43	200.00		180.26				93.17
Jane Coffin Childs Memorial — Latta	159.79			136.04				23.75
Jane Coffin Childs Memorial — Lubin		5,687.50		5,064.26		500.00		123.24
Commonwealth		35,000.00		26,614.58				8,385.42

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES

SCHEDULE A-18 — (Continued)

	<i>Balance June 30, 1951</i>	<i>Gifts and Other Receipts</i>	<i>Transferred</i>	<i>Expense</i>	<i>Other Charges</i>	<i>Balance June 30, 1951</i>
Biology and Biological Engineering: (Continued)						
Conservation Foundation — Vallee.....	\$ 157.94	\$ 150.00 O.R.		\$ (147.17)		\$ 455.11
Corn Industries Research Found.....	3,588.58			145.70		3,442.88
Electron Microscope Research.....	214.43			214.43		
Enzymology Research.....				2,777.02	\$(2,777.02)	
Ethicon Sutures Laboratories.....	1,530.36	5,000.00		2,944.60	240.00	3,345.76
Gillette Safety Razor Co.....	150.00					150.00
Illuminating Engineering Soc. Research.....	804.18				804.18	
Kettering Foundation — Vallee.....	4,991.00	10,355.00		11,889.56		2,556.44
Charles A. and Marjorie King Fund.....	11,222.89	10,000.00		6,872.41		14,350.48
Lilly P.I. Fund.....	7,871.51	9,000.00		7,789.28		9,082.23
Mass. General Hospital.....		1,000.00		743.97		256.03
National Dairy Products — Waugh.....	1,924.52		\$(13,304.63)	15,037.15	192.00	
National Public Health — Hoch.....	20.76			20.76		
National Public Health — Lubin.....	22.69			22.69		
National Research Council — Vallee.....	2,769.98		1,500.00	1,266.46		3.52
National Research Council — Vallee 1951-52.....		4,500.00	(1,500.00)	5,926.45		73.55
Pepsodent Keratin Research — Bear.....	1,142.11			631.53		510.58
Retina Foundation.....	84.39			48.81		35.58
Rockefeller Fund for Biological Eng.....	12,005.89	{ 29,645.27 32.08 O.R. }		36,800.26	312.00	4,570.98
S. E. L. Maduro and Sons, Inc.....	10,000.00			3,831.47		6,168.53
Sloan Kettering Institute.....	1,500.00	25.00		1,500.00		25.00

					GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES					
Building Engineering and Construction:										
National Lime Association.....	1,335.03	7,000.00	6,044.70	780.00	1,510.33					
Plastic Materials Manufacturing Assoc.....	3,545.84	{ 19,250.00 } 201.50	19,861.61	795.00	2,340.73					
Revere Building Material Research.....	8,043.28	10,000.00	8,957.38	480.00	9,505.90					
Howard Raymond Staley Memorial.....	.....	1,200.50	71.84	.....	1,182.39					
Ross Francis Tucker Memorial Fund.....	53.73	.....	.....	.....	.....	
Business and Engineering Administration:										
Lemuel R. Boulware Fund.....	17.53	.....	14.67	.....	2.86					
Alvin Brown Fund.....	11.13	.....	.....	.....	11.13					
H. W. Christopher.....	200.00	.....	.....	.....	200.00					
Donald B. Gillies.....	.....	500.00	.....	.....	500.00					
Dennison Mfg. Co.....	.....	1,000.00	713.33	.....	286.67					
R. E. Gilmor.....	271.35	200.00	288.66	.....	182.69					
Theodore H. Kreuger.....	.....	500.00	4.55	.....	495.45					
Newman M. Marsilius Fund.....	297.06	1,000.00	1,240.54	.....	56.52					
Earl Newson.....	8.09	.....	.....	.....	8.09					
Sloan Book Account.....	98.32	.....	.....	.....	98.32					
Sloan Sponsored Fellowship, Operating.....	3,702.86	75,000.00	64,387.52	11,200.00	3,115.34					
Sloan Sponsored Fellowship, Special.....	949.65	.....	227.52	.....	722.13					
Sloan Sponsored Fellowship, Research.....	2,375.54	.....	.....	.....	2,375.54					
Special Appro. No. 1850.....	454.47	.....	.....	.....	454.47					
Howard D. Williams Fund.....	.....	500.00	500.00	.....	.....			
Chemical Engineering:										
Allied Chemical & Dye Corp. Fellowship.....	421.38	.....	.....	.....	421.38					
American Cyanamid Co. Fellowship.....	986.20	2,000.00	1,200.00	800.00	986.20					
Bituminous Coal Research.....	10,557.35	3,000.00	5,665.69	.....	7,891.66					
Boiling Liquids — McAdams.....	.....	.....	490.22	509.78	.....				
Catalyst Revivification.....	.....	.....	2,565.00	.....	600.00					
R. S. Crawford Fellowship.....	2.68	.....	2.68	.....	.....			
Dow Chemical Company Fellowship.....	2,992.23	.....	2,019.90	800.00	172.33					

REPORT OF THE TREASURER

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES

SCHEDULE A-18 — (Continued)

	Balance		Gifts and		Transferred	Expense	Other	Balance
	June 30, 1951	Other Receipts	June 30, 1951	Other Receipts				
Chemical Engineering: (Continued)								
du Pont Fellowship.....	\$ 2,266.13	\$ 3,300.00				\$ 2,995.86	\$ 1,200.00	\$ 1,310.27
Eastman Kodak Fellowship.....		2,000.00				1,200.00	800.00	
Fuels Research.....	897.58					914.59	(17.01)	
General Motors Fellowship.....	400.00	3,000.00				1,800.00	800.00	800.00
Gottesman Foundation.....	4,502.35							4,502.35
Humble Oil & Refining Co. Fellowship.....		1,900.00				1,100.00	800.00	
S. C. Johnson & Son Colloid Chemistry Fellowship.....	52.50							52.50
Kimberley Clark Corp. Fellowship.....		4,000.00				1,200.00	600.00	2,200.00
Thomas Midgley, Jr. Fellowship.....	1,597.00							1,597.00
Pan American Refining Corp. Fellowship.....	2,000.00	2,300.00				1,800.00	800.00	1,700.00
Procter & Gamble Fellowship.....	4,234.08	3,100.00				2,644.86	1,000.00	3,689.22
Pittsburgh Consolidation Coal Co. Fellowships.....	3,975.57	3,100.00				1,936.12	600.00	5,439.45
Standard Oil of Indiana Fellowship.....	2,422.39	2,000.00				1,997.26	400.00	2,115.13
Standard Oil Co. Fellowship — Lewis.....	33.89							33.89
Standard Oil Development Co. Research.....	5,930.46	14,935.75 O.R.				9,930.88	360.00	8,775.33
Special Research No. 1421.....	1,988.40							1,988.40
William H. Walker Room.....		1,800.00						1,800.00
Visking Corporation Fellowship.....		2,500.00						2,500.00
Thermal Conductivity.....					\$ (500.00)	200.53		299.47
Chemistry:								
Allied Chemical & Dye Corp. Fellowship.....		2,000.00				1,200.00	800.00	
American Academy of Arts and Sciences.....	546.08					(625.00)		1,171.08
American Heart Association — Buchi.....						264.32	(264.32)	
American Society of Mech. Engineers.....	3,349.91	4,000.00				2,602.27		4,747.64
Abbott Laboratories.....	452.02							452.02
American Chicle Co. Fellowship.....	754.75	4,000.00				3,210.79	1,080.00	463.96

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES 165

Bristol Laboratories Research.....	831.92	13,685.00	7,914.75	1,200.00	5,402.17
Cuban Sugar Associates.....	.....	25,000.00	8,627.99	720.00	15,652.01
du Pont Fellowship.....	5,866.20	8,600.00	12,126.57	800.00	1,539.63
du Pont Peroxide Research.....	1,995.09	.....	57.88	.....	1,037.21
du Pont Fundamental Research.....	2,450.16	10,000.00	9,232.54	655.00	2,562.62
Eastman Kodak Fellowship.....	.....	2,274.00	.....	.....	2,274.00
General Motors Special — Morton.....	330.76	7,638.75 O.R.	7,251.32	.....	718.19
Harshaw Chemistry Fund.....	2,165.10	.....	.....	400.00	1,765.10
Journal Meetings.....	815.20	380.50 O.R.	140.81	.....	1,054.89
Kettering Foundation.....	4,983.20	18,000.00	15,630.58	600.00	6,752.62
Linde Air Products Research.....	395.00	.....	275.00	120.00	.....
Lucidol Division Research.....	888.43	4,000.00	1,998.97	.....	2,889.46
Mallinckrodt Chemical Works.....	.....	2,000.00	1,337.03	405.00	257.97
Merck and Co. Research.....	.....	1,250.00	678.76	240.00	331.24
Owens-Illinois Glass Research.....	4,945.00	5,000.00	1,386.25	600.00	7,958.75
Physical Chemistry Royalties.....	4,205.68	148.20 O.R.	774.75	.....	3,579.13
Polymerization Research.....	620.25	.....	275.00	120.00	225.25
Rockefeller Research Grant 45107.....	2,831.91	18,443.41	10,607.85	480.00	10,187.47
Research Corp. — Amdur.....	3,159.53	.....	2,085.16	.....	1,074.37
Research Corp. — Buchi.....	.....	5,000.00	1,359.37	.....	3,640.63
Research Corp. Morton Fund.....	3,869.24	.....	.....	.....	3,869.24
Research Corp. Vitamins A and D Research.....	2,344.63	10,230.00	11,983.18	.....	591.45
Research Special 2391 — Beattie.....	9,621.23	.....	5,086.88	480.00	4,054.35
Riker Laboratories, Inc.....	886.71	700.00	986.71	600.00	.....
Sharp and Dohme, Inc.....	603.80	3,600.00	3,161.88	.....	1,041.92

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES

SCHEDULE A-18 —(Continued)

	Balance June 30, 1951	Gifts and Other Receipts	Transferred	Expense	Other Charges	Balance June 30, 1952
Chemistry: (Continued)						
Sugar Research — Heidt.....	\$ 1,562.45	\$ 4,000.00	.....	\$ 4,612.69	\$ 949.76	.....
Swift Amino Acid Fund.....	5,490.98	.....	.....	4,027.21	840.00	\$ 623.77
Swift Protein Research.....	301.78	.....	.....	181.78	120.00	.....
U. S. Rubber Co. Fellowship.....	337.84	2,800.00	.....	1,419.39	475.00	1,243.45
Civil Engineering:						
Calgon, Inc., Research.....	.....	3,500.00	.....	1,803.83	.....	1,696.17
Freeman Hydraulic Research.....	800.00	.....	.....	18.33	.....	781.67
International Soc. of Soil Mechanics.....	655.49	1,116.49	.....	809.48	.....	962.50
Photogrammetry Laboratory.....	1,840.54	.....	.....	200.98	.....	1,639.56
Public Works Highway.....	29,932.80	.....	.....	12,752.27	300.00	16,880.53
Soil Stabilization — Lamb.....	.....	{ 17,000.00	.....	482.47	.....	17,000.00
		{ 482.47 Approp. }				
Structural Laboratory Donations.....	450.46	.....	.....	150.00	.....	300.46
Summer Camp Construction Reserve.....	142.99	151.58 O.R.	.....	.....	.....	294.57
Truck Account.....	317.42	481.01 O.R.	.....	131.33	.....	667.10
Welding Research.....	2,044.03	.....	.....	834.55	.....	1,209.48
Economics:						
Carnegie Corporation.....	.....	.....	(3,000.00)	.....	.....	3,000.00
Faculty Research Fellowship.....	.....	3,350.00	.....	2,630.73	.....	719.27

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES 167

Foundation for World Government.....	4,164.87	.....	.....	3,777.99	.....	386.88
International Relations Publications.....	.....	1,255.49 O.R.	(2,976.10)	588.64	.....	3,642.95
Map Project.....	7,149.55	542.36 O.R.	.....	47.91	.....	7,644.00
Rockefeller Foundation Grant 45082.....	2,976.10	.....	2,976.10	.....	.....	.....
Overseas Study Fund.....	1,332.67	10,200.00	.....	5,854.43	.....	5,678.24
Electrical Engineering:						
Acoustics — Teaching Support.....	172.05	232.64 Approp.	.....	404.69	.....	.....
American Cancer Society Special Trump.....	827.61	20,000.00	.....	14,379.98	.....	6,447.63
American Philosophical Society — Kopal.....	425.34	.....	.....	425.34	.....	.....
Army Officers Aid.....	2,320.10	.....	.....	.....	.....	2,320.10
Balsbaugh Research.....	53.96	2,000.00	.....	1,095.66	.....	958.30
Baruch-Lang Loudspeaker.....	.....	.....	(1,000.00)	869.68	.....	130.32
Celotex Corp. Fellowship.....	16.69	.....	.....	15.05	.....	1.64
Course Revision Special No. 1250.....	449.61	80.80 O.R.	.....	130.89	.....	399.52
Damon Runyon Memorial — Trump.....	.....	20,000.00	.....	444.10	.....	19,555.90
Differential Analyzer.....	3,594.59	6,353.99	.....	2,103.93	.....	7,754.65
du Pont Fellowship.....	800.00	.....	.....	.....	.....	800.00
Edgerton Film Research.....	576.14	{ 2,000.00 500.00 O.R. }	.....	1,327.41	.....	1,748.73
Hyams Radiation Research.....	8,718.42	9,121.60 O.R.	.....	13,503.87	.....	4,336.15
Int. Tel. & Tel. Research.....	865.70	.....	.....	88.20	.....	777.50
Lab. of Insulation Research — von Hippel.....	.....	.....	(7,890.00)	822.58	.....	7,067.42

REPORT OF THE TREASURER

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES

SCHEDULE A-18 — (Continued)

	Balance June 30, 1951	Gifts and Other Receipts	Transferred	Expense	Other Charges	Balance June 30, 1952
Network Analyzer.....	\$15,434.14	\$ 4,583.14 O.R.	.....	\$ 9,349.07	\$ 479.29	\$10,188.92
Radio Research Spec. 1550.....	1,724.15	.....	.....	1,668.50	.....	55.65
Rapid Selection Research.....	6,981.62	.....	\$ 6,981.62	.....	.....	.....
Research Corp. Arithmetical Mach. Spec.....	412.97	.....	412.97	.....	.....	.....
Rockefeller Foundation — Bar Hillel.....	.....	8,600.00	.....	2,660.58	.....	5,939.42
S.C.A.P. Film — Hazen.....	187.46	886.97	.....	1,074.43	.....	.....
Servomechanism Laboratory — Lathe.....	7,350.00	.....	(543.25)	7,893.25	.....	.....
Servo Research Special.....	4,555.70	.....	.....	1,865.37	.....	2,690.33
Servos Special-Brown.....	7,796.83	.....	(456.59)	6,625.53	.....	1,627.89
Switching Circuits Research.....	.....	.....	(7,394.59)	143.22	.....	7,251.37
English and History:						
American Iron and Steel Institute.....	363.51	4,095.31	.....	2,198.82	.....	2,260.00
Carnegie Corporation.....	.....	.....	(14,000.00)	9,958.34	.....	4,041.66
Roosevelt Spec. 2356.....	631.73	.....	.....	336.35	295.38	.....
Roosevelt Project Expense.....	.....	223.51	.....	253.44	(29.93)	.....
Food Technology:						
Bruce's Juices Inc. Fellowship.....	1,850.00	.....	.....	.....	.....	1,850.00
Campbell Special.....	1,193.26	{ 1,640.00 2,084.35 O.R. }	.....	1,689.36	.....	3,228.25

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES 169

Fat Research Fund.....	8,850.00	669.22	8,058.26	122.52
Food Research.....	201.50 O.R.	(58,359.32)	58,080.82	.....
Hoffman La Roche Fund.....	2,442.62	.....	1,350.00	1,092.62
Joe Lowe Corp. Research.....	1,237.95	.....	.....	1,237.95
Moore, Emma B., Ration Research, Proctor.....	408.60	.....	202.01	206.59
Moore, Emma B., Ration Research, Harris.....	27.56	.....	.....	27.56
Nutrition Research.....	2,386.37	1,660.08	746.82	4,783.97
Samuel C. Prescott.....	1,350.00	.....	.....	1,350.00
Procter and Gamble Research.....	.....	(1,492.43)	4,852.43	.....
Quaker Nutrition Fund.....	1,006.44	.....	8,487.79	1,063.65
Royalties Receipts Pat. 665135.....	140.41	.....	.....	140.41
Shortening Institute — Harris.....	1,776.05	.....	9,095.78	2,680.27
Tufts Dental.....	565.05	(453.54)	3,518.59	.....
United Fruit Fund.....	1,030.29	383.33)	1,413.62	.....
United Fruit Co. — Antibiotics.....	.....	.....	.....	4,500.00
Geology and Geophysics:				
American Petroleum Institute Fund.....	1,414.13	.....	12,070.17	343.96
Carnegie Corp. — Ahrens.....	.....	.....	4,250.00	.....
Nova Scotia Coal Research.....	2,500.00	.....	1,950.00	3,050.00
Owens Illinois Glass Co. Fellowship.....	138.10	.....	138.10	.....
Rocketteller — Buerger.....	274.89	.....	4,695.25	304.75
Seismic Record Analysis Prog. — Hurley.....	.....	(13,000.00)	3,042.53	9,957.47
Texas Instruments Geophysical Service, Inc.....	.....	.....	.....	2,000.00

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES
SCHEDULE A-18 — (Continued)

	<i>Balance June 30, 1951</i>	<i>Gifts and Other Receipts</i>	<i>Transferred</i>	<i>Expense</i>	<i>Other Charges</i>	<i>Balance June 30, 1952</i>
Graphics:						
National Research Council Grant.....	\$ 180.01					\$ 180.01
Industrial Relations:						
Social Science Research — Myers.....	1,900.00	\$ 1,500.00	\$ 34.67	\$ 3,365.33		
Mathematics:						
Applied Mathematics Program.....	5,667.35			1,900.00	\$ 1,531.00	2,236.35
Geophone Responses — Wadsworth.....	2,500.00			2,426.02		73.98
Journal of Mathematics and Physics.....	6,206.09	5,184.45 O.R.		5,047.42		6,343.12
Special Appro. No. 2260.....	3,158.51			865.55		2,292.96
Putnam Fund.....	293.35	100.00				393.35
Rockefeller Fund 47009.....	2,754.54	2,745.46		4,500.00		1,000.00
Mechanical Engineering:						
A. S. M. E. Research.....	3,299.88	2,100.00		4,842.18		557.70
A. S. R. E. Research.....	790.82					790.82
Allegheny Ludlum.....			(5,000.00)	2,995.15		2,004.85
American Soc. of Tool Engineering.....	317.50					317.50
Bryant Chucking Grinder Co.....	6,310.21	10,000.00		9,682.94		6,627.27
Carborundum Company.....		5,000.00		2,126.34		2,873.66
Cavitation Research.....	316.16			20.89		295.27
Chicopee Fellowship.....						
Clark Thread Fellowship.....	6,378.92	5,400.00		3,100.00	2,400.00	6,278.92
Corning Glass Works — Hrones.....		5,000.00		58.41		4,941.59
deForest Research Special 1254.....	1,517.26			933.22		584.04
Detonation Research 2435.....	2,137.24		(2,207.70)	844.65		3,500.29

REPORT OF THE TREASURER

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES 171

Ethyl Corporation.....	.....	.....	.....	1,477.63	800.00	322.37
Electrolux Research.....	.....	2,600.00	.....	2,348.57	.....	2,651.43
du Pont Predoctoral Fellowship.....	3,014.77	5,000.00	.....	1,535.21	300.00	3,779.56
Dynamics Special 2319.....	1,835.93	2,600.00	.....	.....	.....	1,835.93
Fatigue & Fracture of Metals Conference.....	343.36	.....	.....	31.80	.....	311.56
Fatigue Lab. Special No. 2224.....	108.96	.....	.....	.....	.....	108.96
Flower Fund.....	78.00	.....	.....	17.83	.....	60.17
Gas Turbine Building and Equipment.....	1,902.79	.....	.....	322.72	1,580.07	.....
Heat Measurements Lab.....	.....	1,000.00	.....	.....	.....	1,000.00
Kennecott Copper Corporation — Burwell.....	1,868.92	.....	.....	1,868.92	.....	.....
Lab. Rev. Special No. 2095.....	1,667.59	293.50 O.R.	.....	.....	.....	1,961.09
Low Temperature Research.....	297.10	805.35 O.R.	.....	591.93	.....	510.32
Lubrication Research — Burwell.....	1,090.14	.....	.....	1,090.14	.....	.....
Machine Tool Lab. Spec. No. 2201.....	5,243.53	.....	.....	3,848.27	.....	1,395.26
Magnaflux Research Fund.....	652.64	.....	.....	627.08	.....	25.56
Mechanical Design Prize.....	.....	50.00	.....	50.00	.....	.....
Mechanics of Materials Spec. No. 2041.....	5,914.62	.....	.....	1,640.11	.....	4,274.51
N. E. Textile Foundation Fellowship.....	.....	3,600.00	.....	1,000.00	800.00	1,800.00
Photographic Study No. 2466.....	501.42	.....	.....	89.69	.....	411.73
Proprietors Locks and Canals.....	817.07	.....	.....	.....	.....	817.07
S. Slater & Sons, Inc. Fund.....	192.71	.....	.....	.....	.....	192.71
Shell Fellowship.....	1,978.75	2,000.00	.....	1,490.01	800.00	788.74
Shell Research.....	4,240.04	5,300.00	.....	5,999.58	.....	3,540.46
Shop Maintenance Account.....	8,111.63	161.00 O.R.	.....	3,329.91	.....	4,942.72
Sloan Engine Control Research.....	2,207.70	.....	2,207.70	.....	.....	.....
Special Appro. No. 2176.....	590.05	.....	.....	279.27	.....	310.78
Supersonic Vortex Research.....	4,565.85	.....	.....	4,512.52	.....	53.33
Testing Materials Lab. Special.....	945.13	.....	.....	.....	.....	945.13
Tetron Fellowship.....	500.00	.....	.....	.....	.....	500.00

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES

SCHEDULE A-18—(Continued)

	Balance		Gifts and		Transferred	Expense	Other Charges	Balance June 30, 1952
	June 30, 1951	June 30, 1951	Other Receipts	Transferred				
Mechanical Engineering (Continued):								
Textile Foundation Research.....	\$ 1,617.17					\$ 135.10		\$ 1,482.07
Special Appro. 2169A.....	3,935.93					2,998.09		937.84
Thermodynamic Research.....	623.66	\$ 1,000.00				751.50		872.16
United Shoe Machinery — Shaw.....	1,002.30	5,000.00				4,440.29		1,562.01
Visking Corporation Fellowship.....	2,500.00					1,670.78	\$ 800.00	29.22
Wear Conference.....	358.67					154.63		204.04
George Westinghouse Professorship.....	7,441.50	15,000.00				12,510.78		9,930.72
Metallurgy:								
Allegheny Ludlum.....					\$ (10,000.00)	2,542.59		7,457.41
Alloy Casting Institute — Taylor.....	921.31	8,000.00				8,542.09		379.22
Aluminum Co. of America.....	768.74				(24,000.00)	18,673.34	3,085.00	3,010.40
American Brake Shoe Fellowship.....	2,737.46	3,000.00				3,546.73	1,120.00	1,070.73
American Brake Shoe — Operating.....	6,995.30	10,000.00				8,413.75	1,320.00	7,261.55
American Foundrymen's Society.....	2,669.92	5,000.00				4,806.39		2,863.53
American Smelting & Ref. Co. Grad. Fellowship.....	8,000.00				(178.43)	6,878.43	1,300.00	
American Smelting & Ref. Co. Undergrad. Fell.....	212.25	1,000.00					1,000.00	212.25
Armour Dry Cyaniding.....	4,815.58				(203.88)	3,899.46	1,120.00	
Armour Flotation Research — Gaudin.....	14,435.36	15,000.00			203.88	7,822.66		21,408.82
Chipman Research Special 1337.....	8,854.94	9,211.15			348.44	5,640.53	240.00	11,837.12
Clay Research.....	237.83							237.83
Climax Molybdenum Company.....	4,999.48	5,000.00				6,450.98	800.00	2,748.50
Commonwealth — Owen.....		500.00			(40.39)	540.39		
Corrosion Research.....	1,596.27				(1,000.00)	1,242.65		1,353.62
Engineering Foundation — Cohen.....	80.00	2,500.00				1,397.00		1,183.00

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES 173

Metallurgy (Continued):							
Engineering Foundation Welding Res.....	755.54	.....	544.81	.....	210.73	.....	.....
Equipment Spec. No. 1234.....	2,600.44	4,427.94	909.08	.....	6,119.30	.....	.....
Equipment Special No. 1259.....	2,256.70	(170.01)	2,426.71	.....	.....	.....	.....
Foundry Educational Foundation — Scholarship.....	2,049.69	5,000.00	1,420.56	4,300.00	1,329.13	.....	.....
Hewi-Duty Electric Co. Research.....	.....	3,625.00	.....	.....	3,625.00	.....	.....
International Harvester Fellowship.....	2,325.33	3,500.00	3,952.04	800.00	1,973.29	.....	.....
Modernization of Processing Laboratory.....	2,415.49	.....	.....	.....	2,415.49	.....	.....
National Lead Fellowship.....	600.00	1,800.00	2,434.51	(34.51)	.....	.....	.....
Republic Steel Corp. Fund.....	6,439.81	.....	4,581.94	1,195.00	662.87	.....	.....
Research Corporation — Schuhmann.....	12.47	.....	12.47	.....	.....	.....	.....
Research Corporation — Uhlig.....	84.04	.....	84.04	.....	.....	.....	.....
Shell Research.....	4,261.29	5,000.00	5,588.65	.....	3,672.64	.....	.....
Steel Founders Society — Arc Furnace.....	246.39	.....	.....	246.39	.....	.....	.....
Steel Founders Society — Scholarship.....	200.00	.....	.....	200.00	.....	.....	.....
Taylor Research.....	1,092.64	18,650.00	14,312.08	(446.39)	5,876.95	.....	.....
Timken Roller Bearing Research.....	3,736.28	10,000.00	8,553.57	.....	3,687.71	.....	.....
Titanium Co. Fund.....	.....	2,250.00	11.51	155.54	2,042.56	.....	.....
Union Carbide and Carbon Fellowship.....	458.62	2,100.00	1,402.00	920.00	236.62	.....	.....
Vanadium Corp. Fund.....	624.24	2,500.00	1,903.07	600.00	621.17	.....	.....
Weirton Steel Co.....	.....	.....	4.52	(4.52)	.....	.....	.....
Wellman, S. K. Fund.....	87.65	.....	78.28	.....	9.37	.....	.....
Wyman Gordon Co. Fellowship.....	.....	2,500.00	19.80	.....	2,480.20	.....	.....

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES

SCHEDULE A-18 — (Continued)

	Balance June 30, 1951	Gifts and Other Receipts	Transferred	Expense	Other Charges	Balance June 30, 1952
Meteorology:						
American Meteorological Society.....	\$ 1,217.00	.....	.....	\$ 1,217.00	.....	.....
Weather Bureau Research.....	.....	\$27,000.00 O.R.	.....	25,558.40	\$ 1,441.60	.....
Military Science:						
Freshman Equipment Account.....	6,135.48	.....	.....	.....	4,746.69	\$ 1,388.79
Senior Uniform — Air Force.....	96.63	9,468.00 O.R.	.....	.....	9,564.63	.....
Senior Uniform — Army.....	.....	20,513.49 O.R.	.....	.....	19,989.04	524.45
Modern Languages:						
Carnegie S.A.L. — Locke.....	7,747.54	62.00 O.R.	\$ (164.21)	7,973.75	.....	.....
Carnegie S.A.L. — Perry.....	15,101.22	.....	164.21	4,971.72	.....	9,965.29
Naval Architecture:						
American Bureau of Shipping Scholarship.....	1,000.00	.....	.....	.....	1,000.00	.....
Lima Hamilton Corp. Research.....	1,627.02	.....	.....	.....	.....	1,627.02
Propeller Tunnel Special No. 1548A.....	2,480.66	420.00 O.R.	.....	190.07	.....	2,710.59
Ship Model Towing Tank.....	.....	3,000.00	.....	.....	.....	3,535.00
Special Fund (Anonymous).....	162.02	535.00 O.R.	.....	256.85	.....	.....
		256.85 Approp.	.....	635.10	.....	697.62
		1,170.70	.....	.....	.....	.....
Physics:						
Armstrong Cork Co. Fellowship.....	395.49	.....	.....	.....	.....	395.49
Cabot Carbon Black.....	3,670.00	.....	.....	1,800.00	.....	1,870.00
Cabot X-Ray Fund.....	178.75	.....	.....	.....	.....	178.75
Crystal Research.....	1,386.72	.....	.....	1.35	.....	1,385.37

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES 175

du Pont Fellowship.....	2,600.00	.....	.....	.....	.....	.....	2,600.00
Eastman Kodak Fellowship.....	2,000.00	.....	.....	.....	.....	800.00	.....
Gulf Oil Corp. Fellowship.....	.....	3,000.00	.....	.....	.....	800.00	1,500.00
Harshaw-Stockbarger.....	4,572.06	4,000.00	.....	.....	.....	5,674.51	2,897.55
Jewett, Frank B. Fellowship.....	295.37	.....	.....	.....	.....	161.00	134.37
Nuclear Research.....	8,882.22	.....	.....	.....	.....	.....	8,882.22
Radioactivity Center.....	42,288.11	71.01 O.R.	.....	.....	.....	.....	41,311.60
Shell Fellowship.....	300.00	2,300.00	.....	.....	.....	.....	600.00
Shell Research.....	4,795.00	5,000.00	.....	.....	.....	3,304.50	6,420.50
Special Appro. No. 2047.....	3,709.40	.....	.....	.....	.....	78.00	3,631.40
Zeeman Effect Program Special 1755.....	466.65	.....	.....	.....	.....	.....	466.65
Acoustics:							
Acoustics Lab. Special No. 2115.....	19.84	35.00 O.R.	.....	(500.00)	.....	540.04	14.80
Acoustics Material Association Fellow.....	3,400.00	.....	.....	.....	.....	1,871.42	728.58
Acoustics Medical Project No. 2412.....	1,043.04	.....	.....	.....	.....	1,043.04	.....
Acoustics — Pittsburgh Plate Glass — Meuller.....	795.34	.....	.....	.....	.....	665.34	.....
Acoustics — Physics Teaching Support.....	12.54	200.00 Approp.	.....	.....	.....	212.54	.....
Acoustics — Damon Runyon.....	4,650.00	.....	.....	.....	.....	4,592.79	57.21
Solar Energy Research:							
Solar Energy — Chemical Engineering.....	.....	.....	.....	(1,637.38)	.....	1,637.38	.....
Solar Energy — Chemistry.....	.....	.....	.....	(4,972.37)	.....	4,252.37	.....
Solar Energy — Chemistry — Buchi.....	.....	.....	.....	(247.33)	.....	247.33	.....
Solar Energy — Heating.....	.....	.....	.....	(3,302.67)	.....	3,302.67	.....
Solar Energy — Mechanical Engineering.....	.....	.....	.....	(2,250.00)	.....	2,250.00	.....
Solar Energy — Metallurgy.....	.....	33.00 O.R.	.....	(5,401.33)	.....	5,443.33	.....

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES

SCHEDULE A-18 — (Continued)

	Balance June 30, 1951	Gifts and Other Receipts	Transferred	Expense	Other Charges	Balance June 30, 1952
Spectroscopy:						
Spectroscopy Lab. Special.....	\$ 120.86	.....	.....	.....	.....	.....
Spectroscopy — Scott.....	897.37	.....	(2.64) \$	420.01 \$	390.00	120.86
Spectroscopy Research.....	8,430.35	.....	2.64	103.51	.....	8,324.20
Spectroscopy Special.....	6,028.56 \$	113.70 O.R.	.....	336.83	.....	5,895.43
	\$829,806.39	\$857,406.01	\$(207,235.20)	\$1,055,922.02	\$188,736.52	\$808,345.84
		155,479.11 O.R.				
		3,077.67 Approp.				

Other Accounts

Industrial Grants:						
Allegheny Ludlum Steel Corporation.....	.....	15,000.00	.....	.....	.....	.....
Aluminum Co. of America.....	25,000.00	25,000.00	.....	.....	.....	25,000.00
American Can Company.....	.....	10,000.00	.....	.....	.....	.....
Anaconda Copper Mining Co.....	.....	20,000.00	.....	20,000.00	.....	.....
Armco Steel Corporation.....	.....	20,000.00	.....	20,000.00	.....	.....
Atlantic Refining Company.....	.....	40,000.00	20,000.00	20,000.00	.....	.....
California Research Corp.....	50,000.00	50,000.00	.....	50,000.00	.....	50,000.00
Cities Service Res. & Development.....	.....	50,000.00	.....	50,000.00	.....	.....
Combustion Engineering Superheater, Inc.....	.....	10,000.00	.....	10,000.00	.....	.....
Continental Can Company.....	.....	10,000.00	10,000.00	.....	.....	.....
Continental Motors Corporation.....	.....	10,000.00	.....	10,000.00	.....	.....
Anonymous C-G.....	10,000.00	.....	.....	10,000.00	.....	.....
Anonymous D.A.....	10,000.00	.....	.....	10,000.00	.....	.....
Dow Chemical Company.....	.....	25,000.00	.....	25,000.00	.....	.....
Draper Corporation.....	30,000.00	.....	.....	10,000.00	.....	20,000.00

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES

Allen B. Du Mont Laboratories, Inc.....	.....	10,000.00	.....	.....	.....
Electrolux Corporation.....	.....	10,000.00	.....	.....	.....
General Motors Corporation.....	50,000.00	50,000.00	.....	.....	50,000.00
The Gillette Company.....	.....	20,000.00	10,000.00	.....	.....
Gulf Research Development Company.....	.....	10,000.00	.....	.....	.....
Anonymous H-O.....	.....	50,000.00	19,665.00	.....	.....
John Hancock Mutual Life Insurance Co.....	.....	40,000.00	20,000.00	.....	.....
Liquid Carbonic Corp.....	10,000.00	10,000.00	.....	.....	10,000.00
Hercules Powder Company.....	.....	15,000.00	.....	.....	.....
Phelps-Dodge Corp.....	30,000.00	.....	.....	.....	20,000.00
Saco-Lowell Shops, Inc.....	.....	10,000.00	.....	.....	.....
Anonymous M.C.....	.....	10,000.00	.....	.....	.....
Sperry Gyroscope Co.....	.....	30,000.00	15,000.00	.....	15,000.00
A. O. Smith Corporation.....	.....	10,000.00	.....	.....	.....
National Dairy Research Lab., Inc.....	12,000.00	5,000.00	13,304.63	.....	3,695.37
North American Aviation.....	.....	10,000.00	.....	.....	.....
Standard Oil Co. (Indiana).....	100,000.00	50,000.00	150,000.00	.....	.....
Anonymous S-O.....	50,000.00	50,000.00	.....	.....	50,000.00
Anonymous S-R.....	15,000.00	.....	.....	.....	5,000.00
Texas Company.....	103,567.90	75,000.00	.....	344.30	103,223.60
Anonymous S-E.....	.....	10,000.00	7,890.00	.....	2,110.00
Anonymous U-C.....	.....	20,000.00	.....	.....	.....
United States Steel Corp.....	90,000.00	.....	.....	.....	60,000.00
Sylvania Electric Products, Inc.....	.....	10,000.00	.....	.....	.....
Anonymous U-O.....	.....	20,000.00	.....	.....	.....

REPORT OF THE TREASURER

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES

	SCHEDULE A-18 — (Continued)					
	Balance June 30, 1951	Other Receipts Gifts and	Transferred	Expense	Other Charges	Balance June 30, 1952
<i>Other Accounts (Continued):</i>						
<i>Industrial Grants: (Continued)</i>						
Stone and Webster Engineering Corp.	\$	\$ 10,000.00	.....	\$ 9,000.00	\$ 211.00	\$ 789.00
Anonymous (J. S.)	.....	15,000.00	.....	15,000.00	.....	.....
Socony Vacuum Oil Company	.....	100,000.00	\$ 50,000.00	50,000.00	.....	.....
Raytheon Manufacturing Company	.....	20,000.00	.....	10,000.00	.....	10,000.00
Pittsburgh Plate Glass Company	.....	25,000.00	.....	.....	.....	25,000.00
Olin Industries, Inc.	.....	50,000.00	.....	50,000.00	.....	.....
The Mead Corporation	.....	20,000.00	.....	20,000.00	.....	.....
National Aluminate Corporation	.....	10,000.00	.....	10,000.00	.....	.....
International Nickel Company	.....	50,000.00	.....	10,000.00	.....	40,000.00
	\$85,567.90	\$1,110,000.00	\$365,859.63	\$839,335.00	\$ 555.30	\$489,817.97
Library:						
American Chemical Society Library Fellowship	534.50	.....	.....	405.57	.....	128.93
Biology Library	2,309.79	.....	.....	1,124.58	.....	1,185.21
Carnegie S. A. L. Center	1,558.74	.....	.....	7,774.68	.....	3,784.06
Clark Collection	619.37	.....	.....	518.15	101.22	.....
Crafts Library	364.34	475.00	.....	124.52	.....	714.82
German Chemical Documents	223.37	.....	.....	.....	.....	223.37
Library Growth	3,356.51	.....	.....	192.15	.....	3,164.36
Otto Lindberg — Tate	.....	1,000.00	.....	.....	.....	1,000.00
Special No. 1	5,857.75	1,361.98 O.R.	.....	.....	.....	7,219.73
Special No. 1853	226.29	.....	.....	137.57	.....	88.72
Special Appropriation No. 2240	76.97	.....	.....	18.79	.....	58.18
Walker Memorial Library	1,923.20	.....	(2,300.00)	1,754.05	.....	2,469.15
	\$ 27,050.83	\$ 1,475.00	\$ (2,300.00)	\$12,950.06	\$ 101.22	\$ 20,036.53
		\$ 1,361.98 O.R.				

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES 179

Research (other than those under Department Accounts):

All American Aviation, Inc., Richard C. du Pont						
Memorial.....	1,100.00					1,100.00
Bush Research Fund.....	215.00					215.00
General Radio Company Fund.....	2,000.00					2,000.00
National Institutes of Health.....	3,700.00			2,400.00		1,300.00
	\$ 3,315.00	\$ 3,700.00	\$ 3,700.00	\$ 2,400.00		\$ 4,615.00

Reserves:

Bemis Real Estate.....	7,735.84	465.44 O.R.				8,201.28
Division of Laboratory Supplies.....	21,775.08	5,688.28 O.R.				27,463.36
Medical Student Health.....	25,335.24	902.22 O.R.		352.50		25,884.96
Special War Reserve Fund.....	8,867.91					8,867.91
	\$ 63,714.07	\$ 7,055.94 O.R.		\$ 352.50		\$ 70,417.51

Plant Operations:

Biology Renovations.....	2,289.62					2,289.62
Building 4 Chemical Hood Alterations.....	5,030.24					5,030.24
Building 5 Special 2333.....	1,242.42					1,242.42
Building 10 Dome Study.....	500.00					500.00
Building 20 Painting.....	2,543.90			904.90		1,639.00
Demonstration Special 2351.....	2,484.88					2,484.88
Emergency Lighting System.....	15,486.30					15,486.30
Faculty Suites.....						
		(35,310.71)		35,310.71		

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES

SCHEDULE A-18 — (Continued)

<i>Other Accounts (Continued)</i>	<i>Balance June 30, 1951</i>	<i>Gifts and Other Receipts</i>	<i>Transferred</i>	<i>Expense</i>	<i>Other Charges June 30, 1952</i>	<i>Balance June 30, 1952</i>
Plant Operations: (Continued)						
Library Move.....	\$ 9,711.94	.....	.....	.....	\$ 9,711.94	.....
Loading Frames — Civil.....	5,930.80	.....	.....	\$ 1,190.70	.....	\$ 4,740.10
Modernization of Lighting.....	2,548.51	.....	.....	.....	2,548.51	.....
Fortis Jewett Moore Room Repairs.....	150.00	.....	.....	131.59	.....	18.41
Planting Expense.....	1,119.40	.....	.....	.....	1,119.40	.....
Renovations City Planning Headquarters.....	6.29	.....	\$ 6.29	.....	.....	.....
Reconditioning of Room 6-436.....	758.91	.....	.....	.....	.....	758.91
Space Changes 2296.....	1,159.69	.....	.....	.....	1,159.69	.....
Repairs to Elevator — Building 8.....	504.50	.....	.....	.....	504.50	.....
Telephone and Switchboard Alterations.....	.....	.....	.....	(861.87)	861.87	.....
	<u>\$ 51,467.40</u>	<u>.....</u>	<u>\$ (35,304.42)</u>	<u>\$ 36,676.03</u>	<u>\$ 40,454.49</u>	<u>\$ 9,641.30</u>
Student Aid:						
American Brake Shoe Co.....	.....	1,600.00	.....	.....	.....	1,600.00
Boston Stein Club Scholarship.....	.....	2,015.00	.....	1,061.00	.....	954.00
Clarke Foundation Scholarship.....	.....	2,000.00	.....	.....	.....	2,000.00
Dean's Fund Special.....	1,626.84†	12.95 O.R.	.....	350.00	.....	1,289.79†
Thomas C. Desmond Scholarship.....	.....	1,200.00	.....	.....	.....	1,200.00
Philip B. Downing.....	.....	295.00	.....	.....	.....	295.00
Eager Student Aid.....	50.00	.....	.....	.....	.....	50.00
Francis Morgan Frasher, Jr. Memorial.....	.....	800.00	.....	.....	800.00	.....
Graduate Student Fund.....	61.82	390.00	.....	150.00	.....	301.82
Haynes Student Aid.....	50.00	.....	.....	.....	.....	50.00

†Includes students' notes receivable.

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES 181

I. B. M. Fellowships.....	9,500.00	.....	2,100.00	150.00	7,250.00
Kasch Fellowship.....	180.00	.....	.....	.....	180.00
Knapp Memorial Scholarship.....	1,500.00	.....	.....	.....	1,500.00
William S. Knudsen Fellowship.....	2,500.00	.....	1,800.00	550.00	250.00
Thurman Lee.....	858.00	.....	.....	800.00	58.00
Arthur D. Little Fellowship.....	650.00	(7,500.00)	2,600.00	1,400.00	4,150.00
John R. Loofbourow Memorial.....	2,339.00	.....	.....	.....	2,339.00
Melvin Trust.....	11,200.00	.....	.....	13,162.00	11,425.00
National Assoc. of Engine and Boat Mfrs.....	1,200.00	.....	.....	.....	1,200.00
H. S. Rao Student Aid.....	.....	(2,000.00)	2,000.00	.....	.....
George Scher Scholarship.....	1,000.00	.....	.....	.....	1,000.00
Science Teachers' Fellowships.....	3,368.75	.....	13,250.00	2,350.00	268.75
Teagle Foundation.....	926.00	.....	.....	16,300.00	926.00
Undergraduate Scholarship Award.....	1,750.00	.....	3,180.00	3,720.00	1,455.00
Herman E. Wehmiller.....	702.40	.....	.....	.....	702.40
Granger Whitney.....	13.50	.....	.....	200.00	213.50

\$ 24,724.31 \$72,344.00 Gifts
 12.95 O.R.

\$ (9,500.00) \$26,491.00 \$ 39,432.00 \$ 40,658.26

Miscellaneous:

Alumni Register.....	452.24	.....	.....	.....	519.24
Westgate Survey.....	2,000.00	(361.40)	2,361.40	.....	.....
Boat House Equipment.....	10.08	.....	.....	.....	10.08
Building Key Account.....	4,923.00	.....	(542.00)	.....	5,465.00
Chairman's Fund.....	423.86	(1,000.00)	1,255.72	.....	168.14
Carnegie Corporation — Burchard.....	3,725.11	(5,274.89)	2,248.34	.....	6,751.66
Carnegie S. A. L. — Hill.....	1,264.15	.....	.....	.....	1,264.15
Corporation K Fund.....	69.17	.....	.....	.....	69.17
Corporation Flower Fund.....	447.08	.....	15.00	.....	432.08
Dean Baker.....	637.88	.....	489.23	.....	446.15
Faculty Flower Fund.....	364.41	.....	75.00	.....	289.41

REPORT OF THE TREASURER

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES

SCHEDULE A-18 — (Continued)

<i>Other Accounts (Continued)</i> <i>Miscellaneous: (Continued)</i>	<i>Balance</i> <i>June 30, 1951</i>	<i>Gifts and</i> <i>Other Receipts</i>	<i>Transferred</i>	<i>Expense</i>	<i>Other</i> <i>Charges</i>	<i>Balance</i> <i>June 30, 1952</i>
Foreign Student Project.....	.....	{ \$67,384.27 28,704.00 O.R. }	\$ 2,000.00	\$ 64,718.33	\$ 7,991.22	\$ 21,378.72
Foreign Student Air Travel Dept.....	\$ 18.53	.....	.....	.....	.....	18.53
Freshman Advisors.....	50.00	.....	.....	.....	.....	50.00
Freshman Camp.....	.....	{ 6,619.74 O.R. 184.79 Approp. }	.....	6,804.53	.....	.....
Friends of Music at M. I. T.....	.....	445.00	.....	.....	.....	445.00
Greer Rowing Equipment.....	800.50	600.00	.....	312.31	.....	1,088.19
Guidance Tests.....	.....	3,000.00 O.R.	.....	4,307.75	(1,307.75)	.....
Dard Hunter Museum.....	4,205.20	.....	.....	1,733.88	.....	2,471.32
Lecture Fund.....	428.58	.....	(3,028.97)	3,457.55	.....	.....
Otto G. Lindberg — Burchard.....	414.67	.....	.....	.....	.....	414.67
Ellen F. Loomis Foreign Students.....	2,650.17†	.46 O.R.	.....	1,026.26	300.00	1,324.37†
Micro Reproduction Service.....	1,519.83	6,651.82 O.R.	.....	(6,337.89)	.....	14,709.54
Miscellaneous Gifts.....	.....	500.00	.....	500.00	.....	.....
Parking Fines.....	180.00	520.00 O.R.	.....	22.60	.....	677.40
Photographic Service.....	482.09	.....	6,536.58	(6,054.49)	.....	.....

†Includes students' notes receivable.

GIFTS AND OTHER RECEIPTS FOR CURRENT EXPENSES 183

Portrait Fund	.....	2,120.00	.....	.....	.....	2,120.00
William Pick — Burchard	.....	25.00	.....	.....	.....	25.00
President's Special Fund L.	.....	17,126.06	.....	.....	.....	17,126.06
Emma Rogers Room — Social	.....	69.76	.....	301.96	.....	.....
Statistical Services Operating	.....	.....	.....	3,852.36	299.14	6,099.36
Technology Press	.....	6,665.74	.....	.....	(29,793.15)	36,458.89
Undergraduate Policy Committee — Hrones	.....	.....	.....	110.88	.....	.....
Vocational Guidance	.....	.....	.....	8,157.84	(157.84)	.....
		71,371.77 Gifts				
\$ 48,928.11	\$	56,059.08 O.R.	\$	(1,128.68)	\$	88,629.56 \$ (22,668.38)\$ 119,822.13
		8,295.67 Approp.				
<i>Total</i>		\$1,634,574.01	\$2,347,639.18	\$	110,391.33	\$2,061,856.17 \$246,611.15 \$1,563,354.54
Deduct appropriated income expense	.....	.....	.....	\$	12,350.56	\$ (977.22)
Balance per summary of funds	.....	\$1,634,574.01	\$2,336,265.84	\$	110,391.33	\$2,049,505.61 \$247,588.37 \$1,563,354.54

(Schedule A)

Includes students' notes receivable

SCHEDULE A-19
EDUCATIONAL PLANT ASSETS¹

Land in Cambridge:		
Campus — east of Massachusetts Avenue	\$1,176,102.37	
Campus — west of Massachusetts Avenue	<u>850,014.82</u>	\$2,026,117.19
Educational Buildings, Cambridge:		
Main Group.....	\$5,655,949.64	
Charles Hayden Memorial Library.....	3,880,441.86	
Sloan Building (incl. Faculty Club).....	2,963,958.45	
George Eastman Research Laboratories...	1,225,098.58	
Pratt School of Naval Architecture.....	674,971.70	
Chemical Engineering Laboratories.....	536,268.99	
Guggenheim Aeronautical Laboratory.....	293,637.46	
Wright Brothers Memorial Wind Tunnel..	349,053.02	
Magnetic Substation.....	76,272.73	
Gas Turbine Laboratory.....	545,892.45	
Sloan Automotive Laboratories.....	714,235.91	
Mechanic Arts Building.....	83,658.89	
Metals Processing Laboratory (Under Construction).....	1,025,200.17	
Nuclear Research Laboratory.....	42,891.27	
Cyclotron Laboratory.....	20,247.92	
Solar Energy Laboratory.....	10,500.00	
Hyams Radiation Laboratory.....	39,551.36	
Research Building (Servo-mechanisms)....	104,589.55	
Biology and Food Tech. Bldg. (Under Construction).....	2,344,361.11	
Hydrodynamics Laboratory and Towing Tank.....	618,041.66	
Chemical Engineering Laboratory (Bldg.38)	31,000.00	
Building Twenty-Four.....	318,049.27	
Building Eighteen.....	44,158.93	
Twelve M.E.V. Bldg.....	278,255.58	
Auditorium and Chapel (under construction)	<u>9,748.12</u>	21,886,034.62
Educational Equipment.....		2,039,953.60
Undergraduate Dormitories.....	\$1,487,423.79	
Everett Moore Baker House.....	500,000.00 ²	
Alfred E. Burton House.....	<u>70,288.25²</u>	2,057,712.04
Infirmary, Recreational and Athletic Buildings:		
Homberg Memorial Infirmary.....	\$188,441.60	
Walker Memorial.....	714,587.02	
Alumni Swimming Pool.....	377,992.93	
Boat House.....	54,244.13	
Barbour Field House and Squash Courts..	84,042.54	
Sailing Pavilion.....	28,849.09	
Briggs Field House and Track.....	121,197.99	
Rockwell Cage.....	<u>216,902.14</u>	1,786,257.44
Summer Camp, East Machias, Maine.....		120,558.00
Round Hill, Dartmouth, Massachusetts.....		175,000.00
Miscellaneous:		
Power Plant.....	\$422,664.17	
Steam and Electrical Distribution System.	310,795.32	
Service Building and Garages.....	55,369.74	
Other Plant Assets.....	<u>484,269.76</u>	1,273,098.99
<i>Total, June 30, 1952 (Schedule A).....</i>		<u>\$31,364,731.88</u>

¹Not including properties devoted to Institute use included in Real Estate in General Investments, page 121.

²Additional Construction Cost provided for by Investment Funds (see Investments, page 121).

SCHEDULE A-20

PRINCIPAL GIFTS AND APPROPRIATIONS
FOR EDUCATIONAL PLANT

For Land:

T. C. duPont.....	\$625,000.00	
A. F. and Ida F. Estabrook Funds.....	105,000.00	
Maria A. Evans.....	169,080.60	
Edmund D. Barbour Fund.....	234,634.18	
From Miscellaneous Contributors.....	277,222.89	
Appropriations from Funds —		
Blake, \$5,000; Lyman, \$5,000; Kimball, \$10,000; McGregor, \$2,500; Philbrick, \$2,000; Richards, \$1,000; Perkins, \$3,252.32; Current Income, \$6,500; Use of Facili- ties, \$50,335.70.....	85,588.02	\$1,496,525.69

For Educational Buildings (including President's House,
Power Plant and buildings other than Dormitories and
those used for Student Recreational and Athletic
Purposes):

George Eastman.....	\$5,808,752.88*	
Biology and Food Technology Building:		
Campbell Soup Co.....	1,047,608.00	
Biology Building Fund.....	1,296,753.11	
T. C. and P. S. duPont, Charles Hayden, Arthur Winslow for Mining Engineering Building.....	225,000.00	
Maria A. Evans Fund.....	100,000.00	
C. A. Stone and E. S. Webster.....	187,500.00	
Sale of Land and Building in Boston (1938)	972,283.33	
Pratt Fund, for School of Naval Architecture	675,150.00	
Guggenheim Fund, for Aeronautical Labora- tory.....	230,000.00	
Appropriations for Aeronautical Laboratory—		
From Funds: Perkins, \$12,508.02; Hayden, \$42,700.76; Frisbie, \$7,614.98.....	62,823.76	
Alfred P. Sloan Foundation:		
For School of Industrial Management..	2,605,441.85	
For Metals Processing Laboratory.....	1,017,119.77	
For Sloan Automotive Laboratory.....	367,533.01	
Appropriation for Automotive Laboratory—		
From Current Income and Wind Tunnel Account.....	160,000.00	
Industrial Fund.....	100,000.00	
Facilities Building Fund.....	64,299.10	
Edmund D. Barbour Fund for:		
Nuclear Laboratory.....	32,341.27	
Magnetic Laboratory.....	40,772.73	
Power Plant.....	90,006.59	

* Includes Mr. Eastman's original gift of \$3,500,000 together with appropriations from the \$2,500,000 Building Fund which he established.

SCHEDULE A-20 — (Continued)

For Educational Buildings (Continued)

Kresge Fund for Auditorium and Chapel...	\$	9,748.12	
For Sloan Building and Faculty Club:			
Anonymous.....		105,156.00	
Faculty Club Fund.....		11,780.00	
Development Building Fund.....		125,000.00	
Facilities Building Fund.....		116,580.60	
Miscellaneous Contributions and Appropriations from Funds for: Magnetic Lab., \$5,500; Nuclear Research Lab., \$2,500; Cyclotron, \$20,247.92; Hyams Radiation Lab., \$39,551.36; and Solar Energy Lab., \$10,500; Anonymous, \$1,000, Bldg. 6; Industrial Fund for Bldg. 32, \$27,753.67; Hydrodynamics Lab., \$618,041.66; Gas Turbine Lab., \$530,699.10; Bldg. 24, \$318,049.27; Twelve M.E.V. Bldg., \$121,432.10; Wm. B. Given for Metals Proc. Lab., \$8,080.40.....		1,703,355.48	
Subscriptions to Wright Brothers Memorial:			
Wind Tunnel.....		95,795.00*	
Wind Tunnel Fund.....		120,000.00	
Instrumentation Fund.....		11,546.77	
Appropriation for Wind Tunnel — Current Income.....		9,000.00	
Miscellaneous Appropriations from Current Income for: Building 38, \$31,000; Tractor Garage, \$6,400; Gas Turbine Lab., \$15,193.35; Bldg. 18, \$44,158.93; Twelve M.E.V. Bldg., \$156,823.48.....		253,575.76	\$17,644,923.13

For Charles Hayden Memorial Library:

Charles Hayden Foundation Fund.....	\$2,505,771.75	
Alumni Fund.....	250,000.00	
Boston Stein Club.....	20,054.12	
Development Fund.....	1,027,661.40	
New Library Fund.....	1,185.50	
Use of Facilities.....	75,769.09	3,880,441.86

For Educational Equipment:

Emma Rogers Fund.....	\$528,077.06	
F. W. Emery Fund.....	126,423.80	
C. L. W. French Fund.....	100,843.34	
Equipment moved from Boston (1916) Est.	500,000.00	
Alumni Fund.....	82,119.38	
Appropriations from Funds —		
Drew, \$305,171.52; Peabody, \$52,238.89; duPont, \$12,500; Tuttle, \$50,000; Thayer, \$25,000; Dorr, \$49,573.47.....	494,483.88	
Appropriations from Current Income.....	193,576.34	
Miscellaneous Contributions.....	14,429.80	2,039,953.60

*Otherwise paid for from Eastman Building Fund.

SCHEDULE A-20 — (Continued)

For Dormitories:

Maria A. Evans Fund	\$261,192.55	
T. C. duPont	100,000.00	
Alumni Dormitory Fund	566,945.66	
Alumni Fund 1947 — Baker House	500,000.00	
Edmund D. Barbour Fund	258,599.40	
Erastus C. Gaffield Fund	120,000.00	
Facilities Building Fund	70,288.25	
Appropriations from Funds —		
Robb, \$28,750; Thorndike, \$15,000;		
Hodges, \$57,316.26; Wood, \$28,750;		
Miscellaneous Funds, \$28,500	158,316.26	
Appropriated Current Income	<u>22,369.92</u>	\$2,057,712.04

For Summer Camp:

Edward Cunningham Fund	\$15,000.00	
Charles W. Eaton Fund	15,501.45	
Appropriations from Current Income	<u>90,056.55</u>	120,558.00

For Infirmary, Recreational and Athletic Buildings:

Julius Rosenwald and family — Homberg Infirmary	\$110,225.00	
Appropriations from Funds — Homberg Infirmary —		
Chase, \$4,090.09; A.H. Munsell, \$7,908.28;		
M. A. Munsell, \$1,105.32; Industrial, \$41,137.61;		
A. F. Estabrook, \$10,000; I.F. Estabrook, \$2,157.51; Perkins, \$764.66	67,163.47	
Appropriation for Homberg Infirmary from Current Funds	11,500.00	
Walker Memorial Fund	167,303.96	
Improvement Fund, for Walker Memorial	24,491.34	
Alumni Fund, for Walker Memorial	490,000.00	
Edmund D. Barbour Fund, for Field House	55,000.00	
Alumni Fund, for Swimming Pool	228,479.15	
Stephen Bartlett Fund, for Swimming Pool	117,071.64	
Class of 1923, Sun Garden	10,000.00	
Alumni Fund, for Briggs Field House and Track	156,169.13	
Edmund D. Barbour Fund, Sailing Pavilion	13,363.89	
Anonymous for Boat House	30,000.00	
Miscl. funds for Rockwell Cage	216,902.14	
Appropriations from Current Income for:		
Boat House	6,500.00	
Sailing Pavilion	15,485.20	
Squash Courts	29,042.54	
Rifle Range	<u>1,500.00</u>	1,750,197.46

Miscellaneous:

From Sale of Land and Buildings in Boston 1916	\$656,919.45	
Mrs. Wilks, Round Hill	175,000.00	
Other Contributions, Appropriations, etc.	<u>1,542,500.65</u>	2,374,420.10

Total June 30, 1952 (Schedule A) \$31,364,731.88

SCHEDULE B-1
STUDENTS' FEES

Tuition		
Students' payments	\$2,479,347.76	
Veterans administration	331,944.27	
Other government contracts	219,526.52	
Scholarship awards	448,419.96	
Student loan awards	140,797.00	
		\$3,620,035.51
Locker, examination and other fees		8,258.50
Total (Schedule B)		\$3,628,294.01

SCHEDULE B-2

**ALLOCATION OF INVESTMENT INCOME AND GIFTS
AND OTHER RECEIPTS FOR CURRENT EXPENSE**

<i>Department</i>	<i>Gifts and Other Receipts</i>	<i>Investment Income</i>	<i>Total</i>
Aero Engineering.....	\$ 107,142.98	.....	\$ 107,142.98
Architecture.....	759.21	\$ 2,023.27	2,782.48
Biology.....	169,926.30	.....	169,926.30
Building Engineering and Construction.....	34,035.53	.....	34,035.53
Business Engineering and Administration.....	90,767.34	15,655.24	106,422.58
School of Industrial Management	1,558.08	.....	1,558.08
Chemical Engineering.....	127,020.99	4,500.00	131,520.99
Chemical Engineering Practice School.....	46,752.73	.....	46,752.73
Chemistry.....	309,039.68	8,000.00	317,039.68
Civil Engineering.....	18,600.77	8,500.00	27,100.77
Economics.....	13,009.70	.....	13,009.70
Industrial Relations.....	27,207.74	7,000.00	34,207.74
Electrical Engineering.....	111,792.07	.....	111,792.07
English and History.....	12,410.60	450.00	12,860.60
Food Technology.....	98,495.48	.....	98,495.48
Geology and Geophysics.....	26,146.05	225.60	26,371.65
Mathematics.....	14,738.99	.....	14,738.99
Mechanical Engineering.....	258,568.39	.....	258,568.39
Metallurgy.....	277,736.63	.....	277,736.63
Meteorology.....	26,775.40	.....	26,775.40
Modern Languages.....	12,945.47	.....	12,945.47
Naval Architecture.....	825.17	15,728.00	16,553.17
Physics.....	145,316.88	11,840.00	157,156.88
Acoustics Laboratory.....	8,725.17	.....	8,725.17
Bemis Research.....	2,361.40	21,550.57	23,911.97
Nuclear Science and Engineering.....	11,250.00	.....	11,250.00
Oak Ridge Practice School.....	12,600.00	.....	12,600.00
Solar Energy Research.....	17,124.08	.....	17,124.08
Spectroscopy Laboratory.....	4,994.84	.....	4,994.84
<i>Sub-Totals</i>	\$1,988,627.67	\$ 95,472.68	\$2,084,100.35
Library and Museums.....	\$ 14,426.39	\$ 5,243.38	\$ 19,669.77
Medical.....	2,400.00	3,400.00	5,800.00
General Expense.....	204,899.25	29,760.95	234,660.20
Plant.....	201,336.63	.....	201,336.63
Undergraduate Budget Board..	1,279.81	.....	1,279.81
General Purposes.....	20,000.00	1,200,428.10	1,220,428.10
<i>Total</i>	\$2,432,969.75	\$1,334,305.11	\$3,767,274.86
	(Schedule B)	(Schedule B)	

SCHEDULE B-3
RESEARCH CONTRACTS

DIVISION OF INDUSTRIAL COOPERATION

Revenues from research contracts		\$24,279,891.76
Less appropriations therefrom:		
Reserve for use of facilities.....	\$ 590,565.00	
Industrial fund	59,730.00	
Investment income for use of funds and amortization of facilities	141,219.61	791,514.61
		<hr/>
Net revenues (Schedule B)		<u>\$23,488,377.15</u>
Direct expenses on research contracts:		
Salaries and wages	\$10,922,089.10	
Materials and services	6,406,469.85	
Subcontracts	1,106,599.64	
Construction of major facilities	222,557.05	
Travel	549,368.99	
Other	202,222.01	\$19,409,306.64
		<hr/>
Direct expenses of Division of Industrial Cooperation:		
Salaries and wages	\$ 247,870.33	
Materials and services	78,300.26	
Travel	10,077.74	
Vacation allowances — hourly employees	135,000.00	
Depreciation on equipment	38,813.31	
Insurance	21,342.97	
Outside rentals	7,723.10	
Instrumentation laboratory — expenses	17,619.98	
Servomechanisms laboratory — expenses	18,396.41	
Occupational medical service	34,320.16	
Unallowable contract expense	7,412.28	
Other	6,553.54	623,430.08
		<hr/>
<i>Total Direct Expenses</i> (Schedule B)		\$20,032,736.72
Allowance for Institute's expenses of administration and plant operation		3,455,640.43
		<hr/>
<i>Total</i>		<u>\$23,488,377.15</u>

SCHEDULE B-4
OTHER INCOME

Land rentals		\$ 7,415.66
Recoveries and miscellaneous		2,286.12
Sponsored courses:		
American Gas & Electric Co.	\$2,500	
Boston Edison Company	1,200	
General Electric Company	7,000	
General Radio Company	1,200	
Philco Corporation	7,000	18,900.00
U. S. Land Grant Aid		22,196.69
Veterans book income		1,129.44
<i>Total</i> (Schedule B)		<u>\$51,927.91</u>

SCHEDULE B-5
SALARIES AND WAGES

STAFF SALARIES

	<i>Academic</i>	<i>Department Research</i>	<i>Transferred to D.I.C.</i>	<i>Net Salaries</i>
Aeronautical Engineering.....	\$ 244,865.58	\$ 21,104.15	\$ 126,279.76	\$ 139,689.97
Architecture.....	74,031.00	.....	.....	74,031.00
Biology.....	102,822.78	50,043.19	27,489.06	125,376.91
Building Eng. and Construction.	48,660.00	15,820.00	8,766.96	55,713.04
Business and Eng. Administration	117,263.38	29,055.24	2,286.67	144,031.95
School of Industrial Management	350.00	.....	.....	350.00
Chemical Engineering.....	183,740.33	16,004.24	63,412.60	136,331.97
Chemical Eng. Practice School..	33,831.67	.....	.....	33,831.67
Chemistry.....	365,287.38	59,214.03	118,660.57	305,840.84
City Planning.....	29,480.00	.....	.....	29,480.00
Civil Engineering.....	247,170.60	9,291.77	104,713.29	151,749.08
Economics.....	174,244.52	6,100.00	15,268.42	165,076.10
Industrial Relations.....	3,200.00	6,925.00	.....	10,125.00
Electrical Engineering.....	763,055.67	14,833.68	447,895.57	329,993.78
English and History.....	190,386.65	9,958.34	4,169.99	196,175.00
Food Technology.....	23,535.48	59,676.86	5,054.74	78,157.60
General Science.....	5,000.00	.....	.....	5,000.00
Geology and Geophysics.....	83,931.50	12,039.51	11,945.65	84,025.36
Graphics.....	45,691.66	.....	(1,000.00)	46,691.66
Mathematics.....	219,692.65	2,500.00	37,454.44	184,738.21
Mechanical Engineering.....	447,723.31	33,772.64	99,841.72	381,654.23
Metallurgy.....	350,815.50	33,810.27	205,287.91	179,337.86
Meteorology.....	94,717.36	14,255.00	48,071.94	60,900.42
Military Science.....	13,527.93	.....	.....	13,527.93
Air Science.....	6,958.84	.....	.....	6,958.84
Modern Languages.....	37,950.00	6,925.00	.....	44,875.00
Naval Architecture.....	77,760.00	.....	60.00	77,700.00
Physics.....	477,556.35	3,300.00	285,235.96	195,620.39
Acoustics Laboratory.....	.....	2,000.00	.....	2,000.00
Bemis Research.....	11,950.00	.....	.....	11,950.00
Center for International Studies.	18,717.50	.....	18,717.50	.....
Nuclear Science and Engineering.	10,500.00	.....	10,500.00	.....
Oak Ridge Practice School.....	10,621.83	.....	.....	10,621.83
Solar Energy.....	.....	10,745.49	.....	10,745.49
Spectroscopy Laboratory.....	.....	4,260.49	.....	4,260.49
Total Staff Salaries.....	\$4,515,039.47	\$421,634.90	\$1,640,112.75	\$3,296,561.62

(Continued)

SCHEDULE B-5 — (Continued)

SALARIES AND WAGES

WAGES LABORATORY SERVICE

	<i>Academic</i>	<i>Department Research</i>	<i>Transferred to D.I.C.</i>	<i>Net Salaries</i>
Aeronautical Engineering	\$ 12,394.70	\$10,185.16	\$ 162.06	\$ 22,417.80
Architecture	5,689.78	.....	.....	5,689.78
Biology	13,039.94	17,248.27	1,188.47	29,099.74
Building Engr. and Construction	4,730.63	2,024.41	(1,163.77)	7,918.81
Business and Engr. Admin. . . . .	.....	.....	.....	.....
Chemical Engineering	23,223.28	1,078.15	19.53	24,281.90
Chem. Engr. Prac. School . . . . .	.....	.....	.....	.....
Chemistry	36,801.76	5,988.33	1,957.88	40,832.21
City Planning . . . . .	.....	.....	.....	.....
Civil Engineering	22,886.15	2,423.77	3,583.99	21,725.93
Economics . . . . .	.....	.....	.....	.....
Industrial Relations . . . . .	.....	.....	.....	.....
Electrical Engineering	48,968.50	10,268.30	5,709.97	53,526.83
English and History . . . . .	.....	.....	.....	.....
Food Technology	2,227.13	7,722.06	1,349.86	8,599.33
General Science . . . . .	.....	.....	.....	.....
Geology and Geophysics	4,330.10	1,740.35	.....	6,070.45
Graphics . . . . .	.....	.....	.....	.....
Mathematics . . . . .	.....	.....	.....	.....
Mechanical Engineering	65,824.64	5,881.88	12,845.83	58,860.69
Metallurgy	30,662.05	11,625.08	(5,357.29)	47,645.32
Meteorology	29.25	876.30	.....	905.55
Military Science . . . . .	.....	.....	.....	.....
Modern Languages . . . . .	.....	.....	.....	.....
Naval Architecture	9,449.64	116.53	2,371.97	7,194.20
Physics	68,459.31	4,268.31	8,088.45	64,639.17
Acoustics Laboratory . . . . .	.....	.....	.....	.....
Bemis Foundation . . . . .	.....	.....	.....	.....
Nuclear Science . . . . .	.....	.....	.....	.....
Oak Ridge Prac. School . . . . .	.....	.....	.....	.....
Solar Energy . . . . .	.....	2,244.50	.....	2,244.50
Spectroscopy Laboratory . . . . .	.....	.....	.....	.....
<i>Total Wages Laboratory Service . .</i>	<u>\$348,716.86</u>	<u>\$83,692.30</u>	<u>\$30,756.95</u>	<u>\$401,652.21</u>

(Continued)

SCHEDULE B-5 — (Continued)

SALARIES AND WAGES

WAGES ACCESSORY TO TEACHING

	<i>Academic</i>	<i>Department Research</i>	<i>Transferred to D.I.C.</i>	<i>Net Salaries</i>
Aeronautical Engineering	\$ 8,507.86	\$ 7,821.02	.....	\$ 16,328.88
Architecture	4,232.39	334.70	.....	4,567.09
Biology	3,267.06	10,213.91	.....	13,480.97
Building Engr. and Constr.	1,999.96	3,109.32	\$ (1,200.00)	6,309.28
Business and Eng. Admin.	19,040.94	2,580.00	.....	21,620.94
Chemical Engineering	27,060.31	.....	4,863.74	22,196.57
Chem. Engr. Prac. School . . . . .	.....	.....	.....	.....
Chemistry	22,325.10	2,685.91	3,816.25	21,194.76
City Planning	2,316.00	.....	.....	2,316.00
Civil Engineering	14,134.94	.....	1,174.21	12,960.73
Economics	15,080.30	189.05	345.95	14,923.40
Industrial Relations	2,400.00	1,802.48	.....	4,202.48
Electrical Engineering	38,227.97	2,708.59	(287.66)	41,224.22
English and History	11,079.46	2,187.66	.....	13,267.12
Food Technology . . . . .	.....	16,121.16	1,100.54	15,020.62
General Science	2,315.94	.....	.....	2,315.94
Geology and Geophysics	5,397.74	154.15	.....	5,551.89
Graphics	2,111.82	.....	.....	2,111.82
Mathematics	10,589.14	.....	333.35	10,255.79
Mechanical Engineering	28,915.22	878.81	307.65	29,486.38
Metallurgy	23,670.87	2,264.13	10,158.53	15,776.47
Meteorology	10,718.04	10,150.73	102.13	20,766.64
Military Science	4,836.00	.....	.....	4,836.00
Air Science	1,731.67	.....	.....	1,731.67
Modern Languages	3,772.29	2,387.50	(1,066.14)	7,225.93
Naval Architecture	7,197.48	.....	.....	7,197.48
Physics	21,503.21	.....	2,610.39	18,892.82
Acoustics Laboratory . . . . .	.....	.....	.....	.....
Bemis Foundation	3,706.43	.....	.....	3,706.43
Nuclear Science . . . . .	.....	.....	.....	.....
Oak Ridge Practice School . . . . .	.....	.....	.....	.....
Solar Energy . . . . .	.....	.....	.....	.....
Spectroscopy Laboratory . . . . .	.....	.....	.....	.....
Total Wages Accessory to Teaching	\$ 296,138.14	\$ 65,589.12	\$ 22,258.94	\$ 339,468.32
Wages Laboratory Service	348,716.86	83,692.30	30,756.95	401,652.21
Staff Salaries	4,515,039.47	421,634.90	1,640,112.75	3,296,561.62
Total Salaries and Wages	\$5,159,894.47	\$570,916.32	\$1,693,128.64	\$4,037,682.15

(Schedule B)

SCHEDULE B-6

DEPARTMENTAL EXPENSES

	<i>General</i>	<i>Staff Scholarships</i>	<i>Departmental Research</i>	<i>Total</i>
Aeronautical Engineering.	\$ 5,226.69	\$ 800.00	\$ 41,774.71	\$ 47,801.40
Architecture	2,988.34	.....	2,853.49	5,841.83
Biology	13,168.99	2,400.00	95,621.46	111,190.45
Building Eng. and Constr..	4,537.60	1,305.00	10,518.03	16,360.63
School of Industrial Mgt..	1,208.08	.....	.....	1,208.08
Business and Eng. Admin..	11,601.51	.....	52,287.34	63,888.85
Chemical Engineering . . .	20,477.08	11,786.98	22,825.04	55,089.10
Chemical Eng. Practice . . .	12,921.06	.....	.....	12,921.06
Chemistry	36,508.01	29,349.24	51,066.41	116,923.66
City Planning	1,050.74	320.00	.....	1,370.74
Civil Engineering	11,911.94	1,725.00	5,213.32	18,850.26
Civil Engineering Camp . . .	10,402.09	.....	.....	10,402.09
Economics	6,799.07	4,408.00	6,720.65	17,927.72
Industrial Relations	14,440.15	.....	3,940.09	18,380.24
Electrical Engineering	41,787.05	10,938.23	28,425.58	81,150.86
English and History	5,199.62	.....	600.95	5,800.57
Food Technology	2,364.75	.....	16,425.80	18,790.55
General Science	378.83	.....	.....	378.83
Geology and Geophysics . . .	9,631.99	3,740.00	12,236.76	25,608.75
Geology Camp	2,927.17	.....	.....	2,927.17
Graphics	1,828.20	.....	.....	1,828.20
Mathematics	4,481.48	9,337.00	12,238.99	26,057.47
Mechanical Engineering . . .	33,280.95	8,622.50	40,905.95	82,809.40
Mechanical Metallurgy	4,897.57	.....	.....	4,897.57
Metallurgy	16,852.92	2,850.00	66,390.38	86,093.30
Meteorology	7,943.36	1,180.00	276.37	9,399.73
Military Science	1,961.13	.....	.....	1,961.13
Modern Languages	1,548.42	.....	2,566.83	4,115.25
Naval Architecture	3,448.68	960.00	965.49	5,374.17
Physics	13,235.19	11,532.50	7,598.57	32,366.26
Acoustics Laboratory . . . . .	.....	.....	6,925.17	6,925.17
Bemis Research	5,894.14	.....	2,361.40	8,255.54
Nuclear Science	2,126.54	.....	.....	2,126.54
Oak Ridge Practice School	2,119.71	.....	.....	2,119.71
Solar Energy . . . . .	.....	.....	4,134.09	4,134.09
Spectroscopy Laboratory . . .	.....	.....	734.35	734.35
Summer Session	19,930.03	.....	.....	19,930.03
Totals	\$335,079.08	\$101,254.45	\$495,607.22	\$931,940.75

(Schedule B)

SCHEDULE B-7
LIBRARY AND MUSEUM EXPENSES

Library:			
Salaries — staff	\$66,750.00		
Salaries — other	97,340.11		
Expenses:			
Books, periodicals and binding	44,184.02		
Other	<u>26,934.31</u>		\$235,208.44
Museums:			
Salaries	\$11,440.32		
Expenses	<u>7,043.61</u>		18,483.93
<i>Total (Schedule B)</i>			<u><u>\$253,692.37</u></u>

SCHEDULE B-8
CLERICAL SALARIES AND ADMINISTRATION
OFFICE EXPENSE

	<i>Salaries</i>	<i>Expense</i>	<i>Total</i>
President	\$ 17,724.08	\$ 13,041.55	\$ 30,765.63
Dean of Architecture	3,448.50	384.16	3,832.66
Dean of Engineering	3,360.00	710.93	4,070.93
Dean of Science	2,436.66	477.77	2,914.43
Dean of Humanities		594.37	594.37
Dean of Students	12,203.20	1,821.35	14,024.55
Dean of Graduate School	3,298.03	517.23	3,815.26
Dean of School of Industrial Management	2,832.00	3,079.10	5,911.10
Educational Council	3,191.77	5,421.07	8,612.84
Registrar	74,633.81	33,786.62	108,420.43
Director of Admissions	35,993.56	16,964.79	52,958.35
Treasurer and Bursar	104,848.30	37,639.02	142,487.32
Superintendent	26,351.11	2,907.99	29,259.10
Director of Business Administration	2,462.73	596.15	3,058.88
News Service	4,296.92	3,196.39	7,493.31
Undergraduate scholarship and loan fund board	7,144.21	5,045.17	12,189.38
Military Service Information ..	7,361.21	579.61	7,940.82
Placement Bureau	16,209.59	2,383.47	18,593.06
Register of former students ..	8,331.63	1,808.02	10,139.65
Personnel Office	25,544.62	11,764.27	37,308.89
Publications Office	3,963.47	1,444.49	5,407.96
Industrial Liaison Office	9,309.94	33,801.50	43,111.44
Provost	3,060.00	1,684.19	4,744.19
Summer Sessions Office	5,657.91	10,252.48	15,910.39
Statistical Service machine expense		18,816.58	18,816.58
Student Aid and Personnel ..	4,065.73	2,016.66	6,082.39
Secretary	2,195.91	4,353.46	6,549.37
Office of Laboratory Supplies ..	45,663.55		45,663.55
<i>Totals</i>	<u>\$435,588.44</u>	<u>\$215,088.39</u>	<u>\$650,676.83</u>

(Schedule B-9) (Schedule B-9)

SCHEDULE B-9

GENERAL AND ADMINISTRATIVE EXPENSES

Salaries of officers of administration.....	\$	481,271.31	
Clerical salaries (schedule B-8).....		435,588.44	
Administrative office expenses (schedule B-8).....		215,088.39	
Staff and employee benefits and allowances.....		696,800.06	
Development program expense.....		62,087.64	
Other administrative expenses:			
Telephone (net).....	\$	157,248.83	
Bulletins and publicity.....		50,963.58	
New student publicity.....		34,845.27	
Travel.....		23,650.78	
Commencement.....		24,392.03	
Professional services.....		32,569.46	
Deans' Funds.....		8,108.23	
Taxes (net).....		74,260.97	
President's and Chairman's funds.....		7,276.86	
Services (net).....		1,326.57	
Faculty residents.....		1,629.76	
Miscellaneous.....		5,831.77	422,104.11
			<hr/>
General Expenses:			
Fellowships, prizes and awards.....	\$	54,996.34	
Foreign student summer project.....		64,718.33	
Photographic and dining equipment.....		9,563.00	
Vocational guidance.....		12,465.59	
Hobby shop.....		7,137.76	
Lowell Institute cooperative broadcasting...		25,000.00	
Lectures.....		6,248.46	
Staff subscriptions to <i>The Tech</i>		2,987.85	
Alumni conferences.....		6,984.97	
Society of Arts.....		1,973.80	
Miscellaneous.....		47,347.32	239,423.42
			<hr/>
Total (Schedule B).....			<u><u>\$2,552,363.37</u></u>

SCHEDULE B-10

PLANT OPERATION

Building Services:

Janitors	\$174,652.52	
Night Cleaners	138,327.88	
Watchmen	41,426.18	
Window Cleaning	15,515.15	
Heating and Ventilating	49,893.47	
Mail Clerks and Elevator Operators	20,570.81	
Shipping, Stock Room, Matron and Messenger Supplies	36,397.97	
Police protection	36,397.94	
Industrial Management School	21,859.54	
Shop Foreman (net)	59,660.60	
	5,082.31	\$ 599,784.37

Repairs, Alterations and Maintenance:

Buildings	\$184,293.82	
Grounds, Roads, etc.	75,851.93	
Mains and Conduits	32,632.47	
Water and Gas	31,053.42	
Misc. (net)	40,665.71	364,497.35

Fire Insurance		22,172.85
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Safety Engineer Expense		1,106.13
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Safety Program		27,581.72
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Power Plant and Electric Power:

Fuel Oil	\$191,164.95	
Power (Cambridge Electric Light Co.)	198,910.31	
Salaries	64,892.91	
Repairs	16,130.91	
Water, Supplies, etc.	9,300.44	

Total Operating Cost	\$480,399.52	
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Less Credits for Power Sold:¹

Electric Power	\$33,524.94	
Steam	73,836.08	107,361.02
		373,038.50
		\$1,388,180.92

Special Alterations, Maintenance and Construction:

Buildings	\$307,536.03	
Faculty Suites	35,310.71	
Space Changes	745,224.52	
Off Campus Buildings — Maintenance:		
Round Hill — Dartmouth	\$35,784.05	
Vassar Street	35,088.82	
Servomechanisms	12,428.96	
Hood & Whittemore	88,347.09	
Barta Building	49,083.36	
Supersonic Wind Tunnel	18,649.57	
Lexington Station	6,038.57	245,420.42
		1,333,491.68

Total (Schedule B)		\$2,721,672.60
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¹ Including Dormitories, Walker Memorial and Bexley Hall.

SCHEDULE B-11
MEDICAL DEPARTMENT

Salaries, staff.....		\$ 88,266.33
Expense of clinic:		
Salaries.....	\$31,786.38	
Supplies, etc.....	8,901.07	
X-Ray Operation.....	4,462.56	
Physical Examinations.....	4,713.22	49,863.23
Expense of infirmary:		
Salaries.....	\$45,861.82	
Supplies, etc.....	5,664.13	
Food.....	12,722.24	
Laundry.....	4,074.37	68,322.56
Expense of dental, eye, nose and throat clinics.....		6,763.66
Maintenance and repairs.....		1,628.88
		<u>\$214,844.66</u>
Less — Services billed.....	\$44,936.46	
Student Health Insurance.....	20,000.00	64,936.46
		<u>\$149,908.20</u>
<i>Total (Schedule B)</i>		<u><u>\$149,908.20</u></u>

SCHEDULE B-12

UNDERGRADUATE BUDGET BOARD

Athletic coaches' salaries.....	\$57,667.93	
Director's office expense.....	1,040.04	
Advisory Board.....	107.59	
Non-staff salaries.....	6,294.14	
Student activities appropriation.....	52,184.72	
Cambridge armory, rental of.....	2,030.00	
Walker Memorial (excluding Dining Service) (net).....	44,106.86	
Walker-Memorial games (loss).....	141.30	
Athletic fields, maintenance.....	26,680.20	
Sailing pavilion and activities (net).....	12,673.88	
Rockwell Cage, maintenance.....	2,859.47	
Boat house and launches, maintenance.....	19,871.53	
Musical clubs, equipment and supplies.....	4,522.48	
Swimming pool (including wages).....	41,377.94	
Equipment for freshman athletics.....	1,037.69	
Publications advertising.....	409.68	
		<u>\$273,005.45</u>
<i>Total (Schedule B)</i>		<u><u>\$273,005.45</u></u>

SCHEDULE B-13
AUXILIARY ACTIVITIES

	<i>Dining Services</i>	<i>Dormitories</i>	<i>Housing Projects</i>	<i>Total</i>
Revenues:				
Rentals or receipts	\$738,883.68	\$688,933.55	\$143,357.36	\$1,571,174.59
Miscellaneous . . . . .	. . . . .	10,592.97	. . . . .	10,592.97
<i>Total</i>	<u>\$738,883.68</u>	<u>\$699,526.52</u>	<u>\$143,357.36</u>	<u>\$1,581,767.56</u>
				(Schedule B)
Expenses:				
Food	\$348,208.63	. . . . .	. . . . .	\$ 348,208.63
Salaries	282,780.13	\$288,603.47	. . . . .	571,383.60
Supplies	14,103.83	20,994.11	. . . . .	35,097.94
Utilities	20,668.76	97,557.61	\$ 9,680.29	127,906.66
Laundry	11,434.16	12,990.89	. . . . .	24,425.05
Repairs and maintenance . . .	13,329.80	54,064.01	37,919.91	105,313.72
Equipment	9,772.59	4,951.28	. . . . .	14,723.87
Misc. Operating Expense . . .	. . . . .	5,097.98	273.21	5,371.19
Administration	23,619.77	46,476.31	12,081.06	82,177.14
Insurance	3,221.36	8,975.21	2,686.16	14,882.73
House Tax Allowance . . . . .	. . . . .	8,635.00	. . . . .	8,635.00
Real Estate taxes . . . . .	. . . . .	30,700.88	29,729.70	60,430.58
Occupancy	4,000.00	. . . . .	. . . . .	4,000.00
Reserve	7,000.00	. . . . .	. . . . .	7,000.00
Amortization . . . . .	. . . . .	110,565.90	40,831.15	151,397.05
Investment income . . . . .	. . . . .	9,913.87	10,155.88	20,069.75
<i>Total</i>	<u>\$738,139.03</u>	<u>\$699,526.52</u>	<u>\$143,357.36</u>	<u>\$1,581,022.91</u>
				(Schedule B)

GIFTS, GRANTS AND BEQUESTS RECEIVED
DURING THE YEAR ENDED JUNE 30, 1952

GIFTS FOR ENDOWMENT

The income of the following gifts and bequests is for General Purposes:

HAL L. BEMIS '35	
For the Henry Ellsworth Bemis Memorial Fund.....	\$3,600.00
CLASS OF 1909	
Contributions.....	1,034.47
MARY ELIZABETH LADD	
For Charles C. Ladd ('30) FUND.....	100.00
ESTATE OF HARRIETTE A. NEVINS	
Additional for George Blackburn Memorial Fund.....	274.57
HOMER E. SARGENT '98	
For Homer E. Sargent Fund.....	840.00
ESTATE OF EVERETT WESTCOTT	
Additional distribution of residuary bequest.....	800.00
ESTATE OF MARION WESTCOTT	
Additional distribution of residuary bequest.....	1,090.76
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	\$7,739.80

The income of the following gifts and bequests is for Designated Purposes:

ANONYMOUS	
For Undergraduate Scholarship.....	\$20,000.00
JULIAN M. AVERY '18	
Assignment of royalties to be accumulated to \$25,000 after which income is for research.....	7,823.71
DEAN EVERETT MOORE BAKER MEMORIAL FOUNDATION	
Contributions.....	858.33
ESTATE OF BERTRAM BREWER	
Endowment for Undergraduate Scholarships.....	84,000.00
RAOLD CANN	
For James Watt Scholarships.....	600.00
KARL T. COMPTON PRIZE FUND	
Contributions by the Boston Stein Club.....	7,965.66
BRADLEY DEWEY '09	
For Davis R. Dewey Library Fund.....	2,725.00
HENRY B. DUPONT '23	
For Allan Winter Rowe ('01) Memorial Fund.....	1,045.58
CLARA FORD AND JOSEPH F. FORD	
For Clara and Joseph F. Ford Scholarship.....	5,000.00
BARNETT D. GORDON '16	
Additional gift for scholarships.....	1,000.00
DUGALD CALEB JACKSON PROFESSORSHIP	
Contributions.....	1,645.00
ESTATE OF JESSICA A. L. KNIGHT	
For Louise Parks Knight and Charles F. Parks ('75) Fund	8,584.00
ALICE MACLAURIN SCHOLARSHIP FUND	
Contributions.....	225.00

ESTATE OF GEORGE J. MEAD '16 Additional distribution for prize fund (see infra, Loan Funds).....	\$ 704.56
ESTATE OF ALEXANDER G. MERCER Additional distribution for Hall-Mercer Fund.....	101.64
HAROLD S. OSBORNE '08 For Dugald Caleb Jackson Professorship.....	3,500.00
MRS. ODETTE S. PRICE For Raymond B. Price ('94) Memorial Fund.....	1,000.00
REDFIELD PROCTOR '02 For Vermont Scholarship Fund.....	15,000.00
ESTATE OF JOHN C. RUNKLE '88 Principal and income to be held for endowment.....	17,931.22
ESTATE OF MARY OTIS RUSSELL For Henry Darwin Rogers Fund.....	2,277.71
EDWIN S. WEBSTER ('88) FOUNDATION For Edwin Sibley Webster Professorship.....	150,000.00
ESTATE OF EDITH WILDER For Stephen H. Wilder ('74) Fund for Research.....	8,539.48
Other gift.....	5.00
	<hr/>
	\$340,531.89

GIFTS FOR STUDENT LOANS

ESTATE OF GEORGE J. MEAD '16 Distribution of a residuary bequest for a loan fund (see supra, Gifts for Designated Endowment).....	\$ 2,818.24
TECHNOLOGY LOAN FUND Contributions.....	155.00
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	\$ 2,973.24

GIFTS FOR BUILDINGS

DONALD S. CUNNINGHAM '26 For Development Building Fund.....	\$ 50.00
HOPEDALE FOUNDATION For Metals Processing Laboratory.....	5,000.00
AUSTIN Y. HOY '04 For new Chapel Building.....	1,010.00
ARTHUR D. LITTLE CO. For Faculty Club.....	11,328.00
MERCHANTS REFRIGERATING COMPANY For Low Temperature Refrigeration Laboratory.....	10,000.00
MERCHANTS COLD STORAGE & WAREHOUSE CO. For Low Temperature Refrigeration Laboratory.....	1,000.00
TERMINAL REFRIGERATION COMPANY For Low Temperature Refrigeration Laboratory.....	300.00
BEAUCHAMP E. SMITH For Hydrodynamics Laboratory and Towing Tank....	6,120.00
WHITIN MACHINE CO. For Metals Processing Laboratory Building.....	5,000.00
WISCONSIN COLD STORAGE CO. For Low Temperature Refrigeration Laboratory.....	500.00
	<hr/>
	\$ 40,308.00

OTHER GIFTS — PRINCIPAL AVAILABLE

The following gifts are added to The Unexpended Endowment Income for Designated Purposes:

CHARLES HAYDEN ('90) FOUNDATION		
For current use of Hayden Memorial Scholarships . . .	\$	5,000.00
M. I. T. CLUB OF CHICAGO		
For current use as scholarships		425.00
		<hr/>
	\$	5,425.00

The following gifts are for General Purposes:

ESTATE OF BIRNEY C. BATCHELLER '86		
A distribution under a residuary bequest	\$	85,240.00
ESTATE OF JOHN RANDOLPH BRITTAIN '93		
Distribution under a residuary bequest		18,549.85
CLASS OF 1901		
Additional contributions		367.40
CLASS OF 1925		
Additional contributions		500.00
CLASS OF 1926		
Additional contributions		85.00
ESTATE OF ARTHUR J. CONNER '88		
Residuary interest in a trust created by will		183,195.35
ERNEST B. DANE, JR., AND HENRIETTA J. DANE '30		
For general purposes		18,000.00
DEVELOPMENT FUND		
Contributions for undesignated purposes received during the current year under the Development Program		644,307.79
ESTATE OF CHARLES H. EAMES '97		
Distribution under a bequest		33,142.48
FORD MOTOR COMPANY FUND		
Payment on subscription for unrestricted use		166,665.00
ESTATE OF WALTER A. GLEASON '97		
Legacy with no restrictions as to use		2,000.00
WILLIAM T. HENRY '70 TRUST		
Income of a trust		24,030.00
M. I. T. LITTLE TRUST		
Rental income on machinery		14,300.04
TRUST INDENTURE UNDER THE WILL OF LEONARD METCALF '92		
Balance of trust income after payments to life bene- ficiaries		2,786.96
E. MORTIMER NEWLIN ('14) TRUST		
Income of a trust, available for operating expenses		1,019.05
ESTATE OF MORRIS A. STEWART '07		
Legacy with no restrictions as to use		915.00
ESTATE OF EDWARD A. SUMNER '97		
Distribution of residuary bequest		10,393.53
ESTATE OF H. SYLVIA A. H. G. WILKS		
Distribution of bequest		1,645,391.82
		<hr/>
	\$	2,850,889.27

The following gifts are for Designated Purposes:

ALUMNI FUND 1951-52	\$ 139,710.20
AMERICAN BRAKE SHOE Co. For William B. Given ('08) Room	10,000.00
CLASS OF 1898 Contributions	1,222.50
CURTIS UNIVERSAL JOINT Co., INC. For Ralph E. Curtis ('15) Scholarship Fund	2,000.00
GENERAL FOODS CORP. For Food Technology Department	10,000.00
GOODYEAR TIRE & RUBBER Co. For Industrial Economics Graduate Fellowship	2,500.00
INDUSTRIAL RELATIONS FUND Contributions from industrial concerns	24,600.00
ELMER C. INGRAHAM '26 Research Laboratory of Electronics	200.00
INTERNATIONAL TEL. & TEL. Co. For Industrial Fellowships in Electronics	10,000.00
ARTHUR D. LITTLE, INC. For Arthur D. Little Lectures	5,000.00
JOHN R. MACOMBER '97 Additional for John R. Macomber Fund	902.82
OSCAR MAYER & Co. For Food Technology Fund	10,000.00
MRS. LEON L. MCGRADY For Tubby Rogers Fund	50.00
MERRILL FOUNDATION For Industrial Relations Section	25,000.00
ESTATE OF C. LILLIAN MOORE For John A. Grimmons ('21) Fund	3,967.05
RADIO CORPORATION OF AMERICA For Research Laboratory of Electronics	10,000.00
SIMPLEX WIRE & CABLE Co. For Henry A. Morss ('93) Memorial Nautical Fund	5,000.00
ALFRED P. SLOAN ('95) FOUNDATION For School of Industrial Management	275,000.00
Research Fund for School of Industrial Management	1,000,000.00
WESTINGHOUSE EDUCATIONAL FOUNDATION For Fellowships in Industrial Economics	2,500.00
	<u>\$1,537,652.57</u>

UNINVESTED FUNDS

SUPPORT OF THE INDUSTRIAL LIAISON PROGRAM	\$1,110,000.00
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A partial list of companies making payments in 1951-52:

Allegheny Ludlum Steel Company
 Aluminum Company of America
 American Can Company
 Anaconda Copper Mining Company

Armco Steel Corporation
 Atlantic Refining Company
 Cities Service Research and Development Company
 Combustion Engineering Superheater, Incorporated
 Continental Can Company, Incorporated
 Continental Motors Corporation
 The Dow Chemical Corporation
 Allan B. DuMont Laboratories Incorporated
 Electrolux Corporation
 General Motors Corporation
 The Gillette Company
 Gulf Research and Development Company
 John Hancock Mutual Life Insurance Company
 Hercules Powder Company
 The International Nickel Company, Incorporated
 Liquid Carbonic Corporation
 The Mead Corporation
 National Aluminate Corporation
 National Dairy Products Corporation
 North American Aviation Incorporated
 Olin Industries Incorporated
 Pittsburgh Plate Glass Company
 Raytheon Manufacturing Company
 Saco Lowell Shops Incorporated
 A. O. Smith Corporation
 Socony-Vacuum Oil Company, Incorporated
 Sperry Gyroscope Company
 Standard Oil Company of California
 Standard Oil Company (Indiana)
 Stone & Webster Engineering Corporation
 Sylvania Electric Products, Incorporated
 Texas Company

The following gifts are for Student Aid:

AMERICAN BRAKE SHOE COMPANY	
For undergraduate awards	\$ 800.00
For American Brake Shoe Company Scholarships	1,600.00
ANONYMOUS	
For Graduate Student Fund	390.00
ANONYMOUS	
For Clark Foundation Scholarship	2,000.00
ANONYMOUS	
For undergraduate scholarships	505.00
PIETRO BELLUSCHI	
For undergraduate scholarships	800.00
BOSTON STEIN CLUB SCHOLARSHIPS FUND	
Contributions of the Boston Stein Club	2,015.00
BRUMBERGER FOUNDATIONS INCORPORATED	
For undergraduate scholarships	500.00
THOMAS C. DESMOND '09	
For scholarships	1,200.00
PHILIP B. DOWNING TRUST	
For scholarships	295.00

FRANCIS M. FRASHER	
Francis Morgan Frasher Jr. Memorial Scholarship	\$ 800.00
HOUSTON ENDOWMENT, INC.	
For William S. Knudson fellowships	2,500.00
INTERNATIONAL BUSINESS MACHINES COMPANY	
For graduate scholarships and fellowships	9,500.00
KNAPP FUND	
For Knapp Memorial Scholarships	1,500.00
LESARVOY FOUNDATION OF NEW YORK CITY	
For undergraduate scholarships	800.00
JOHN E. LONGYEAR '26	
For Granger Whitney ('87) Fund	200.00
JOHN R. LOOFBOUROW MEMORIAL FUND	
Contributions	2,339.00
M. I. T. CLUB OF ROCHESTER	
For scholarships	400.00
JAMES C. MELVIN TRUST	
For scholarships	11,200.00
LOUIS A. METZ '23	
For scholarships	800.00
NATIONAL ASSOCIATION OF ENGINE AND BOAT MANUFACTURERS	
For scholarships	1,200.00
SKIDMORE, OWINGS & MERRILL	
For scholarships in Architecture	1,200.00
TEAGLE FOUNDATION, INCORPORATED	
For scholarships	16,300.00
TRANSPARENT PACKAGE COMPANY FOUNDATION	
For undergraduate scholarships	800.00
WESTINGHOUSE EDUCATIONAL FOUNDATION	
For Science Teachers Fellowships	12,500.00
JULIA WHITNEY	
For Granger Whitney ('87) Fund	200.00
	\$72,344.00

The following gifts are for Designated Purposes:

ADAMSON COMPANY INCORPORATED	
For Donald B. Gillies, Jr. ('41) Fund in Business Administration	\$ 500.00
ALLIED CHEMICAL & DYE CORPORATION	
For fellowship in Chemistry	2,000.00
ALLOY CASTING INSTITUTE	
For research in Metallurgy	8,000.00
AMERICAN BRAKE SHOE COMPANY	
For research in Metallurgy	10,000.00
For fellowship in Metallurgy	3,000.00
AMERICAN CANCER SOCIETY INCORPORATED	
For research in high voltage x-ray	20,000.00
For research in Biology	34,217.20
For fellowships in Biology	1,900.00
AMERICAN CHICLE COMPANY	
For fellowship in Chemistry	4,000.00

GIFTS AND BEQUESTS

207

AMERICAN CYANAMID COMPANY	
For fellowships in Chemical Engineering	\$ 2,000.00
AMERICAN FOUNDRYMEN'S SOCIETY	
For fellowship in Metallurgy	5,000.00
AMERICAN IRON & STEEL INSTITUTE	
For English and History	4,095.31
AMERICAN PETROLEUM INSTITUTE	
For research in Geology and Geophysics	11,000.00
AMERICAN SMELTING & REFINING CO.	
For undergraduate fellowship in Metallurgy	1,000.00
AMERICAN SOCIETY OF MECHANICAL ENGINEERS	
For research in Mechanical Engineering	2,100.00
For research in Chemistry	4,000.00
ANONYMOUS	
For Food Technology Department	200.00
ANONYMOUS	
For Naval Architecture Department	1,170.70
ARMOUR & COMPANY	
For research in Biology	12,000.00
For Flotation Research in Metallurgy	12,000.00
AVIATION WEEK	
For Fellowship in Aeronautical Engineering	1,800.00
DEAN EVERETT MOORE BAKER FUND	
Contributions	297.50
HENRY W. BALLOU '97	
For Food Technology Department	100.00
BETTER PACKAGES INCORPORATED	
For Theodore H. Krueger ('14) Fund	500.00
BITUMINOUS COAL RESEARCH INCORPORATED	
For research in Chemical Engineering	3,000.00
BOSTON INSULATED WIRE & CABLE COMPANY	
For research in Electrical Engineering	2,000.00
BRISTOL LABORATORIES INCORPORATED	
For research in Chemistry	13,685.00
BRYANT CHUCKING GRINDER COMPANY	
For research in Mechanical Engineering	10,000.00
BUFFALO ELECTRIC CHEMICAL COMPANY	
For soil stabilization research in Civil Engineering	5,000.00
JABEZ BURNS & SONS INCORPORATED	
For research in Thermodynamics	1,000.00
CALGON, INC.	
For research in Civil Engineering	3,000.00
CARBORUNDUM COMPANY	
For research in Mechanical Engineering	5,000.00
CARNEGIE CORP. OF NEW YORK	
For Geology	4,250.00
CENTRAL VIOLETA SUGAR COMPANY	
For sugar research in Chemistry	6,250.00
CHILDREN'S MEDICAL CENTER	
For research in Biology	200.00
JANE COFFIN CHILDS MEMORIAL FOUNDATION	
For fellowship in Biology	5,687.50

CLIMAX MOLYBDENUM COMPANY	
For research in Mechanical Engineering	\$ 5,000.00
E. L. COCHRANE '20	
For Ship Model Towing Tank	1,000.00
COMMONWEALTH FUND	
For post-doctoral fellowships for medical fellows	35,000.00
For research in Metallurgy	500.00
COMPANIA AZUCARERA ATLANTICA DEL GOLFO	
For sugar research in Chemistry	6,250.00
CONSOLIDATED ENGINEERING CORPORATION	
For Instrumentation Laboratory	5,000.00
COOPER ALLOY FOUNDRY COMPANY	
For research in Metallurgy	7,500.00
CORNING GLASS WORKS	
For research in Mechanical Engineering	5,000.00
ERNEST B. DANE, JR., AND HENRIETTA J. DANE '30	
For ship model towing tank	2,000.00
DENNISON MANUFACTURING COMPANY	
For Business and Engineering Administration	1,000.00
DOMINION STEEL & COAL CORPORATION LTD.	
For Nova Scotia Coal Research	2,500.00
DOUGLAS AIRCRAFT COMPANY INCORPORATED	
For fellowship in Aeronautical Engineering	1,500.00
E. I. DUPONT DE NEMOURS & COMPANY INCORPORATED	
For research in Chemistry	10,000.00
For fellowships	11,900.00
For fellowship in Mechanical Engineering	2,600.00
MELVILLE EASTHAM	
For overseas study fund	200.00
EASTMAN KODAK COMPANY	
For fellowship in Chemistry	2,274.00
For fellowship in Chemical Engineering	2,000.00
ELECTROLUX CORPORATION	
For research in Mechanical Engineering	5,000.00
ENGINEERING FOUNDATION	
For research in Metallurgy	2,500.00
ETHICON SUTURES LABORATORIES	
For research in Biology	5,000.00
ETHYL CORPORATION	
For fellowship in Mechanical Engineering	2,600.00
EXOMAT INCORPORATED	
For research in Mechanical Engineering	3,150.00
FORD MOTOR COMPANY	
For operating expenses	500.00
FOREIGN STUDENT SUMMER PROJECT	
Contributions in support of the project	34,444.27
FOUNDRY EDUCATIONAL FOUNDATION	
For scholarships in Metallurgy	5,000.00
FRIENDS OF MUSIC AT M. I. T.	
Contributions	445.00
GENERAL ELECTRIC COMPANY	
For Cascade Research in Aeronautical Engineering	2,500.00

GIFTS AND BEQUESTS

209

GENERAL MOTORS CORPORATION	
For fellowship in Chemical Engineering.....	\$ 3,000.00
R. E. GILLMOR	
For Business and Engineering Administration.....	200.00
GRADUATE HOUSE COMMITTEE	
For Crafts Library.....	475.00
MILLARD M. GREER '26	
For Greer Rowing Equipment Fund.....	600.00
GULF OIL CORPORATION	
For fellowship in Physics.....	3,000.00
HARSHAW CHEMICAL COMPANY	
For research in Physics.....	4,000.00
HEVI DUTY ELECTRIC COMPANY	
For research in Metallurgy.....	3,625.00
HUMBLE OIL AND REFINING COMPANY	
For fellowship in Chemical Engineering.....	1,900.00
JEROME C. HUNSAKER '12	
For Aeronautical Engineering.....	750.00
INFRA INSULATION COMPANY INCORPORATED	
For Heat Measurements Laboratory.....	1,000.00
INSTITUTE OF SHORTENING & EDIBLE OILS INCORPORATED	
For research in Chemistry.....	10,000.00
CHARLES F. KETTERING FOUNDATION	
For research in Chemistry.....	18,000.00
For research in Biology.....	10,355.00
KIMBERLY CLARK CORPORATION	
For fellowship in Chemical Engineering.....	4,000.00
ESTATES OF CHARLES A. '96 AND MARJORIE KING	
For research in Biology.....	10,000.00
ELI LILLY AND COMPANY	
For research in Biology.....	9,000.00
OTTO LINDBERG	
For use by library.....	1,000.00
LUCIDOL DIVISION	
For research in Chemistry.....	4,000.00
MACHINE DESIGN PRIZE FUND	
Contributions.....	50.00
MALLINCKRODT CHEMICAL WORKS	
For research in Methods of Analysis.....	2,000.00
MANUFACTURING CHEMISTS ASSOCIATION INCORPORATED	
For plastic materials research.....	19,250.00
NEWMAN MARSILIUS '17	
For Business and Engineering Administration.....	1,000.00
MASSACHUSETTS GENERAL HOSPITAL	
For research in Biology.....	1,000.00
MATHIESON CHEMICAL CORPORATION	
For soil stabilization.....	5,000.00
MERCK & COMPANY INCORPORATED	
For research in Chemistry.....	1,250.00
MEYENBERG MILK PRODUCTS COMPANY	
For research in Food Technology.....	1,000.00
NATIONAL ACADEMY OF SCIENCES	
For research in Biology.....	4,500.00

NATIONAL GEOGRAPHIC SOCIETY	
For Film Research	\$ 2,000.00
NATIONAL INSTITUTES OF HEALTH, FEDERAL SECURITY AGENCY	
For fellowships in Biology	3,700.00
NATIONAL LEAD COMPANY	
For research in Metallurgy	1,800.00
NATIONAL LIME ASSOCIATION	
For research in Building Engineering and Construction . .	7,000.00
N. E. Textile Foundation	
For textile research	3,600.00
NUTRITION FOUNDATION INCORPORATED	
For nutrition research in Food Technology	4,700.00
OWENS-ILLINOIS GLASS COMPANY	
For research in Chemistry	5,000.00
PAN AMERICAN REFINING CORPORATION	
For fellowship in Chemical Engineering	2,300.00
WILLIAM PICK '47	
For use by School of Humanities	25.00
PITTSBURGH CONSOLIDATION COAL COMPANY	
For fellowship in Chemical Engineering	3,100.00
PORTRAIT FUND	
Contributions	2,120.00
PROCTER & GAMBLE COMPANY	
For fat research in Food Technology	8,850.00
For research in Food Technology	3,600.00
For fellowship in Chemical Engineering	3,100.00
PUNTA ALEGRE SUGAR COMPANY	
For sugar research in Chemistry	6,250.00
ESTATE OF ELIZABETH PUTNAM	
For Mathematics Department	100.00
QUAKER OATS COMPANY	
For Quaker Nutrition Research	8,770.00
REFRIGERATION RESEARCH FOUNDATION	
For Food Technology	340.00
RESEARCH CORP.	
For research in Chemistry	15,230.00
REVERE COPPER AND BRASS COMPANY	
For research in Building Engineering and Construction	10,000.00
RIKER LABORATORIES, INCORPORATED	
For research in Chemistry	700.00
ROCKEFELLER FOUNDATION	
For research in Biology, Economics, Electrical Engi- neering, Geology, and Mathematics	64,159.25
ROHM & HAAS COMPANY	
For soil stabilization research in Civil Engineering . . .	5,000.00
DAMON RUNYON MEMORIAL FUND	
For research in x-ray therapy	20,000.00
SHARP & DOHME, INCORPORATED	
For research in Chemistry	3,600.00
SHELL FELLOWSHIP COMMITTEE	
For research in Mechanical Engineering, Physics and Metallurgy	15,600.00
For fellowships in Mechanical Engineering and Physics	4,000.00

GIFTS AND BEQUESTS

211

ALFRED P. SLOAN ('95) FOUNDATION	
For Sloan Fellowships in Business Administration.....	\$75,000.00
For Foreign Student Summer Project.....	32,940.00
For overseas study program.....	10,000.00
SLOAN-KETTERING INSTITUTE	
For research in Biology.....	25.00
SOCIAL SCIENCE RESEARCH COUNCIL	
For faculty research fellowship.....	3,350.00
For research in Industrial Relations.....	1,500.00
SPOOL COTTON COMPANY	
For Clark Thread Fellowship in Mechanical Engineering	5,400.00
HOWARD R. STALEY ('35) MEMORIAL FUND	
Contributions for department of Building Engineering and Construction.....	1,200.50
STANDARD OIL COMPANY (INDIANA)	
For fellowship in Chemical Engineering.....	2,000.00
STEEL FOUNDERS SOCIETY OF AMERICA	
For research in Metallurgy.....	8,000.00
STANOLIND OIL & GAS COMPANY	
For research in soil stabilization.....	2,000.00
SUGAR RESEARCH FOUNDATION	
For research in Chemistry.....	4,000.00
TEXAS INSTRUMENTS-GEOPHYSICAL SERVICE INCORPORATED FOUNDATION	
For research in Geology and Geophysics.....	2,000.00
TIMKEN ROLLER BEARING COMPANY	
For research in Metallurgy.....	10,000.00
TITANIUM ALLOY STEEL COMPANY	
For research in Metallurgy.....	2,250.00
TUFTS COLLEGE DENTAL SCHOOL	
For research in Food Technology.....	2,500.00
UNION CARBIDE & CARBON CORPORATION	
For fellowship in Metallurgy.....	2,100.00
UNITED ENGINEERING TRUSTEES INCORPORATED	
For research in Civil Engineering.....	7,000.00
UNITED FRUIT COMPANY	
For research.....	4,500.00
U. S. RUBBER COMPANY	
For fellowship in Chemistry.....	2,800.00
UNITED SHOE MACHINERY CORPORATION	
For research in Mechanical Engineering.....	5,000.00
VANADIUM ALLOY STEEL COMPANY	
For research in Metallurgy.....	2,500.00
VERTIENTES — CAMAGUEY SUGAR COMPANY OF CUBA	
For research in Chemistry.....	6,250.00
VISKING CORPORATION	
For fellowship in Mechanical Engineering.....	2,500.00
THE F. W. WAKEFIELD BRASS COMPANY	
For Commodore Wakefield Research Fund.....	10,000.00
WILLIAM H. WALKER FUND	
Contributions.....	1,800.00
WESTINGHOUSE EDUCATIONAL FOUNDATION	
For Westinghouse Professorship.....	15,000.00

HOWARD D. WILLIAMS '11		
For Business and Engineering Administration	\$	500.00
WYMAN GORDON COMPANY		
For fellowship in Physics		2,500.00
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	\$	911,531.23

OTHER GIFTS

The following gifts are added to Agency Funds held by the Institute for investment purposes.

CLASS OF 1903		
Contributions of class members	\$	395.00
CLASS OF 1910		
Contributions of class members		2,820.00
CLASS OF 1915		
Contributions of class members		100.00
CLASS OF 1916		
Contributions of class members		4,334.00
CLASS OF 1917		
Contributions of class members		3,317.26
CLASS OF 1933		
Contributions of class members		727.12
CLASS OF 1937		
Contributions of class members		1,065.42
CLASS OF 1944		
Contributions of class members		695.58
CLASS OF 1949		
Contributions of class members		314.52
OTHER CLASSES		
Contributions of class members		124.66
SAILING PAVILION		
Contributions		31,810.66
WOMEN'S DORMITORY FUND		6.50
		<hr/>
	\$	45,710.72

The following gifts are added to Annuity Funds:

ANONYMOUS		
For Anonymous "Q"	\$	10,000.00
For Anonymous E. M. Fund		14,000.00
GEORGE S. WITMER '09		
For Witmer Fund		4,000.00
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	\$	28,000.00

SUMMARY OF GIFTS, GRANTS AND BEQUESTS RECEIVED

	1952	1951	1950	1949	1948
Gifts for Endowment					
Funds for General Purposes	\$ 7,740	\$ 86,586	\$1,030,511	\$ 193,255	\$ 379,560
Funds for Designated Purposes	340,532	523,599	382,069	106,114	105,919
Gift of Plant . . . . .	.....	.....	.....	175,000	.....
Gifts for Student Loans	2,973	227,756	10	115	7,360
Gifts for Building Funds	40,308	3,797,212	1,268,266	91,666	316,974
Other Gifts					
Unexpended balances of Endowment Fund Income	5,425	5,775	2,525	9,180	13,800
Funds for General Purposes — Invested	2,850,889	2,206,364	2,066,934	482,730	101,899
Funds for Designated Purposes — Invested	1,537,653	554,665	245,454	316,441	396,770
Funds for Designated Purposes — Not Invested	2,093,875	1,657,399	1,463,763	1,106,065	810,494
	<u>\$6,879,395</u>	<u>\$9,059,356</u>	<u>\$6,459,532</u>	<u>\$2,480,566</u>	<u>\$2,132,776</u>
Miscellaneous Gifts					
Agency Funds	\$ 45,711	\$ 38,751	\$ 18,247	\$ 22,436	\$ 54,747
Annuity Funds	28,000	47,000	50,310	33,800	4,300
	<u>\$ 73,711</u>	<u>\$ 85,751</u>	<u>\$ 68,557</u>	<u>\$ 56,236</u>	<u>\$ 59,047</u>
Total	<u>\$6,953,106</u>	<u>\$9,145,107</u>	<u>\$6,528,089</u>	<u>\$2,536,802</u>	<u>\$2,191,823</u>

**A BRIEF DESCRIPTION OF THE ENDOWMENT
AND OTHER INVESTED FUNDS OF THE INSTITUTE**

Including funds which have been wholly expended since
1916 for plant, equipment, facilities, and special projects.
The reference numbers correspond with the active funds,
listed by groups on pp. 130-155, Schedules A-3 to A-11.

- 801 ALBERT, 1930-51. Gifts from anonymous donor covering more than twenty years' operation (approximately \$2,000 per annum) of M. I. T. Student House on Bay State Road, Boston.
- 951 ALPHA CHI SIGMA HOUSE (Alpha Zeta Chapter), 1935-1949. Deposited for investment purposes only.
- 850 AMORTIZATION OF DORMITORIES, 1950-52. Provision from operating income for major charges or write-offs of housing units in the general investments.
- 623 ANONYMOUS (H), 1942-43, \$10,000. For general purposes of the Institute.
- 625 ANONYMOUS (J), 1944-50, \$7,200. Gift for unrestricted purposes.
- 349 ANONYMOUS (K), 1952, \$20,000. Gift for scholarships or some alternate form of student aid.
- 626 ANONYMOUS (LE), 1950, \$25,000. For general purposes of the Institute.
- 627 ANONYMOUS (M), 1941, \$6,500. For general purposes of the Institute.
- 802 ANONYMOUS (P), 1950-51, \$100,000. Gift for establishment of a faculty club.
- 981 ANONYMOUS (Q), 1945-52. \$25,000. Subject to special annuity provisions.
- 629 ANONYMOUS (R), 1946, \$67,150. Principal and income for general purposes of the Institute.
- 701 ANONYMOUS (S), 1946, \$500,000. For research.
- 983 ANONYMOUS (X), 1944-50, \$20,488.12. Subject to special annuity provisions.
- 571 ANONYMOUS (Y), 1948-51, \$30,290. For general purposes or a possible Faculty Fund.
- ANONYMOUS CLASS OF 1924. Gift of member of Class of 1924 to accumulate until twenty-fifth reunion of Class in 1945. Balance \$3,115.22 transferred to Class of 1924.
- 351 APPLEBEE, Louie G., 1941-42, \$400. Bequest for assisting deserving students.

- 703 APPLIED MATHEMATICS, 1943. Balance \$6,309. Appropriated from surplus to provide support for postwar program.
- 101 ARMSTRONG, George Robert, 1902, \$5,000. Bequest of George W. Armstrong in honor of son. Income available for general purposes of the Institute.
ARMY AND NAVY TRAINING RESERVE, 1943-1944. Balance \$28,779.80 used for new construction, 1947.
- 932 ASSOCIATION OF CLASS SECRETARIES, 1940-45. Balance \$3,504. Held for investment purposes only.
- 803 ATHLETIC FIELDS SPECIAL, 1948-50, \$4,500. Gift for improvements.
- 353 ATKINS, Elisha, SCHOLARSHIP, 1894, \$5,000. Bequest of Mary E. Atkins. For undergraduate scholarship.
- 201 ATKINSON, William Parsons, 1918, \$13,082. Bequest of Charles F. Atkinson as a memorial to father — for English Department of the Institute.
- 301 AUSTIN, Edward, 1899, \$360,000. Bequest. Interest paid to needy, meritorious students and teachers to assist in payment of studies.
- 202 AVERY, Julian M., 1949-50, balance \$27,845. Income for special research.
- 985 AVOCA, 1946, \$116,200. In trust, subject to life annuities.
- 551 BABSON, 1938, \$10,000. Gift of Babson's Statistical Organization Inc. Income to be applied at intervals of not more than three years as prizes for one or more persons for certain studies and research in Economics.
BADGER, E. B., AND SONS Co., 1944, \$10,000. Gift. Used for new construction 1947.
- 705 BADGER, E. B. & SONS Co., 1945, \$20,000. Gift for use of Chemical Engineering Department.
- 357 BAILEY, Thomas Wendell, 1914, \$2,172. Bequest. Income used for rendering assistance to needy students in Department of Architecture.
- 359 BAKER, Charles Tidd, 1922, \$20,000. Bequest. One-half of net income for assistance of poor and worthy students and one-half to principal. Present balance \$39,932.
- 572 BAKER, Everett Moore, MEMORIAL, 1951-52, \$12,373. Contributions in memory of Dean Baker for the Everett Moore Baker Foundation.
- 633 BARBOUR, Edmund Dana, 1926, \$847,000. Bequest. Principal and income for general purposes of Institute. Over \$826,000 used for buildings and equipment. Balance \$20,736.94.
- 261 BARKER, Walter S., 1927, \$10,000. Bequest. Income only available for purposes of the Library.
BARTLETT, Sidney, 1889, \$10,000. Bequest. Appropriated for new dormitories, 1924.
- 634 BARTLETT, Stephen L., 1939-46, \$375,210.63. Bequest. Principal and income unrestricted, appropriated for educational plant, including swimming pool and current purposes.
- 635 BATCHELLER, Birney C., 1952, \$85,240. Bequest for general purposes.

- 203 BEMIS, Albert Farwell, 1938, \$270,000. Bequest. To establish and maintain the Albert Farwell Bemis Foundation for research on housing. Increased in 1941-51 through proceeds of sale of land. Present balance \$308,941.88.
BEMIS, Albert Farwell, 1923, \$100,000. Gift. Used for new dormitory unit, 1923.
- 102 BEMIS, Henry Ellsworth, MEMORIAL FUND, 1951-52, \$5,425. Gift of Hal L. Bemis '35 in memory of his father. Income only to be used for general purposes.
- 710 BERKE, Samuel — HUMANITIES, 1951, \$5,000. Gift for expenses in connection with certain phases of the Humanities program.
- 263 BERKE, Samuel, 1943-46, \$20,000. Gifts. Income for general purposes of the Institute Library.
- 804 BIGELOW, Bess, 1936-38, \$25,000. Anonymous donation for special purposes as suggested by donor, but subject to approval of President.
- 573 BILLIARD, Gordon Y., 1951, \$978. Gift, income to be added to principal until some purpose is designated by donor.
- 361 BILLINGS STUDENT, 1900, \$50,000. Bequest of Robert C. Billings. Students receiving benefit are expected to abstain from use of alcohol or tobacco in any form.
- 598 BIOLOGY BUILDING, 1951, \$1,500,000. Appropriation of unrestricted funds to finance the construction of the Biology and Food Technology building.
- 103 BLACKBURN, George, MEMORIAL, 1931-51, \$1,025,379. Bequest of Harriette A. Nevins. Income for general purposes.
BLAKE, Stanton, 1889, \$5,000. Bequest. Used for educational plant, 1926.
- 363 BLANCHARD, Huse Templeton, 1947, \$6,551. Bequest. For undergraduate scholarships.
- 553 BOIT, Robert A., 1921, \$5,000. Bequest. Income to stimulate students' interest in best use of English language through annual prizes or scholarships.
- 205 BOLES, Frank Walter, MEMORIAL, 1915, \$25,200. Gift and bequest of Harriet A. Henshaw, income paid to committee of Department of Architecture, to purchase fine arts material to supplement and strengthen instruction in architectural design and for the care and preservation of such material.
- 365 BOLES, Levi, 1915, \$10,000. Bequest of Frank W. Boles in memory of father. Income for assistance of needy and deserving students.
- 303 BOLLES, William Sumner 1924, \$25,000. Bequest of William P. Bolles in memory of son, to maintain either fellowship, traveling scholarship, or resident scholarship. Recipient to have character, ability, or promise.
- 791 BOSTON STEIN CLUB, 1945-50, \$27,857. Contributions for equipment of Map Room in Charles Hayden Memorial Library.
- 367 BOURNE, Jonathan, 1915, \$10,000. Bequest of Hannah B. Abbe. Income to aid deserving students.

- 369 **BOYDEN, Albert G.**, 1931-50. Balance \$571,759. Bequest. Estate of Elizabeth R. Stevens. Income for scholarships. Preference to students from Fall River and Swansea, Mass.
- 370 **BREWER, Bertram**, 1952, \$84,000. Bequest. Income for scholarships for undergraduates of good character and ability.
- 105 **BRIGGS, Clara H.**, 1941, \$12,514.55. Bequest. Income for general purposes.
- 952 **BRIGGS, Major**, 1940-42, \$32,969.71. Bequest under will of Frank Harrison Briggs, the principal and/or income to be used as Advisory Council in Athletics may decide. No part of either principal or income is to be used to defray living expense or tuition fees of any student.
- 636 **BRITAIN, John Randolph**, 1952, \$18,550. Bequest for general purposes.
- 371 **BROWN, Harriet L.**, 1922, \$6,024. Bequest. Income to needy and deserving young women students, as would otherwise be unable to attend. In case of two or more applicants of equal merit, preference given to native of either Massachusetts or New Hampshire.
- 305 **BROWN, Malcolm Cotton**, 1919, \$1,506. Under agreement between Caroline Cotton Brown, Charles A. Brown, and M. I. T., to establish memorial to son, Lieutenant Brown, R. A. F., for advanced study and research in Physics.
- 206 **BROWN, William Felton**, 1951, \$20,000. Bequest for the Architecture department.
- BRUSH, Matthew C.**, 1946, \$31,395.74. Bequest. Used for construction of Campus Room at Graduate House.
- 583 **BURSAR'S**, 1907, \$6,000. Bequest of Lyman S. Rhoads. Income and repayments used for loans to students in discretion of Bursar, subject to approval of President and Treasurer. Balance \$41,812.
- 574 **BUSH, Vannevar, TRUST**, 1951, \$10,000. Gift, the income from which may be used for certain purposes by the senior class president.
- 207 **CABOT, Godfrey L.**, 1950, \$10,000. Income to be used for Chemical Engineering.
- 372 **CABOT, Godfrey L., SCHOLARSHIP**, 1951. Gifts of \$5,000 from Godfrey L. Cabot Charitable Trust and \$20,000 from Godfrey L. Cabot, Inc., income of which is to be used annually for scholarships with preference to students of Chemistry or Chemical Engineering.
- 208 **CABOT, Samuel**, 1912, \$50,000. Gift of Helen N. Cabot in honor of husband. Income for purchase of apparatus and supplies required in conduct of research in Industrial Chemistry.
- 599 **CAMPBELL SOUP COMPANY**, 1950, \$1,000,000. For Biology and Food Technology. Used for laboratory construction, 1950-52.
- CARLETON, Mary A.**, 1946, \$14,456.48. Bequest for general purposes of the Institute. Appropriated for buildings, 1947.
- 715 **CARNEGIE CORPORATION**, 1951, \$150,000. Grant for a five-year program in the Humanities.
- 792 **CARNEGIE S. A. L. CENTER**, 1948-50, \$100,000. Gift toward the support of a Center for Scientific Aids to Learning.

- 107 CARNEY, James A., 1944-45, \$17,170.01. Bequest. Income for general purposes.
- CARSON, Howard A., 1932, \$1,000. Bequest. Used for new equipment.
- 373 CASE, Mabel Blake, 1920, \$25,000. Bequest of Caroline S. Freeman. Income to aid deserving students (preferably women) who are in need of assistance.
- 375 CATLIN, Nino Teshler, 1926-48, \$12,265. Gift and bequest of Maria T. Catlin in memory of son. Income for needy and deserving students — not a condition but, if possible, award to be made to member of Lambda Phi Fraternity.
- 209 CHAMBERLAIN, William E., 1917-19, \$7,309. Bequest. Income used for Department of Architecture.
- 307 CHANDLER, Francis W., 1927-36, \$4,511. Originally a gift from Architectural Society and used as a loan fund to be administered by Head of Architectural Department. Increased by \$5,000 in 1939, gift of Mr. and Mrs. William Emerson and income to be used for Travelling Fellowship in City Planning. Present balance \$7,988.
- 600 CHAPEL BUILDING, 1952, \$1,010. Gifts for construction of a Chapel.
- CHASE, William L., 1925, \$11,590.09. Bequest. \$7,500 appropriated for Homberg Infirmary, 1927. Balance used for educational plant, 1928.
- 717 CHEMICAL ENGINEERING PRACTICE, 1915-16, \$300,000. Gift of George Eastman for Chemical Engineering Stations provided Institute has carried forward this plan of education for a reasonable period.
- 575 CHENEY, Ednah Dow, 1905-06, \$13,965. Bequest. Income for maintenance and care of Margaret Cheney Room for women students.
- 109 CHOATE, Charles, 1906-21, \$35,858.15. Bequest. Income for general purposes.
- 793 CILLEY, Frank Harvey, 1913, \$57,700. Bequest. Income and such part of principal as necessary for purchase of suitable books, photographs, statuary, etc., for library and gymnasium of Walker Memorial.
- 377 CLAPP, Lucius, 1905, \$4,900. Bequest. Income to worthy students who may not be able to complete their studies without help.
- 378 CLARKE, A. V., SCHOLARSHIP, 1948, \$1,462.50. Gift. Income for student aid.
- 795 CLASS OF 1874, 1934, \$291.67. For purposes of the Library.
- 881 CLASS OF 1887, 1941-46. Balance \$5,079. Held for use of Class and for final distribution as provided in Declaration of Trust.
- 883 CLASS OF 1889, 1947. Balance \$206. Held for special purposes.
- 637 CLASS OF 1890 FUND, 1951, \$25,000. Bequest of George L. Gilmore for general use of the Institute.
- 379 CLASS OF 1895 MEMORIAL, 1945-46, \$25,000. Gift of the Class on fiftieth anniversary, income only to be used to provide scholarships to suitably qualified descendants of members of the Class. Balance of unexpended income in any year to be added to Technology Loan Fund.
- CLASS OF '96, 1923-46. Gift. Preference to descendants of members of Class. Scholarships to be considered a loan to be repaid when and if able. Renamed 1951 to Charles E. Locke Memorial Fund.

- 806 CLASS OF 1898, 1927-52. Gifts to provide annual contribution to Alumni Fund from earned income.
- 638 CLASS OF 1899, 1949-50, \$16,245. Contributions from members of the Class. For general purposes.
- 639 CLASS OF 1900, 1949-51, \$16,027. Contributions by members of Class for Fifty Year Fund.
- 640 CLASS OF 1901, 1951, \$72,144. Contributions by members of Class for Fifty Year Fund.
- 886 CLASS OF 1903, 1950-52, \$15,955. Contributions by members of Class for Fifty Year Fund.
- 555 CLASS OF 1904, 1925, \$647. Contributions received by Professor Gardner for Architectural Department prizes.
- 110 CLASS OF 1909, 1934-51. Balance \$20,771. Accumulated through contributions and from proceeds of life insurance policies. By vote of the Class the fund was made a General Endowment Fund, the income for the general purposes of the Institute.
- 890 CLASS OF 1914. Balance \$1,188. Held for investment purposes only.
- 807 CLASS OF 1917. Present balance \$1,423. For special purposes.
- 893 CLASS OF 1917, 1949-51. Contributions by members of Class for Fifty Year Fund. Present balance \$4,792.
- 808 CLASS OF 1918 (ORGAN). Balance \$114.88. Subscriptions by Class members toward purchase of an organ for Walker Memorial, purchased in 1948.
- 894 CLASS OF 1919, SPECIAL, 1944. Balance \$3,441. Contributions from Class members toward gift to M. I. T. on the occasion of the twenty-fifth reunion of Class.
- 895 CLASS OF 1920, 1945-47. Balance \$4,147.25. Gift of U. S. Savings "F" Bonds and cash on the twenty-fifth reunion of the Class.
- 896 CLASS OF 1921, 1946-50. Balance, \$572. Contributed for Class Twenty-Fifth Year Memorial Fund. \$7,000 expended 1952 for War Memorial.
- 385 CLASS OF 1922 SCHOLARSHIP, 1942-50. Balance \$20,515. For scholarships.
- 641 CLASS OF 1923, 1949, \$65,851. Twenty-Five Year Gift of Class for general purposes.
- 642 CLASS OF 1924, 1949-50, \$84,580. Twenty-Five Year Gift of Class for general purposes.
- 643 CLASS OF 1925, 1950, \$44,111. Twenty-Five Year Gift of Class for general purposes.
- 644 CLASS OF 1926, 1951, \$64,580. Twenty-Five Year Gift of Class for general purposes.
- 645 CLASS OF 1927, 1952, \$27,627. Twenty-Five Year Gift of Class for general purposes.
- 906 CLASS OF 1927, JOSEPH W. HAMMOND MEMORIAL, 1950, \$50. Contributions in memory of Joseph W. Hammond.

- 389 CLASS OF 1938 SCHOLARSHIP, 1938-50. Balance \$1,529. Gift of Class of 1938. Income for scholarships.
- 885-893 CLASS REUNION FUNDS. Gifts by class members, principally under the Development program, credited to Class funds in anticipation of further designation of purpose by the Class at a future reunion.
- 895-931 inc.
 CLASS ENDOWMENT FUNDS (see pages 152-153).
- Note:* These funds are being accumulated for the several classes whose members took out life insurance or are otherwise accumulating contributions toward a gift to the Institute on the occasion of their Twenty-Fifth Reunions. From certain of these, a portion may be applied in accordance with the terms of the several plans toward keeping alive policies that might lapse on account of nonpayment or as otherwise designated. By vote of the Class of 1923, \$10,000 was appropriated in 1940 from their Class Fund toward construction of the sun garden adjoining the swimming pool.
- 928 CLASS OF 1948 ATHLETIC AWARD, 1949, \$682.84. For purchase of Trophy to be awarded annually to outstanding athlete.
- 281 COBB, Samuel C., 1916, \$36,551. Bequest. Income for salaries of President and professors.
- 393 COBURN, Fred L. and Florence L., 1932, \$5,000. Bequest. Income to aid needy and worthy students, preference being given to those residing in Somerville, Mass.
- 397 COFFIN MEMORIAL, \$35,000. Gift of the Estate of Charles A. Coffin. For loans or other aid to students as determined by Executive Committee. Present balance, \$36,019.
- 309 COLLAMORE, 1916, \$10,100. Bequest of Helen Collamore. Income primarily to aid women students in post graduate courses, and, secondarily, for purchase of instruments for Chemical Laboratory.
- HELEN COLLAMORE, 1917, \$12,384.97. Bequest. Used for new dormitories, 1924.
- COLLAMORE, Helen, 1947, \$49,500. Bequest. For unrestricted use. Used in 1948-49.
- 718 COLLINS HELIUM CRYOSTAT, 1949, \$2,905. For special research.
- COLT, Samuel P., 1920-22, \$20,000. Bequest. Used for new dormitories, 1924.
- 556 COMPTON, Karl Taylor, PRIZE, 1949-52, \$31,901. Gifts from members and friends of the Boston Stein Club. Income for prizes and grants in recognition and encouragement of outstanding contributions in promoting high standards of performance and good citizenship within the Institute community.
- 576 COMPTON, Margaret, 1949, \$1,510. Gifts from Technology Matrons to be expended on authorization by Mrs. Compton.
- 399 CONANT, William A., 1943-49, \$153,415.61. Bequest. The income to provide for scholarship carrying annual stipend of \$800 for New England Protestant boy of Protestant parents, preference to be given to graduates of the public schools of Brookline.

- 601 CONNER, Arthur J., DORMITORY, 1941-50. Balance \$256,841. The total of gifts and the residue of two trusts for construction of a dormitory.
- 646 CONNER, Arthur J., 1950, \$284,441. Bequest for general purposes of the Institute.
- 401 CONRO, Albert, 1943, \$25,000. Bequest for scholarship.
- 403 COOKE, George R., 1939-40, \$3,500. Gift of George R. Cooke, Jr. Income to be awarded, preferably in Civil Engineering or related field, to student preparing for Public Service and Government.
- 647 COOPERATIVE FOUNDATION, 1945, \$1,577.44. Cash surrender value of first insurance policy taken under Plan. Use of fund not yet determined. CRANE AUTOMOTIVE, 1928, \$5,000. Gift of Henry M. Crane. Used for purchase of equipment for Aeronautical Laboratory, 1928-40.
- 404 CRANE, John G., 1951, \$13,100. Gift for undergraduate awards.
- 405 CROCKER, Lucretia, 1916, \$50,551. Bequest of Matilda H. Crocker. Income for establishment of scholarships for women in memory of sister.
- 211 CROSBY HONORARY, 1916, \$1,633. Contributions in honor of William Otis Crosby (Professor Emeritus). Income for upbuilding of the Geology Department, especially its collections.
- 406 CRUFT, Eunice M., 1950-51, \$4,529.90. Bequest. Income to assist students of insufficient means.
CUNNINGHAM, Edward, 1917, \$15,000. Gift. For new building and equipment at Civil Engineering Summer Camp, Maine.
- 809 CURTIS, Ralph E., Scholarship, 1952, \$2,000. Gift of Curtis Universal Joint Co., Inc., for scholarships.
- 311 DALTON GRADUATE CHEMICAL, 1896, \$5,000. Gift of Charles H. Dalton. Income for scholarships for American male graduates of M. I. T., for advanced chemical study and research — preference given to chemical research especially applicable to textile industries.
DANA, William S. B., 1946, \$500. Bequest for general purposes. Used for construction, 1947.
- 648 DANE, Ernest B., Jr. and Henrietta J., 1952, \$18,000. Gifts for general purposes.
- 407 DANFORTH, Isaac W., 1903, \$5,000. Bequest of James H. Danforth. Income for scholarship purposes as a memorial to brother.
DANFORTH, N. Loring, 1937, \$5,000. Bequest. Principal and income for general purposes. Appropriated for educational plant, 1940.
- 585 DEAN'S, 1924, \$3,350. Contributions. To be loaned by Dean to needy students. Present balance \$13,711.
- 810 DEAN, Arthur Davis, 1951, \$82,104. Bequest to directly aid worthy students other than for buildings, equipment, salaries or tuition. Fund to be spent by November 1959.
- 587 DENNETT, Carl P., 1926, \$1,000. Gift. To be loaned to students, preferably Freshmen, at discretion of President. Present balance \$2,233.
- 649-50 DEVELOPMENT FUND, 1949-52. Contributions under the Development Program for undesignated purposes. Present balance \$45,978.

- 408 DEVELOPMENT FUND SCHOLARSHIPS, 1950, \$500,000. Established by transfer from Development Fund.
- 602 DEVELOPMENT BUILDING FUND, 1952, \$750,000. Transferred from unrestricted development funds for completion of buildings under construction.
- 265 DEWEY, Davis R., LIBRARY FUND, 1951-52, \$5,000. Gift of Bradley Dewey established as an endowment fund with income to be used for the Davis R. Dewey Library.
- 811 DEWEY, Davis R., MEMORIAL, 1943, \$500. To provide a suitable memorial for the late Professor Dewey.
- 409 DICKINSON, Ann White, 1898, \$40,000. Bequest. Income used to establish free scholarships. Such persons enjoying benefit shall be worthy young men of American origin.
- 411 DORMITORY, 1903, \$2,857. Contributions. Income for scholarship purposes.
DORR, George B., 1890, \$49,573.47. Bequest. Appropriated for educational plant, 1918.
- 213 DORR, Susan E., 1914, \$95,955. Bequest. Income for use and benefit of Rogers Physical Laboratory.
- 812 DRAMA CLUB THEATRE, 1938, \$400. Deposited by Drama Club of M. I. T. toward future purchase of theatrical equipment.
- 111 DRAPER, Eben S., 1915, \$100,000. Bequest. Specially invested. Income used for general purposes of the Institute. Present balance \$107,618.75.
DREW, Charles C., 1920, \$305,171.52. Bequest. Appropriation to educational plant, 1921-24.
- 413 DROWN, Thomas Messinger, 1928, \$50,000. Bequest of Mary Frances Drown. Income to establish scholarships for deserving undergraduate students.
DUBBS, Carbon P., 1943, \$5,000. Gift. For general purposes. Used for new construction, 1947.
- 113 DU PONT, Coleman, 1931-38, \$221,325. Bequest. Income for support and maintenance of the Institute.
DU PONT, Pierre, 1938, \$25,000. Gift. Used for new equipment.
- 313 DU PONT, Richard Chichester, MEMORIAL FUND, 1946, \$108,772. Contributions by members of his family to establish Memorial Fellowship in Aerodynamics.
- 651 EAMES, Charles H., 1950-52, \$53,142. Bequest for general purposes of the Institute.
- 115 EASTMAN CONTRACT, 1924, \$9,498,869. Gift of George Eastman. Income for general purposes of the Institute.
- 603 EASTMAN, George, BUILDING, 1916-17, \$2,500,000. Gift of George Eastman on condition that \$1,500,000 be raised by alumni and others. Balance to be used as needed for new educational buildings. \$1,225,000 used for George Eastman Research Laboratories in 1932, \$725,000 for Rogers Building and Wind Tunnel in 1939, \$268,700 for one-half of building No. 12 in 1943. \$80,000 for Medical Department alterations in 1943.

- 215 EASTMAN, George, 1918, \$400,000. Gift of George Eastman. Income for Chemistry and Physics. Principal available for addition to EASTMAN BUILDING FUND after latter is exhausted. The total of the gifts of GEORGE EASTMAN to the Institute for both buildings and endowment was \$20,500,000.
- 117 EATON, Charles W., 1929-43, \$261,148. Bequest. Income for advancement of general purposes of Institute. (From 1911 to 1923 Mr. Eaton gave \$15,501.45 for Civil Engineering Summer Camp in Maine.)
- 720 EDISON, Theodore M., 1951, \$90,000. Grant in aid of the Institute's program of education and research.
- 119 EDUCATIONAL ENDOWMENT, 1920-21, \$7,574,000. \$4,000,000 gift from George Eastman and balance contributed by alumni and others. Income for current educational expenses.
- 121 EDWARDS, Martha Ann, 1890, \$30,000. Bequest. Income for general purposes.
- 722 ELECTRONICS, INDUSTRIAL FELLOWSHIPS IN, 1946-52, \$121,200. Contributions for Fellowships.
- 721 ELECTRONICS, RESEARCH LABORATORY OF, 1943-50. Balance \$82,827. Appropriations from surplus for postwar research.
- 604 ELECTRONICS LABORATORY BUILDING, 1950. Gift \$200. For Electronics Laboratory Building.
- 797 ELSON, Arthur, 1944, \$500. Bequest of Bertha L. Elson for the purpose of special book purchases for the Library.
- 415 EMERSON, Frances and William, 1930, \$100,000. Gift. Income for aid of regular and special students in Department of Architecture.
- 557 EMERSON, William, PRIZE, 1939, \$2,145. Contributed by friends as a fund for prizes to architectural students.
- EMERY, F. W., 1916, \$120,000. Bequest. Used for buildings and equipment.
- 123 ENDICOTT, William, 1916, \$25,000. Bequest. Income for general purposes.
- 995 ENDOWMENT RESERVE, 1924-1951. Created and otherwise increased by gains from sales or maturities of investments and decreased by losses and charges from sales or maturities. Belongs to all funds sharing general investments.
- ESTABROOK, Arthur F., 1923-38, \$100,800. Bequest. Used for purchase of land and equipment.
- ESTABROOK, Ida F., 1926-37, \$22,157.51. Bequest. Used for educational plant.
- 605 FACILITIES BUILDING FUND, 1952. Appropriation from use of Facilities Fund to finance commitments of buildings under construction.
- 606 FACULTY CLUB, 1951-52, \$11,612. Contributions under the development program designated for a faculty club.
- 124 FACULTY SALARY ENDOWMENT, 1951-52, \$3,096,000. Appropriation to fund a part of salary increases.

- 417 FARNSWORTH, 1889, \$5,000. Bequest of Mary E. Atkins. Income for scholarships.
- FITZ, Henrietta G., 1930, \$10,000. Bequest. For general purposes. Appropriated for educational plant, 1940.
- 217 FLETCHER, Harold H., 1942, \$10,000. Bequest under will of Herbert H. Fletcher. To endow a bed in the Institute's Infirmary.
- 419 FLINT, Charles Lewis, 1889, \$5,000. Bequest. Income for support of worthy student, preference given graduate of English High School, Boston.
- 267 FLINT, Charles Lewis, 1889, \$5,000. Bequest. Income for purchase of books and scientific publications for Library.
- 723 FOOD TECHNOLOGY, 1945-52, \$320,000. Contribution for research.
- 283 FORBES, Sarah H., 1901, \$500. Gift of Malcolm Forbes as memorial to mother. Income for salaries.
- 421 FORBES, Sarah S., 1913, \$3,455. Gift of Sarah S. Forbes, William B. Rogers, and Henry S. Russell. Income for maintenance and education of scholar at M. I. T.
- 422 FORD, Clara and Joseph F., 1952, \$5,000. Gift. Income to be awarded to worthy and well-qualified students who have demonstrated a democratic and tolerant spirit and who are well disposed toward people of all creeds and races.
- 652 FORD MOTOR COMPANY FUND, 1951-52, \$333,330. Payment on subscription.
- 724 FORD MOTOR COMPANY, 1949, \$25,000. For special research in the field of Industrial Relations.
- 125 FOSTER, Francis Appleton, 1922, \$1,000,000. Bequest. Income for purposes of Institute.
- 127 FOSTER, John W., 1938, \$299,926. Bequest. Income for purposes of the Institute.
- 609 FRASER, Matilda A., 1942, \$859.89. Bequest. Towards construction of a women's dormitory.
- 129 FRENCH, Alexis H., 1930, \$5,000. Bequest. Income for general purposes of Institute.
- FRENCH, Caroline L. W., 1916, \$100,843.34. Bequest. Used for new equipment, 1928.
- 131 FRENCH, Jonathan, 1915-51, \$91,009. Bequest of Caroline L. W. French. For purposes of the Institute.
- 133 FRICK, Henry Clay, 1925-48, \$2,208,482.92. Bequest. Institute received ten shares of a total of one hundred shares of his residuary estate. Income for general purposes.
- 423 FRIEDLANDER, Philip Jacob, 1945, \$1,000. Gift. Income to be used to aid qualified students in need of assistance.
- FRISBIE, Walter L., 1923, \$7,614.98. Bequest. Used for educational plant, 1928.

- 588 **FRYER, Ethel I., SCHOLARSHIP LOAN, 1951, \$2,500.** Gift of Herbert Fryer for loans to students from the states of Washington, Oregon and California.
- 653 **GAFFIELD, Erastus C., 1944-45, \$387,854.** Bequest. Principal and income available for general purposes. In 1945, \$120,000 was applied to retirement of Dormitory mortgages. In 1947, \$158,000 was applied toward the purchase from the U. S. Government of Building 24 and \$108,100 appropriated for miscellaneous purposes. Present balance \$1,869.
- 285 **GARDNER, George A., 1898, \$20,000.** Gift. Income for salaries of instructors.
GAS TURBINE LABORATORY, 1946, \$500,000. Contributions from five industrial corporations for construction and operation of new laboratory. Used for construction 1946-48.
- 135 **GENERAL ENDOWMENT, 1921, \$1,529,999.** Contributions by alumni and others to meet George Eastman's condition relative to gift of \$2,500,000, his building fund.
- 589 **GEORGE, Nathan R., 1943, \$29,197.37.** Bequest. Income to be loaned to undergraduates under certain administrative conditions.
- 425 **GEORGE, Norman H., 1919-25, \$89,453.** Bequest. Income for assistance of worthy and needy students.
- 427 **GILMORE, Arthur B., \$10,000, 1941.** Bequest. Net income to assist needy students, members of Beta Theta Pi — not more than two students in any one year.
- 725 **GIVEN, William B., 1952, \$10,000.** Gift of American Brake Shoe Co. for Given Room in Metals Processing Laboratory.
- 654 **GLEASON, Walter A., 1952, \$2,000.** Bequest for general purposes.
GOODALE, Charles W., 1929, \$50,000. Bequest. Used for new dormitory, 1930.
- 558 **GOODWIN, Harry A., 1950, \$9,824.** Gift to create a Goodwin medal to award to graduate students.
- 429 **GORDON, Barnett D., 1942-51, \$15,000.** The income to be used as scholarships for deserving students.
- 137 **GRANGER, Eliot, 1936, \$21,568.43.** Bequest under will of Mary Granger in memory of deceased son. Income for the general purposes of the Institute.
- 727 **GRIMMONS, John A., 1930-52.** Balance \$11,999. Bequest of C. Lillian Moore of Malden. Principal held by Old Colony Trust Co., Trustee. Income for loans to undergraduates in Electrical Engineering. Unused balances available for purchase of apparatus and equipment in Department of Electrical Engineering.
- 813 **HAFFENREFFER FAMILY FOUNDATION, 1951, \$25,000.** Gift for unrestricted use, but sensitive to the Haffenreffer family interest in implementing and handling of the Herreshoff Collection.
- 655 **HALL, Edward C., 1951, \$7,151.** Residuary bequest for general use.
- 431 **HALL, Lucia G., SCHOLARSHIP, 1945-46.** Balance \$54,413. Bequest of Louise K. Gunn. The income only used for aid of worthy students.

- 433 HALL-MERCER SCHOLARSHIP, 1940-52. Balance \$77,025. Bequest under will of Alexander G. Mercer. The income to be used for tuition and other necessary expenses of students.
- HAMILTON, George Wyman, 1935, \$54,414.15. Bequest appropriated for new equipment, 1937-39.
- 729 HARVEY NONFERROUS FORGING, 1946, \$10,000. For research.
- 435 HASTE, James H., 1930-45. Balance \$241,074. Bequest. Income for aid of deserving students of insufficient means.
- 139 HAYDEN, Charles, 1937, \$1,000,000. Bequest of Charles Hayden. Income for general educational purposes of the Institute.
- HAYDEN, Charles, 1925, \$42,700.76. Gift. Used for educational plant.
- HAYDEN, Charles, 1927, \$100,000. Gift for new dormitories.
- HAYDEN, Charles, MEMORIAL LIBRARY, 1945-47, \$2,200,000. Gift of Charles Hayden Foundation for new library. Used in 1948, 1949 and 1950 for library construction.
- 437 HAYDEN, Charles, MEMORIAL SCHOLARSHIP, 1940-43, \$100,000. From the Charles Hayden Foundation. For entrance scholarships. Preference given to students from Boston and New York.
- 439 HAYDEN, Charles, MEMORIAL SCHOLARSHIP, SPECIAL 1947. Accumulation of income of Scholarship Fund (No. 437).
- HAYDEN, Charles, FOUNDATION DENTAL CLINIC, 1940, \$10,000. To assist in establishment of and necessary equipment for a Dental Clinic available to entire student body, faculty and employees.
- 287 HAYWARD, James, 1866, \$18,800. Bequest. Income for salaries.
- HENRY, James W., 1935, \$8,407. Bequest. Used for new equipment.
- 656 HENRY, William T., 1943-51. Present balance \$94,074. Income from Trust Fund held outside M. I. T. Fund for general purposes.
- 987 HEWETT, Joseph, 1921-24, \$200,000. In trust subject to special annuity provisions.
- 315 HICKS, Clarence J., MEMORIAL, 1946, \$20,000. For fellowship in Industrial Relations.
- 141 HILLS, John Marshall, 1941-42, \$366,430.96. Bequest. Income for general purposes of M. I. T.
- 268 HOBBS, Edith Morrill, 1948, \$5,000. Bequest. Income for purchase of books on Architecture.
- 316 HOBBS, Edith Morrill, 1948, \$5,000. Bequest. Income for aid to graduate students in Architecture.
- HODGES, Frederick S., 1928, \$57,316.26. Bequest. Appropriated for new dormitories.
- 142 HODGES, Walter W., 1946, \$36,809.70. Bequest. Income only for general purposes.
- HOLLINGSWORTH, Ellis, 1940, \$10,000. Bequest for unrestricted use. Used for new construction, 1947.
- 440 HOLLINGSWORTH, George, 1916, \$5,000. Bequest of Rose Hollingsworth. Income used for scholarship.

- 441 HOLM, Loren C., 1950, \$5,956. Bequest from the estate of Marie Holm in memory of her father. Income for scholarships.
- 814 HOROVITZ, Oscar H., 1947-49, \$1,500. Gift for investment purposes until use is designated by donor or his heirs.
- 657 HOSBACH, Ernest R. MEMORIAL, 1948, \$1,000. Gift of Frederick W. Hosbach in memory of his son. For general purposes of Institute.
- 442 HOWE, Elias, Jr., 1950-51, \$24,200. Bequest from the estate of Julia Howe Stockwell Smith. Income for aiding students of mechanics as recommended by the faculty.
- 559 HUNNEMAN, Roger Defriez, PRIZE, 1927, \$1,050. Gift of W. C. Hunneman in memory of Roger Defriez Hunneman, '23. Income paid as annual award to most meritorious student in Chemical Engineering who has shown most outstanding originality in his work as determined by that Department.
- HUNT, Abby W., 1936-44, \$79,400. Bequest. For general purposes. \$60,000 used for alterations, 1937. \$16,000 for new equipment, 1938. Balance \$3,400, for new construction 1947.
- 443 HUNT, Samuel P., 1946, \$7,496. Gift. For undergraduate scholarships.
- 445 HUNT, T. Sterry, 1894, \$3,000. Bequest. Income to a student in Chemistry.
- 447 HUNTINGTON, William F., 1892, \$5,000. Gift of Susan E. Covell. Income to deserving students. Preference to be given to students in Civil Engineering.
- 611 HYDRODYNAMICS LABORATORY AND TOWING TANK, 1946-52. Gifts used for construction of new building 1950-52.
- 733 INDUSTRIAL ECONOMICS, 1940-50. Balance \$36,273. Contributions in support of Graduate Program in Economics.
- 737 INDUSTRIAL, 1924-51. This fund succeeded "Tech Plan" Contracts, payments under which went to the Educational Endowment Fund. Now receives surplus from industrially sponsored operations of Division of Industrial Cooperation and royalties from patents administered by the Research Corporation. Used for purchase of new equipment and support of special research.
- 739 INDUSTRIAL RELATIONS SECTION, 1938-52. Balance \$164,028. Contributions in support of the Industrial Relations Section of the Department of Economics.
- 741 INSTRUMENTATION, 1943-45. Balance \$136,407. For research in the field of instrument design.
- INSURANCE ENGINEERING, 1944, \$835.13. Established by private subscriptions and donated to M.I.T. through the Boston Manufacturers Mutual Fire Insurance Co. Used for new construction 1947.
- JACKSON, Charles C., 1912, \$25,000. Gift. Used for purchase of new site.
- 288 JACKSON, Dugald Caleb, PROFESSORSHIP, 1951-52, \$10,775. Gifts of various donors to create a professorship in Electrical Engineering.
- 143 JAMES, 1898-99, \$163,654. Bequest of Julia B. H. James. Income for development of M.I.T.

- 449 JEWELL, David L., 1928, \$25,000. Bequest. Income for tuition of five young men who are worthy of assistance and who, were it not for such assistance, might be unable to pursue their studies at M.I.T.
- 451 JONES, Edward A., 1947, \$41,254. Bequest for scholarships.
- 317 JOSLIN, Rebecca R., 1924-36, \$6,540. Bequest. Income awarded as a loan to advanced student in Chemical Engineering on recommendation of that Department — restricted to native and resident of Massachusetts. Beneficiary is expected to abstain from using tobacco in any form.
- 453 JOY SCHOLARSHIPS, 1886, \$7,500. Gift of Nabby Joy. Income for scholarships for one or more women studying natural science at M.I.T.
- 219 KALES, William R., 1944, \$75,001.48. Gift of Mrs. Kales and family. To establish and maintain Eye Clinic in Medical Department.
KALES, William R., 1925-27, \$11,000. Gift for new dormitories.
- 659 KELLER, 1948, \$100. Gift of Carl T. Keller. For expenditures under the direction of Doctor Tate.
- 221 KENNELLY, Arthur E., 1940-44, \$67,058. Bequest. Income only to be used for the study of mathematics directed toward physics or physical applications.
KENNEY, Carrie Belle, 1945, \$1,000. Bequest. Used for new construction, 1947.
- 743 KENT, A. Norton, 1944-49, \$700. Gift. For research in Physics. \$500 appropriated, 1947.
- 269 KERR, William Hall, 1896, \$2,000. Gift of Alice M. Kerr. Income for the annual purchase of books and drawings in machine design.
- 145 KILBURN, Dale G., 1949, \$68,894. Bequest. Income for general purposes.
KIMBALL, David P., 1924, \$10,000. Bequest. Used for educational plant, 1926.
- 560 KING, Ellen A., MEMORIAL PRIZE, 1951, \$1,510. Gift of members of family and friends for an annual prize. (\$300 expended for book-plate, etc.)
- 454 KNEISNER, Amelia S., SCHOLARSHIP, 1945-49, \$18,000. Gift of the family. Income to provide scholarship aid to meritorious or needy students — preference to students from Danbury (Connecticut).
- 455 KNIGHT, Louise Parks and Charles F. Parks, '75, 1952, \$8,584. Bequest for aid to poor but worthy students who need funds to finish school.
- 222 and 612 KRESGE FOUNDATION, 1951, \$750,000. For an auditorium and chapel.
- 815 KRUEGER, Lora Culver. Balance \$543. Bequest of Emma Robinson Culver. Principal and interest for scholarship to needy student from Schenectady, N. Y. and vicinity.
- 456 KURRELMAYER, 1945-46, principal \$2,220. Income for undergraduate scholarship.
- 146 LADD, Charles C., '30 FUND, 1951, \$600. Gift of Charles C. Ladd, Jr., Richard Swan Ladd, Elizabeth S. Ladd, and Mary Elizabeth Ladd. The income only to be used for general purposes.

- 590 LAMSON-VIRGIN LOAN, 1946-48, \$10,600. Bequest. Income to be used in aiding worthy students, with provision for repayment.
- 816 LEVER BROS. CO. 1949, \$2,500. Income or principal to be used on recommendation of M. I. T. and Lever Bros. Co. presidents.
- 661 LEWIS, Edwin J., Jr., 1950, \$24,303.54. Bequest for general purposes of the Institute.
- 319 LEWIS, Wilfred, 1930, \$5,000. Gift of Emily Sargent Lewis. Income for maintenance of graduate student in Mechanical Engineering.
LIBRARY BUILDING, 1946, \$1,000. Gift used for Hayden Library building.
- 799 LIBRARY GROWTH, 1943-47. Balance \$5,529. For investment purposes.
- 457 LICHTER, Jacob and Jennie, 1944-48, \$10,475. Gift. Income for scholarship on approval of donor.
- 458 LITCHFIELD, William, 1910, \$5,000. Bequest. Income for scholarship on competitive examination.
- 223 LITTLE, Arthur Dehon, MEMORIAL, 1937. Balance \$158,675.53. Bequest under will of Dr. Arthur D. Little. Income to be used in Departments of Chemistry and Chemical Engineering. (The unexpended income from 5,543 shares of common stock of Arthur D. Little, Inc., held by Voting Trustees for the benefit of the Institute under declaration of trust dated November 18, 1936, and in force for twenty years, amounted to \$39,008 at June 30, 1952.)
- 746 LITTLE, Arthur D., Inc., 1951, \$11,600. Grant for low temperature research.
- 817 LITTLE, Arthur D., MEMORIAL LECTURESHIP, 1944-52, \$21,600. Gift of Arthur D. Little, Inc., for purpose indicated.
- 459 LOCKE, Charles E., MEMORIAL, 1951, \$10,000. Reclassification of Class of 1896 fund on basis of a class resolution.
LOGAN, Hiram H., 1933-46, \$44,195.79. Bequest. Principal and income for general purposes of M.I.T. \$19,455 appropriated for educational plant, 1940. Balance for new construction, 1947.
LONGYEAR, John M., 1915-16, \$30,000. Gift. Used for land and equipment, 1916.
- 460 LORING, Elisha T., 1890, \$5,000. Bequest. Income for assistance of needy and deserving pupils.
- 614 LOW TEMPERATURE REFRIGERATION LABORATORY, 1951-52, \$24,000. Gifts of several concerns interested in this laboratory.
- 461 LOWELL INSTITUTE, 1923, \$2,000. Gift from alumni of Lowell Institute to establish scholarships for its graduates.
- 225 LOWELL, Katharine Bigelow, 1895, \$5,000. Gift of Augustus Lowell in honor of Mrs. Lowell. Income for purchase of books and apparatus for Department of Physics.
- 988 LOWELL, Percival, SCHOLARSHIP, 1949, \$30,000. Fund created by gift of real estate to be sold and proceeds to be used for special fund, to pay annuity to donor and on her death to create a scholarship fund.
LYMAN, Arthur T., 1913, \$5,000. Bequest. Used for educational plant, 1926.

- McGREGOR, James, 1913, \$2,500. Bequest. Used for educational plant, 1926.
- 989 ANONYMOUS, E. M. 1952, \$14,000. Gift with annuity provisions.
- 818 MACOMBER, John R., 1948-52, \$8,066. Gift. For general expenses.
- 462 MACLAURIN, Alice, 1951-52, \$748. Gifts to create scholarship in memory of Mrs. Richard C. Maclaurin.
- 148 MAIN, Charles T. and Charles R., MEMORIAL FUND, 1951, \$5,150. Gift of the family and of the Associates of Chas. T. Main, Inc. Income for general purposes.
- 463 MARDEN, Rupert A., 1933, \$2,000. Gift (anonymous). Income to aid worthy student — Protestant and of American origin — preference to student taking Cooperative Course in Electrical Engineering (Course VI-A).
- 663 MARTIN, Augustus B., Jr., 1950, \$64,890. Bequest of Alice G. Martin in memory of her brother, for the general purposes of the Institute. Bequest includes land at Boothbay Harbor, Maine, carried at no value.
- 464 MARTIN, Waldo A., 1950, \$10,000. Gift. Income for freshman scholarship with restrictions until 1975, and then with preference to graduates of Milton High School, Milton Academy, or residents of Milton.
- 289 MASON, William P., 1868, \$18,800. Bequest. Income to support a professorship in the Institute.
- M.I.T. ALUMNI, 1907. Total subscriptions of alumni to 1924, \$632,500. \$632,000 appropriated for new equipment, Walker Memorial, 1916 Reunion, and Dormitories.
- M.I.T. ALUMNI GYMNASIUM, 1938-42. Total subscription \$400,000. Appropriated for Briggs Field House, for Athletic Field, and for swimming pool.
- M.I.T. ALUMNI, 1940-49. Plan adopted by the alumni of the Institute for the annual raising of funds for support of the Alumni Association and the *Technology Review* — the balance to be applied toward specific purposes other than operating expenses of the Institute. Total \$695,508. In 1947, \$500,000 was applied to the new Senior Dormitory construction, and \$10,000 toward new Tennis Courts. In 1949-50 the balance was applied toward Hayden Library.
- 820 M.I.T. ALUMNI, 1949-52. Accumulated net subscriptions of these years. Balance \$152,137.
- 822 M.I.T. Alumni 1951-52. Net subscription \$66,841 added to above fund.
- 933 M.I.T. ALUMNI ASSOCIATION PERMANENT, 1929-49. Balance \$105,054. Deposited with M.I.T. for investment purposes only.
- 465 M.I.T. CLUB OF CHICAGO, 1944-49, \$6,750. Gift. For scholarships.
- 664 M.I.T. LITTLE TRUST, 1951-52, \$19,241. Rental income on machinery received as beneficiary of the trust, for general use.
- 823 M.I.T. TEACHERS' INSURANCE. Refund of premiums paid on Group Insurance under M.I.T. Pension and Insurance Plan held at interest and accumulated, plus unused part of 2% M.I.T. appropriation for Group Insurance annual premium. Appropriated for special pension purposes only. Balance \$285,859.
- 960 M.I.T. WOMEN'S DORMITORY, 1948-52. Contributions for additional equipment and replacements. Present balance \$1,305.

- 467 MATHEWS, Margaret A., 1947, \$111,682. Bequest. For scholarship. For women students who expect to become teachers.
- 749 MAURAN, John Lawrence, 1934, \$10,000. Bequest. Principal and income for benefit of Department of Architecture. Used, in part, toward house projects in Wellesley and Wakefield, 1937-40.
- 227 MAY, George Henry, 1914, \$4,250. Gift. Income for benefit of Chemistry Department.
- 469 MAY, George Henry, 1914, \$5,000. Gift. Income to assist graduates of Newton High School recommended as eligible by superintendent and head masters of Newton High School. Beneficiary to issue a note payable without interest.
- 147 McCAMMON, Thomas, 1930, \$15,000. Bequest in honor of father, James Elder McCammon. Income available for general purposes.
- 561 and 591 MEAD, George J., 1951-52, \$285,093. Bequest, 80% for Loan Fund for outstanding students in field of power plants for airplane propulsion, and 20% as a prize fund to stimulate all students in the aeronautical field to their best possible efforts.
- 562 MEANS, James, 1925, \$2,700. Gift of Dr. James H. Means as a memorial to father. Income for annual prize for essay on an aeronautical subject.
- 592 MEDICAL DEPARTMENT NEEDY STUDENT. Appropriation by M.I.T. to assist needy students in payment of medical and hospital bills.
- MERRILL, Charles E., 1943, \$2,300. Used for new construction, 1947.
- 750 MERRILL FOUNDATION, 1949 and 1951, \$50,000. For special research in the field of Industrial Relations.
- 615 METALS PROCESSING LABORATORY, 1947-52. Contributions for construction and equipment. Present balance \$27,343.
- METALLURGY, SPECIAL, 1938, \$10,000. Subscription (anonymous) used for special equipment for Department of Metallurgy.
- 665 METCALF, Alice Butts, 1945, \$100,000. Bequest for unrestricted use. \$50,000 used for new construction, 1947.
- 666 METCALF, Leonard, MEMORIAL, 1950-52, \$102,092. Bequest of Alice Metcalf in memory of her brother for the general use of the Institute.
- 577 MILLER, Edward F. and Mary R., 1941, \$10,000. Bequest. To be used at discretion of Bursar as a fund in assisting needy students who have been found by the medical director to require special medical or surgical treatment.
- MILLS, Hiram F., 1923, \$10,175. Bequest. Appropriated for educational plant, 1937.
- 471 MILNE, Robert W., 1943, \$75,856. Bequest. Income for assistance of worthy and needy students.
- 751 MINNS, Susan, 1930. Gift of Miss Susan Minns — tract of land on Memorial Drive for use in any way deemed best for benefit of plan regarding construction and maintenance of an hydraulic laboratory. Carried at \$40,000.
- 473 MIRRLEES, James H., 1886, \$2,500. Gift of James Buchanan Mirrlees. Income to such student in third or fourth year Mechanical Engineering most deserving pecuniary assistance.

- 824 MITSCH, John D., MEMORIAL, 1946. Balance \$3079. Contributions toward memorial to the late Professor Mitsch and education of his children.
- 753 MOORE, Forris Jewett, 1927-31, \$32,000. Gift of Mrs. F. Jewett Moore as a memorial to husband. Income or principal (under special conditions) expendible subject to approval of Executive Committee by a committee of three members of the Department of Chemistry — to make the study of Chemistry more interesting and surroundings of such study more attractive.
- MOORE, Mrs. Forris Jewett, 1951, \$75,000. Bequest of her home on Memorial Drive refurbished for Dean's House.
- 321 MOORE, 1914-28-29, \$24,200. Gift of Mrs. F. Jewett Moore. Income to help some Institute graduate to continue studies in Europe, especially organic chemistry. Preference to student who has distinguished himself in this subject while an undergraduate. Present balance \$28,375.
- 475 MORRILL, FRED W., 1941, \$2,000. Bequest. Income for financial assistance to students.
- 149 MORSE, Kate M., 1925, \$25,000. Bequest. Income for general purposes of M.I.T.
- 151 MORSS, Everett, 1934, \$25,000. Bequest. Income for general purposes of M.I.T.
- MORSS, Everett, 1916, 1921-25, \$35,000. Gifts. For Walker Memorial murals by E. H. Blashfield.
- 825 MORSS, Henry A., MEMORIAL NAUTICAL FUND 1937 and 1952, \$8,500. Gift for maintenance of sailing activities and sailing pavilion. Expenditures approved jointly by Sailing Master and Bursar.
- 667 MORSS, John Wells, 1940, \$50,000. Bequest. Principal and income for general purposes.
- 152 Munch, Samuel, MEMORIAL, 1950, \$1,200. Gift of Benjamin S. Munch for memorial to his father, income to be used for general educational purposes.
- MUNSELL, Albert H., 1920, \$7,908.28. Bequest. Used for educational plant, 1928.
- MUNSELL, Margaret A., 1920, \$1,105.32. Bequest. Used for educational plant, 1928.
- NASH, Nathaniel C., 1881, \$10,000. Bequest. Appropriated for new dormitories, 1924.
- 669 NEWLIN, E. Mortimer, 1951-52, \$1,184. Income of a trust available for operating expenses, with preference for teaching salaries. Principal, when received, to be added to general endowment.
- 477 NICHOLS, 1895, \$5,000. Bequest of Betsy F. W. Nichols. Income for scholarship to student in Chemistry.
- 479 NICHOLS, Charles C., 1904, \$5,000. Bequest. Income for scholarship.
- 478 NICKERSON, William E., 1949-50, \$35,378. Bequest. Income for undergraduate scholarships.
- 670 NICKERSON, William E., 1949-50, \$35,379. Bequest for general purposes.

- NICKERSON, William E., 1928, \$50,000. Gift. Principal and income used to finance chair in Humanics, 1928-40.
- 323 NORRIS, James F., 1949-50, \$59,592. Bequest. Income for graduate fellowships.
- 755 NUCLEAR SCIENCE AND ENGINEERING, 1947-50, \$67,000. For research.
- OLIVER, MOSES W., 1921, \$12,870.49. Bequest used for educational plant, 1938.
- ORVIS, Christel, 1942, \$539.42. Bequest. Used for new construction, 1947.
- 271 OSBORNE, George A., 1928, \$10,000. Bequest. Income for benefit of mathematical library.
- 481 OSGOOD, John Felt, 1909, \$5,000. Bequest of Elizabeth P. Osgood in memory of husband. Income for scholarship in Electricity.
- 757 PAINE, F. Ward, 1944, \$10,000. Bequest. For special research in Geology.
- 953 PARK, Charles Francis, MEMORIAL, 1947, \$5,500. For investment purposes.
- 758 PARKER, Theodore B., MEMORIAL, 1945-46, \$3,000. For special graduate scholarships.
- 483 PARMELEE, George L., 1921, \$17,641. Bequest. Income for tuition of either special or regular worthy students.
- PATCH, Emerette O., 1935-38, \$8,240.84. Bequest. \$5,964 used for special expenditures, 1938-40. Balance for new construction, 1947.
- PEABODY, Frank E., 1920, \$51,467.35. Bequest. Used for educational plant, 1921 and 1926.
- 484 PECKER, Frank Stetson, SCHOLARSHIP, 1948, \$59,731.18. Bequest.
- PERKINS, Frances M., 1912, \$122,569.67. Bequest. Used for educational plant.
- PERKINS, H. B., 1940 and 1949, \$354. Bequest. Used for new equipment in 1940 and development program in 1949.
- 153 PERKINS, Richard, 1887, \$50,000. Bequest. Income for general purposes.
- 485 PERKINS, Richard, 1887, \$50,000. Bequest. Income for scholarships.
- 325 PERKINS, Willard B., 1898, \$6,000. Bequest. Income to be expended every fourth year for traveling scholarships in architecture.
- 231 PETERS, Edward D., 1924, \$5,000. Bequest of Elizabeth W. Peters. Income for the Department of Mineralogy.
- PHILBRICK, E. S., 1922, \$36,213.92. Bequest. Used for educational plant, 1926.
- 861 PHOTO SERVICE RESERVE, 1945-49. For equipment and maintenance of Photo Service.
- PLAYER, Preston, 1933, \$20,000. Bequest. Used for educational plant, 1938.

- 233 PRATT NAVAL ARCHITECTURAL, 1916, \$1,071,000. Bequest of Charles H. Pratt to endow the Department of Naval Architecture and Marine Engineering to be called forever Pratt School of Naval Architecture and Marine Engineering — to erect a building — remainder \$395,676, held in trust. Income to support said school.
- 759 PRATT SPECTROSCOPY, 1950, \$42,000. Gift of John L. Pratt for Spectroscopy Laboratory.
- 486 PRAY, Charles H. and Helen Bartlett, 1951, \$47,646.29. Bequests from their estates to be used for scholarships for needy students.
- PRESCOTT, Charles O., 1935, \$30,640.78. Principal and income used for educational plant, 1938.
- 829 PRESIDENT'S SPECIAL, 1941-44, \$10,500. Gifts. Principal and/or income to be used by President as desired.
- 234 PRICE, Raymond B. MEMORIAL, 1948-52, \$13,000. Gift. Income for research in chemistry or related sciences.
- 487 PRINCE, Florence E., 1943, \$7,689.28. Bequest. Income for aid to worthy students.
- 760 RADIOACTIVITY CENTER, 1945. Balance \$36,759. Appropriation for postwar research.
- 155 RANDALL, J. W. & B. L., 1897, \$83,452. Bequest of Belinda L. Randall as a permanent fund or in erecting a building with those names.
- 489 READ, Thomas Adelbert, 1934-35, \$21,117. Bequest of Julia A. Read to establish scholarship in memory of her brother and their father and mother. Income to be awarded to some worthy and needy student, preferably resident of Fall River, Mass.
- 491 REEVES, Willis Ward, 1946-49, \$2,850. For undergraduate scholarships.
- 493 RICHARDS, Charles A., 1939, \$31,719.32. Bequest. Income only to be used for assistance of poor Protestant students in the Institute.
- 235 RICHARDS, Ellen H., 1912, \$15,076. Income for promotion of research in Sanitary Chemistry, for fellowships to advanced students, for employment of research assistants, and in such other ways as will best promote investigation in that field.
- 761 RICHARDS MEMORIAL, 1929. Balance of subscriptions from friends for portrait of Professor Robert Hallowell Richards available for the Department of Metallurgy.
- 237 RICHARDSON, Charlotte B., 1891, \$30,000. Bequest. Income to support of Industrial Chemical School.
- 494 ROACH, John, SCHOLARSHIP, 1937. Balance \$6,290. Bequest under will of Emeline Roach, income to provide annual scholarship to needy and deserving student in Naval Architecture and Marine Engineering.
- ROBB, Russell, 1928, \$28,750. Bequest. Appropriated for new dormitories, 1930.
- 495 ROBBINS, Karl, 1951, \$25,000. Gift of Robbins Foundation. Income for scholarship or fellowship in field of textile technology with some preference to students from southern states.

- ROCKEFELLER FOUNDATION RESEARCH, 1931-36, \$170,000. Contributed and expended for Research in Science Departments over period of five years.
- 156 ROCKEFELLER, John D., Jr., 1950 \$1,021,475. Unrestricted gift, but functioning as endowment with income for continuing operating needs of the Institute.
- 291 ROGERS, Henry B., 1873, \$25,000. Gift. Income for salaries of one or more professors or instructors.
- 327 ROGERS, Henry Bromfield, 1921, \$20,057. Bequest of Anna Perkins Rogers. Income to establish fellowship or scholarship for women graduates of M.I.T. or other colleges whose graduate work is carried on at M.I.T.
- 239 ROGERS, Henry Darwin, 1951-52, \$5,000. Bequest under will of Mary Otis Russell in memory of her father. Income to be used annually for research.
- 593 ROGERS, Minnie Hempel, 1945, \$1,195.04. Bequest for student loans.
ROGERS, Robert E., 1886, \$7,600. Bequest in memory of his brother, William B. Rogers. Used for new equipment, 1940.
- 830 ROGERS, "Tubby," 1949-52, \$1,373. Contributions for special fund as a memorial to Professor Rogers.
- 496 ROGERS, William Barton. Present balance \$36,505. Established by subscriptions of members of Alumni Association through Prof. R. H. Richards for loans to students. By vote of Executive Committee in March 1935, approved by Alumni Council, the income, not now needed for loans, is made available for special scholarship aid in the discretion of the President and Treasurer.
- 157 ROGERS, William Barton, MEMORIAL, 1883-85, \$250,225. Contributions from 91 persons. Income for support of Institute.
- 241 ROGERS, William Barton and Emma Savage, 1937, \$102,064.18. Bequest of Dr. Francis H. Williams including unvalued land at Truro, Mass. Income to be added to principal for twenty years — after which 80 per cent of income may be used for research in pure science — balance to be added to fund. Present balance \$215,639.
- 243 ROPER, Francis E., 1936, \$2,000. Bequest. Income for use in Department of Mechanical Engineering.
- 273 ROTCH, Arthur, ARCHITECTURAL, 1895, \$5,000. Bequest. Income for Library or collection for Department of Architecture.
- 245 ROTCH, Arthur, 1895, \$25,000. Bequest. Income for general purposes of Department of Architecture.
- 565 ROTCH, Arthur, 1895, \$5,000. Bequest. Income for annual prize to student in regular course in Architecture graduating highest in class.
- 567 ROTCH, Arthur, SPECIAL, 1895, \$5,000. Bequest. Income for annual prize to student who shall be ranked highest at end of two years' special course in Architecture.
- 578 ROWE, Allan Winter, MEMORIAL FUND, 1952, \$1,045. Gift. Income only to be used for purchase of equipment for the sport of rowing.
- 579 RUNKLE, John C., 1952, \$17,931. Bequest. Principal and income to be held for endowment.

- 329 RUSSEL, Richard Lee, 1904, \$2,000. Gift of Theodore E. Russel. Income to assist worthy student of high standing in Department of Civil Engineering either undergraduate or postgraduate.
- 497 RYAN, William Patrick, MEMORIAL, 1935, \$3,557. Contributed by friends of Professor Ryan. Income for scholarship in Chemical Engineering.
- 831 RYAN, William Patrick, SPECIAL, 1933. Appropriation. Educational fund for three children of late Prof. W. P. Ryan.
- 954 SAILING PAVILION, 1952, \$31,810. Contributions for purchase of new sailing dinghies.
- 955 SAILING PAVILION RESERVE — New Equipment, 1951, \$693.00. Amount reserved from membership dues for future replacement of equipment.
- 568 SALISBURY, Henry Webb, 1941, \$1,000. Gift. Income for award to outstanding student in Aeronautics — initially in form of reference books in Aeronautics. (\$100 of gift to be considered as income.)
- 159 SALTONSTALL, 1901, \$40,000. Bequest of Henry Saltonstall. One-fourth income each year added to principal and remaining three-fourths expended for benefit of Institute. Present balance \$71,006.
- 331 SALTONSTALL, Henry, 1901, \$10,000. Bequest. Income to aid one or more needy students.
- 160 SARGENT, Homer E., Class of 1898, 1950-52, \$5,830. Gift. Income for general purposes.
- 333 SAVAGE, James, 1873, \$10,000. Bequest. Income for scholarships in institution "where my son-in-law, William B. Rogers, is President."
- 161 SAWYER, Samuel E., 1895, \$4,764. Bequest. Income to be used in such a manner as will best promote interests of M.I.T.
- 499 SCHENKL, John P., 1922, \$43,821. Bequest of Johanna Pauline Schenkl in memory of father. Income for scholarships in Department of Mechanical Engineering.
- 769 SCHOOL OF INDUSTRIAL MANAGEMENT OPERATING, 1952, \$275,000. Gift of Alfred P. Sloan Foundation.
- 770 SCHOOL OF INDUSTRIAL MANAGEMENT RESEARCH, 1952, \$1,000,000. Gift of Alfred P. Sloan Foundation.
- 248 SCHWARZ, Dorothy B., MEMORIAL, 1951, \$1,000. Gift of Fabric Research Laboratories, Inc., Walter J. Hamburger, Ernest R. Kaswell and Kenneth R. Fox. Income only to be used preferably for Textile Technology.
- SCHWARZ, Theodore Edward, MEMORIAL, 1937-38, \$4,391.86. Gift. Used for equipment of a room for map collection.
- 833 SEDGWICK MEMORIAL LECTURE, 1930-49. Bequest of Mary Katrine Sedgwick in memory of husband. Proceeds of interest in copyrights and from contracts with publishers for benefit of Department of Biology.
- 763 SEDGWICK, W. T., 1928, \$69,500. Received from Trustees of the Estate of W. T. Sedgwick under Agreement and Declaration of Trust following decease of Mary Katrine Sedgwick for Department of Biology.

- 500 SEGHERS, Paul D., Jr., SCHOLARSHIP, 1948, \$4,800. Bequest. Income for annual scholarship.
SENIOR HOUSE, 1947, \$500,000. Gift of Alumni Association from accumulated Alumni Fund, for new dormitory unit. Used for new dormitory, 1948.
- 765 SERVOMECHANISMS LABORATORY, 1943. Appropriation from Industrial Fund for postwar research.
- 767 SERVOMECHANISMS RESEARCH. Proceeds from royalties for research.
SEWALL, Richard B., 1919, \$30,000. Bequest. Used for educational plant, 1924.
- 501 SHERMAN, Frank Arnold, 1947, \$10,000. Bequest. For scholarships with preference to Westerly, R. I., students.
- 503 SHERWIN, Thomas, 1871, \$5,000. Gift of Committee on Sherwin Memorial Fund for free scholarship to graduate of English High School.
- 569 SILENT HOIST & CRANE Co., Material Handling Award, 1951, \$5,000. Gift of the Wunsch Foundation to provide annual prizes for the best paper or theses submitted on subjects in the fields of production, materials handling, or machine design related to materials handling equipment.
- 293 SLOAN, Alfred P., PROFESSORSHIP, 1945-49, \$350,000. For endowment of Professorship in Industrial Management.
- 619 SLOAN, Alfred P., Metals Processing Laboratory 1950, \$1,000,000. Gift for building and equipment.
- 768 SLOAN AUTOMOTIVE LABORATORY, 1929-48, \$165,000. Gift. Expended for automotive laboratory.
SLOAN, Alfred P., Foundation, 1946-49, \$215,000. Expended for Automotive Laboratory.
SLOAN, Alfred P., Foundation, 1951, \$2,500,000. Gift for the School of Industrial Management Building.
SLOAN, George A., 1945, \$500. Gift. Used for new construction, 1947.
- SMITH, Ellen Vose, 1930, \$25,000. Bequest. Used for new equipment.
- 505 SMITH, G. H. Miller, 1946, \$10,000. For undergraduate scholarships.
- 506 SMITH, H. Hilliard, 1951, \$5,000. Bequest of Mrs. Grace J. F. Smith in memory of her husband, H. Hilliard Smith. Class of 1896, for purpose of assisting young men contemplating the profession of architecture.
- 507 SMITH, Horace T., 1930, \$33,019. Bequest. Income for scholarships. Preference to graduates of East Bridgewater (Mass.) and Bridgeport (Conn.) High Schools.
- 956 SMITH, Lillie C., 1937, \$4,800. Bequest to M. I. T. Women's Association for purposes of the Association.
- 957 SNOW, Walter B., 1938-49. Reserve funds of Technology Christian Association Advisory Board. Deposited for investment purposes.
- 251 SOLAR ENERGY, 1938, \$643,511.63. Gift of Dr. Godfrey L. Cabot. Principal to be held for fifty years — income to be used in development of the art of converting energy of the sun to use of man by mechanical, electrical, or chemical means. After fifty years, fund becomes part of general unrestricted endowment of the Institute.

- 509 SONS AND DAUGHTERS OF NEW ENGLAND PURITAN COLONY SCHOLARSHIP, 1931, \$600. Gift. Income for scholarship aid to a boy of New England ancestry.
- 771 SPECIAL RESEARCH (PADELFORD). Balance \$3,070. For research.
- 772 SPOFFORD ROOM, 1952, \$10,000. Appropriated from unrestricted funds.
- 511 SPOONER, Anna, 1939-41, \$10,896. Bequest. Income to be used in assisting meritorious students.
- 163 SPRING, Andrew Hastings, 1921, \$50,000. Bequest of Charlotte A. Spring in memory of nephew as a permanent fund. Income for general purposes.
- 773 STANDARD OIL COMPANY (INDIANA), 1950-52, \$150,000. Appropriated from Industrial Grant.
- 671 STEWART, MORRIS A., 1952, \$915. Bequest for general purposes.
- STONE, Charles A., 1912-24, \$15,000. Gift for land. 1928, \$25,023.59. Gift for dormitories.
- STONE, Galen L., 1912, \$10,000. Gift for land. 1916, \$10,000. Gift for Mining Building.
- 165 STONE, George G., 1939, \$4,677.35. Bequest by will of Eliza A. Stone as memorial to brother, a graduate in Mining Engineering in 1889. Income to be used in manner most useful to Institute as well as a most fitting memorial.
- 571 STRATTON, Samuel W., PRIZE, 1933, \$1,880. Contributed by friends of the late Dr. S. W. Stratton for competitive prizes in the presentation of scientific papers.
- 595 SUMMER SURVEYING CAMP LOAN, 1927, \$500. Gift of Lammot du Pont as a revolving loan fund to help students in Civil Engineering attend summer surveying camp. Present balance \$3,461.
- 672 SUMNER, Edward A., 1950-52, \$21,088. Bequest for general purposes of the Institute.
- 775 SWEET, Henry N., 1936, \$8,036.50. Bequest. For industrial research.
- 167 SWEETSER, Seth K., 1915, \$25,061. Bequest as a permanent fund. Income for general purposes.
- 335 SWETT, Susan H., 1888, \$10,000. Bequest. Income to support a graduate scholarship.
- 777 SWIFT AMINO ACID, 1947. Balance \$10,200. For research.
- 337 SWOPE, Gerard, GRADUATE FELLOWSHIPS, 1945, \$100,050. Gift. Income annually or from time to time to be granted as Gerard Swope Fellowships under certain conditions and with certain preferences. Principal to be maintained except under conditions presented.
- 673 TAMKIN, Herman W., 1948-49, \$14,860.13. Bequest. For general purposes.
- 168 TALBOT, Henry P., 1949, \$45,243. Bequest. Income for general purposes.
- 835 TAU BETA PI MEMORIAL SCHOLARSHIP, 1948-49, \$2,589.85. Contributions. For special scholarship purposes.
- 580 TEACHERS', 1899-1900. Gifts of \$50,000 each from Augustus Lowell and A. Lawrence Lowell to establish fund, the income of which is for use in case of retirement, disability, or death of members of instructing staff.

- 958 TECHNOLOGY CHRISTIAN ASSOCIATION, 1949. Deposited for investment purposes.
- 596 TECHNOLOGY LOAN, 1930-41. Present balance \$2,225,530. Contributed by eighteen alumni to provide loans for students.
- 959 TECHNOLOGY MATRONS' TEAS, 1916-22-31, \$8,500. Gifts of Mrs. F. Jewett Moore. Income for social activities of Technology Matrons.
- 839 TECHNOLOGY PRESS, 1946-49. Royalties on books published. For special expense.
- 962 TECH SHOW TRUST, 1950. Deposit for investment.
- THAYER, NATHANIEL, 1906, \$25,000. Gift. Used for educational plant.
- 295 THAYER, Nathaniel, 1868, \$25,000. Gift. Income for professorship of Physics.
- 581 THOMAS, W. B. S., 1935-50, \$4,002.50. Gift of parents of W. B. S. Thomas '29, the income only to be expended, one-half for the benefit of the M. I. T. Crew and one-half to other activities of the M. I. T. A. A.
- 297 THOMSON, Elihu, 1933-49, \$23,700. Contributed toward fund for Professorship in Electrical Engineering.
- THOMSON, Elihu, 1912, \$25,000; 1924, \$5,000. Gift. Used for purchase of land.
- THORNDIKE, Sturgis H., 1928, \$15,000. Bequest. Appropriated for new dormitories, 1930.
- 339 THORP, Frank Hall, 1932, \$10,000. Anonymous gift. Income for fellowship in Industrial Chemistry.
- 340 TILLOTSON FELLOWSHIP, 1948, \$1,900. Gift. For Graduate Fellowship in Electrical Engineering.
- 597 TIMBIE, William H., LOAN, 1948, \$4,860.50. Contributions to assist needy students in the Cooperative Course in Electrical Engineering.
- 513 TINKHAM, Samuel E., 1924, \$2,338. Gift of Boston Society of Civil Engineers. Income to assist worthy student in Civil Engineering.
- 275 TOD, John Hume, 1913, \$2,500. Gift of Mrs. F. Jewett Moore. Income for purchase of books of a humanistic character for General Library.
- 515 TOUGH, F. B., 1924, \$465. Gift to extend financial assistance to worthy students in mining or oil production.
- 675 TOWLE, 1944-46, \$10,500. Gift. For general purposes.
- TOWLE LECTURE, 1947, \$1,000. Gift. For special lectures.
- 781 TREAT, Nellie Florence, 1944, \$609. Bequest. For use in the field of Food Technology.
- 677 TRIPP, Charles A., 1943, \$100,000. Bequest. For dormitory construction — or such other use of all or part as may seem advisable.
- 800 TUCKER, Charles W., 1951, \$500. Bequest for purchase of books for the Eastman Library.
- 255 TURNER, Edmund K., 1915-41, \$206,814. Bequest. Income, three-quarters for Department of Civil Engineering and one-quarter to be added annually to principal. Present balance \$300,112.

- TUTTLE, Lucius, 1916, \$50,000. Bequest. Used for educational plant, 1918.
- 783 TWENTIETH-CENTURY-FOX FILM RESEARCH CORPORATION, 1947, \$2,500. For research.
- 582 TYLER, Alice Brown, 1937-41, \$1,559.64. Gift of Prof. and Mrs. H. W. Tyler. Income to be used for benefit of women students at the Institute.
- 963 UNDERGRADUATE ACTIVITIES TRUST, 1935. Established by 1915 Technique Board from which recognized student activities may borrow, if deemed necessary and desirable, at a low rate.
- 967 UNDERGRADUATES DUES RESERVE, ATHLETICS, 1924. Transferred from Undergraduate Dues (current operating account) for investment purposes.
- 969 UNDERGRADUATE DUES RESERVE, CONTINGENT, 1924. Transferred from Undergraduate Dues (current operating account) for investment purposes.
- 965 UNDERGRADUATE PUBLICATIONS TRUST, 1935. Deposited by Alumni Advisory Council on Publications for investment purposes only.
- 785 UNDERWOOD, William Lyman, 1932, \$16,252. Bequest. For benefit of Biology Department or otherwise for general purposes.
- 256 UNITED FRUIT COMPANY, 1950, \$250,000. Grant functioning as endowment.
- 517 UPHAM, Susan, 1892, \$1,000. Gift. Income to assist students deserving financial aid.
- 341 UPHAM, Thomas, 1939-46. Balance \$409,019. Bequest of Marcella B. Upham. Principal to be held as a permanent trust fund, the income to be used in assisting poor and deserving students or graduates of the Institute.
- 519 URBINO, Samson R., 1927, \$1,000. Bequest. Income for students who need assistance, Germans preferred.
- 863 USE OF FACILITIES RESERVE, 1945-51. Appropriated from research contract overhead revenues as applicable to use of physical plant and equipment.
- 277 VAIL, Theodore N., 1925-49, \$68,072.34. Bequest. For benefit of Vail Library.
- 343 VERGES, Luis Francisco, 1924, \$10,000. Gift from Caroline A. Verges. Income for graduate students doing research work in sugar industry or, if no such candidate, undergraduate student in Civil Engineering.
- 521 VERMONT SCHOLARSHIP, 1924-52, \$40,000. Gift of Redfield Proctor, '02, in memory of Vermonters who, having received their education at the Institute, served as engineers in the armies of the Allies in the first World War. Income to students preferably from Vermont. Mr. Proctor reserves right to designate recipients as long as he lives.
- 523 VOSE, Ann White, 1896, \$60,718. Bequest. Income for free scholarships for young men of American origin.
- WADLEIGH, Horace W., 1916-20, \$22,143.14. Bequest. Appropriated for new buildings, 1924.

- 525 WAITT, Arthur M., 1925, \$9,761. Bequest. Income for deserving students in second-, third-, and fourth-year classes in Mechanical Engineering.
- 679 WALKER, Grant, 1943-47, \$80,500. Bequest. For general purposes. \$50,000 used 1949.
- 527 WALKER, Grant, 1944, \$50,000. Bequest. Income for scholarships.
- 169 WALKER, William J., 1915-17, \$23,613. Bequest. Income for general purposes.
- 865 WALKER MEMORIAL RESERVE. For purposes of repair and renovation of the building.
- 867 WALKER MEMORIAL DINING SERVICE RESERVE. For repair and replacement of Dining Service Equipment.
- 257 WARE, William R., 1939, \$15,000. Gift of Mr. and Mrs. William Emerson, the income to be at the disposal of the Dean of the Architectural School for extra budgetary purposes.
- 170 WASTCOAT, Richard, MEMORIAL FUND, 1951, \$4,500. Gift of family and of Paragon Gear Works, Inc. Income only to be used for general purposes.
- 621 WATERBURY, Charles D., 1941. Present balance \$20,164. Bequest. For erection of a building as a memorial to above-named at such time as M. I. T. shall decide.
- 171 WATSON, Horace Herbert, 1930-48, \$36,057.19. Bequest of Elizabeth Watson Cutter as a permanent fund. Income for general purposes.
- 172 WATT, Arthur P., MEMORIAL, 1949-51, \$6,712. Bequest. Income for general purposes.
- 529 WATT, James, SCHOLARSHIP, 1942, \$13,959.72. Bequest under will of Jennie A. Douglas. For scholarships in Mechanical Engineering.
- 681 WEBSTER, Edwin S., 1950, \$25,217.50. Gift for unrestricted use of the Institute.
WEBSTER, Edwin S., 1912-24, \$15,000. Gift. Used toward purchase of land.
- 299 WEBSTER, Edwin S., Foundation, 1952, \$150,000. Gift. To endow the Edwin Sibley Webster Professorship in Electrical Engineering.
WEBSTER, FRANK G., 1931, \$25,000. Bequest. Used for new construction, 1947.
- 531 WEISBEIN, Louis, 1915, \$4,000. Bequest. Income for scholarship for student in Architectural Department, preference to be given to a Jewish boy.
- 173 WELCH, Albion B. K., 1871, \$5,000. Bequest as a permanent fund. Income for general purposes.
WELD, Charles G., 1907, \$15,000. Gift. Used for educational plant, 1924.
- 175 WESTCOTT, Everett, 1935-52, \$176,794. Bequest as a permanent fund. Income for general purposes.
- 177 WESTCOTT, Marion, 1938-52, \$249,396. Bequest for endowment. Income for general purposes.
- 533 WESTON, Frances Erving, 1912-31, \$5,000. Bequest. Income to aid a native-born American Protestant girl of Massachusetts.

- 535 WESTON, Samuel Martin, 1912-31, \$5,000. Bequest of Frances E. Weston in memory of husband. Income to aid a native-born American Protestant boy; preference to be given one from Roxbury.
WHEELER, Alexander S., 1907-16, \$30,000. Contributed by friends. Used for new dormitories, 1924.
- 990 WHEELER, Knight W., 1950, \$20,000. Subject to life annuity provisions.
WHITE, George R., 1912, \$10,000. Gift. Used toward purchase of new site.
- 537 WHITING, Amasa J., 1927, \$4,515. Bequest of Mary W. C. Whiting. Income as scholarship to deserving students; preference to students from the town of Hingham, Massachusetts.
WHITNEY, Edward, 1910, \$37,171. Bequest as a memorial to him and his wife, Caroline. Principal and interest used (1930-38) for conduct of research in geophysics.
- 345 WHITNEY, Jonathan, 1912. Present balance \$520,819. Bequest of Mrs. Francis B. Green. Income to assist poor and deserving young men and women in obtaining an education at M. I. T.
- 682 WIESS, Harry C., 1947-49, \$135,800. Gift. For unrestricted purposes. Income to be added to Fund. Present balance \$170,113.
- 179 WIGGLESWORTH, George, 1931, \$25,000. Bequest. Ten per cent of gross annual income to be added to principal, balance of income for general purposes of the Institute. Present balance \$27,197.
WIGGLESWORTH, George, 1917-24, \$65,000. Gift. Used for additional land purchase, 1924.
- 259 WILDER, Stephen H., 1951-52, \$9,714. From the estate of Edith Carson Wilder. Income only to be used for scientific research.
WILKS, H. Sylvia A. H. G., 1948, \$175,000. Round Hill property, Dartmouth, Massachusetts.
- 683 WILKS, H. Sylvia A. H. G., 1952, \$1,645,392. Bequest for general purposes. Added to Faculty Salary Fund.
- 684 WILLISTON, Belle A., 1948, \$17,118.68. Bequest for general purposes.
- 539 WILLMANN, Elizabeth Babcock, 1935, \$5,065. Bequest. Income to be used toward tuition of young women students taking Chemistry courses.
- 991 WITMER, George S., 1938-52. Balance \$89,479. In Trust, subject to special annuity provisions.
- 686 WOOD, Edwin J., 1949, \$5,000. Bequest for general purposes.
WOOD, Kenneth F., 1926, \$25,000. Bequest. Appropriated for new dormitory, 1930.
WRIGHT MEMORIAL WIND TUNNEL, 1937-41, \$95,795. Contributed by friends toward construction of wind tunnel.
- 181 WYETH, Edwin A., 1913-35, \$254,704. Balance of Trust Fund held by M. I. T. from 1913 for itself and five other beneficiary institutions subject to annuity. Distributed January, 1935. Fund separately invested until June 30, 1943. Net income available for general purposes of the Institute.
- 541 WYMAN, Morrill, 1915-16, \$66,538. Bequest. Income to aid deserving and promising students upon understanding that if in later life the person receiving aid shall find it possible, he shall reimburse said fund -- not a legal obligation.

Reports of Other Administrative Officers

Secretary of the Institute

THE OFFICE OF THE SECRETARY of the Institute was established in 1951 to direct and co-ordinate the Institute's program of external relations. These include the fund-raising activities of the Development Office; the special services provided to our industrial sponsors by the Industrial Liaison Office; the student recruiting program of the Educational Council; the Institute's News Service; and the Office of Publications. The Office of the Secretary further provides closer and more effective liaison with the Corporation Visiting Committees.

The past year has been devoted chiefly to the establishment of long range policies and objectives in the above activities, and to the development of an effective organization to implement our plans. At the same time, significant progress has been made in the operational programs of the various offices, as described briefly in the following paragraphs.

DEVELOPMENT OFFICE

The solicitation of financial support has passed from the intensive phase of the recent Development Program to the long range program of providing stabilized and adequate income. The chief source of the necessary funds will be industrial corporations and foundations. The past year has seen a very gratifying increase in contributions from industry, and every effort is being made to broaden the base of such support.

From July 1, 1951, to June 30, 1952, the first year of the

newly organized permanent Development Office, total gifts received by the Institute amounted to \$6,993,000. Of this amount \$1,110,000 was received from industry under the Industrial Liaison Program for the general support of the Institute's educational activities. This type of grant-in-aid now forms a substantial part of the Institute's operating budget and is a significant manifestation of industry's awareness of the financial problems facing private educational institutions.

Also included in the above total is the sum of \$40,000 raised as a special fund for the construction of a new fleet of dinghies for the M. I. T. Sailing Pavilion.

The two outstanding events during the past year in the long range development program for the future financing of M. I. T. were:

1. *The first meeting of the Corporation Committee on Development*, at which time the objectives of the program were outlined by President Killian and endorsed by the Committee. Except for obtaining the urgently needed building funds for a Laboratory of the Physical Sciences and for a new Gymnasium, the program's chief objective will be to bring about a substantial increase in permanent capital funds. A goal of \$20,000,000 has been set for the next five years. This increase will meet the immediate objective of financing faculty tenure salaries.

2. *The beginning of a program to increase the number of alumni bequests to the Institute.* Direct mailings to the alumni of the booklet *Gifts By Will* have been under way for the past several months. As of June 30, 1952, a total of 12,697 individually typed letters had been sent to alumni up to the class of 1925. We believe and hope that the bequest program has influenced M. I. T. men to include the Institute in their wills. The importance of bequests is evidenced by the fact that a total of \$19,664,741 has been received in this manner since the founding of the Institute.

INDUSTRIAL LIAISON OFFICE

During the past year, the number of companies participating in the Industrial Liaison Program has increased from 52 to 62, and the total receipts from such companies during the year have

amounted to \$1,110,000. The fact that several companies have agreed to renew their support for another five-year term is a source of great encouragement.

The companies evidenced great interest in the opportunities afforded by this unusual co-operative arrangement, as indicated by the large number of visits to the Institute by company representatives: 250 industrial personnel attended the series of special conferences sponsored by the Industrial Liaison Office. Other seminars and colloquia, including the special summer programs administered by the Summer Sessions Office, attracted many more persons from the affiliated companies.

The demand for specially distributed report material continues to grow. During the past year, over 400 separate pieces were mailed. There is, furthermore, a growing volume of requests for additional material such as theses. These latter requests were no doubt stimulated by the publication of abstracts of doctoral theses and of informal summaries of masters' and engineers' theses.

The Directory of Current Research has aided the companies in planning visits to the Institute and in keeping abreast of our research activities.

The major efforts of this Office continue to be devoted to services not of a routine nature, and it is through these that the principal benefits have been derived by a majority of the companies. Such services included during the past year: a special training course to meet an industrial demand in a new field; a special conference on and demonstration of a newly developed loud-speaker; and assistance in the setting up of company programs for the summer employment of M. I. T.'s undergraduate students.

William R. Weems has assumed the duties of Director of the Industrial Liaison Office, replacing Robert V. Bartz who had been in charge of the Office since it was formed. Professors Antoine M. Gaudin and Warren K. Lewis served as special consultants to the Industrial Liaison Office during the past year.

THE EDUCATIONAL COUNCIL

The M. I. T. Educational Council was created in October, 1951. Through this organization of Institute alumni, we hope

to attract to the entering classes, year by year, an increasing proportion of young men who are of leadership timber, both in intellectual calibre and in their all-round capacity for effective work and citizenship.

Creation of the Council has made it possible to intensify and expand the activities falling under the jurisdiction of our Honorary Secretaries. For many years, these men have provided invaluable assistance to the Admissions Office through personal screening of applicants, and they are now serving as the organizing nucleus for the Council.

The primary functions of the Council are the following:

1. *Public Relations.* As official representatives of the Institute, Council members will be searching constantly for ways to make new friends for M. I. T. and for opportunities to bring to the attention of their communities up-to-date information about the Institute.

2. *School Contacts.* The public high schools are by far the most important point of contact for the Educational Council inasmuch as they are constantly in touch with the young people in their communities and in an excellent position to spot students of unusual promise.

3. *Interviews with Students.* Much good can be accomplished through thoughtful handling of interviews with students who are interested in gaining admission to the Institute. Our Honorary Secretaries have performed this function ably for many years in areas where the distance from Cambridge precluded the possibility of arranging an interview at the Institute. This important work will continue to be handled under the supervision of the Honorary Secretaries with assistance from the Educational Counselor group.

At the Institute, the Educational Council has been established as a separate office headed by an Executive Secretary, Mr. Arthur L. Bryant, and reporting to the Secretary of the Institute. In addition to developing an Educational Counselor group, this Office will also be responsible for co-ordinating the activities of the Honorary Secretaries.

In January, 1952, the first issue of the *Bulletin of the Educational Council*, a news letter, was published. As the official organ of the

Council, this *Bulletin* will insure that Council members are kept up to date on developments at the Institute.

A handbook has been prepared and will be distributed this fall to Council members to provide them with an adequate source of background and procedural information.

The response from our alumni group has been consistently enthusiastic and co-operative. Organization in eighteen separate areas in various parts of the country is now in progress, and in nine of these areas Educational Counselors have been appointed. At present, our appointed membership includes 242 Honorary Secretaries and 96 Educational Counselors. In addition, we have 37 Honorary Secretaries in foreign countries.

Expansion in Council membership is planned during the next two years in order to provide the desired coverage. However, every effort will be made to insure that the pace of our organizational efforts is no greater than that which can be handled effectively. Success in this undertaking is unquestionably dependent upon careful organization and upon our ability to achieve an imaginative and thoughtful approach to the problems at hand.

NEWS SERVICE

During the past year the News Service has sought to achieve a well-balanced output of news on the Institute's various activities. Developments in science and engineering, suitable for general release, have been fewer during this period than in some other years. At the same time, news of academic developments has increased, with the result that we have avoided an over-emphasis on research and have had opportunity to report on the humanities and teaching aspects of our operations.

The wide variety of subjects represented in our Summer Session program offered unusual opportunity for effective publicity in a large number of industrial and engineering journals, as well as in newspapers. News releases on the summer projects were sent to nearly 1,300 journals in this country and abroad. The response to Summer Session announcements indicates that this effort was helpful.

Economy requires careful distribution of our news to the

general press, and every effort has been made to develop news worthy of transmission over the press association wires of the country. Stories acceptable to the three press associations, Associated Press, United Press, and Informational News Service, have a potential audience of more than 80,000,000 readers.

The Institute's news releases are widely used, both locally and nationally, in radio news programs. During the year, the Institute co-operated with Mr. Edward R. Murrow in presenting the Whirlwind digital computer on his coast-to-coast television program "See It Now." The same material was used on a coast-to-coast radio news program.

An important project is our relationship with the high school science groups to which we make available the Rockwell Cage for the annual Massachusetts High School Science Fair. This is a particularly interesting group to have at the Institute, and indications are that the Fair may be considered an established annual event at M. I. T.

From time to time during the year we issue *In Brief*, a news bulletin that was started more than a year ago to keep members of our Faculty and Staff up to date on recent Institute news. The publication also helps to keep the News Service in the minds of members of the Staff who may have news of value to us.

A modest beginning has been made in helping in the Institute's relations with members of the Educational Council. This fall we will have ready for distribution our booklet, *Your Friend the Newspaper Man*, which we hope will be helpful to the Council members in cultivating friendly associations with their local newspapers.

OFFICE OF PUBLICATIONS

The Office of Publications, initiated in July, 1951, as an agency for the editorial preparation of official Institute publications, handled during the year the writing or editing of some 70 publications ranging from the Catalogue and President's Report to leaflets and folders. Supervision of the printing was carried by the Office. In addition, the general information service concerning printers, printing, typography, and layout was made available through the Office to Departments and staff members desiring it.

WALTER H. GALE

Dean of Students

A LARGE PART of this past year has been devoted to a study of the responsibilities of this Office, of existing conditions of student life at M. I. T., and of traditional policy concepts, in an attempt to chart a course of action for this Office consistent with modern conditions at the Institute.

Two basic conclusions should be stated: (1) Activities, dormitory life, athletics, and counseling are all an integral part of the educational process. Responsibility for policy and development in these areas should rest with the Faculty, with the Dean's Office serving as an administrative agency for the Faculty. (2) Student autonomy in athletics, activities, and student government, as outlined in the resolution passed by the Corporation in 1947 on the recommendation of the Committee on Student Activity,¹ must be fostered and developed by clarifying the respective areas of student and faculty responsibility and by improving communications.

Underlying these conclusions is the basic concept, which has been stressed repeatedly this year, that the individual student is the most important concern of M. I. T. as an educational institution.

Below, this Office reports briefly on various areas of its responsibility.

STUDENT AID

The academic year 1951-1952 marked the initial attempt to co-ordinate the three forms of student aid: scholarships, loans, and part-time work. During this year, emphasis was placed on development of the student-employment phase, and distinct progress was made in this direction. Beginning in the Fall of 1952, all three activities will be housed in one physical set-up, which will lend itself to better unification and organization towards this objective.

Scholarship grants to undergraduates in dollar total were

¹ "Resolved further that, maximum benefit from activities including athletics will be attained only when students assume full responsibility for their operation, the Administration and the Alumni Association assisting in an advisory capacity only, except in such cases where more direct action may be required to protect the reputation or properties of M. I. T. or to avoid any possible detrimental effect on the educational program."

about the same as in the previous year, though the undergraduate population was ten per cent less. As in past years, substantial gifts from the James C. Melvin Trust, the Teagle Foundation, the Foundry Educational Foundation, the American Smelting and Refining Company, the National Association of Engine and Boat Manufacturers, and the LeSavoy Foundation make it possible to help 62 undergraduates. The Knapp Foundation of New York, through the M. I. T. Alumni Club of Buffalo, has made a grant of \$1,500 annually for the next four years for freshmen scholarships in the Buffalo area.

Undergraduates receiving aid from the Technology Loan Fund increased both in dollars and in numbers over the past year. The summation of scholarship and loan grants for the year is given in the following table:

<i>Scholarships and Loans</i>	<i>1951-52</i>		<i>1950-51</i>	
	<i>Number</i>	<i>Award</i>	<i>Number</i>	<i>Award</i>
From M. I. T. endowment funds:				
Freshman scholarships	235	\$ 71,725.00	232	\$ 61,455.00
Other undergraduate scholarships	256	81,424.00	313	93,108.32
From outside sources:				
Other undergraduate scholarships	62	35,162.00	62	33,825.00
<i>Total scholarships</i>	<i>553</i>	<i>\$188,311.00</i>	<i>607</i>	<i>\$188,388.32</i>
Undergraduate loans	270	148,096.00	242	134,589.00
<i>Total scholarships and loans</i>	<i>*753</i>	<i>\$336,407.00</i>	<i>*700</i>	<i>\$322,977.32</i>

* Allowing for individuals receiving both scholarships and loans.

The Loan Fund Board received 404 applications from both graduate and undergraduate students during 1951-1952 and acted favorably on 376, or 93.2 per cent, lending \$198,781. For 1950-1951, the corresponding figures were: 353, 303, 85.8 per cent, and \$162,006.

Under the enthusiastic management of Mr. William H. Carlisle, Jr., student employment flourished and new levels were attained in this activity during the year just completed. It is noteworthy that, during the twelve-month period, 1,129 students were placed in a variety of jobs, both on and off campus. During the summer of 1951, a monthly average of 550 students were employed through the efforts of the Student Personnel Office. In

the regular school year, an average of 750 students were employed each month; of this 750, slightly less than 400 worked in the different student staffs — that is, dining, housing services, library, and so forth; about 300 were placed in part-time jobs off campus and in laboratories; and an average of 50 students were given work in temporary jobs. The total earnings for this twelve-month period amounted to \$306,974, a new high in this endeavor and more than double the amount earned in the previous year, \$131,104.

VETERAN ENROLLMENT

The number of our students receiving benefits under the auspices of the Veterans' Administration continued to decline in an anticipated manner. It is quite apparent that during the next college year less than ten per cent of our enrollment will be supported through this form of governmental aid. Comparative numbers for the past two years are listed in the following table:

VETERANS ENROLLED UNDER PL 16 OR 346
AND THEIR PERCENTAGE OF TOTAL REGISTRATION

	1950-51		1951-52	
Fall Term	1,286	25%	687	15%
Spring Term	1,049	22%	502	11%
Summer Term	352	15%	137	8%

ATHLETICS

The over-all magnitude of student participation in organized athletics increased slightly during the past school year. A part of this increase is represented by official recognition and consequent financial subsidy from the Athletic Association to two new sports groups, namely, the Barbell Club and Graduate School athletics. The remainder of the slight increase in participation is represented in the addition of bowling as an intramural sport.

Several notable improvements and additions to athletic facilities were accomplished during the past year as listed:

1. A new lacrosse practice field which was graded, loamed, and seeded two years ago was opened for use this Spring. This area provides adequate and excellent practice space for both the varsity and freshman lacrosse squads in the Spring, and can also be used

for overflow practice squads in soccer, Field Day football, rugby, and intramural touch football in the Fall.

2. *The wrestling mat space* in Rockwell Cage was increased in area and made more safe by the installation of a new 24-foot by 24-foot by 2-inch wrestling mat.

3. *The installation of a new automatic pitching machine* not only afforded the baseball squad members greatly increased practice hitting opportunities in the limited and available practice periods, but, consequently, allowed for more time for the development of other baseball skills.

4. *The installation of a netted batting lane* in Rockwell Cage in conjunction with the pitching machine increased the safety of the Cage baseball practice area so that practice sessions could be more efficiently organized and administered.

5. *Movable auxiliary bleachers* to seat 150 persons were acquired this past year. These sections may be moved with minimum effort and man power to any desired location on Briggs Field.

6. *The first few boats of a new fleet* of Fiberglas dinghies, which will eventually replace the 40-odd original Tech dinghies now in use, have been delivered and are being rigged. The acquisition of this new fleet will assist the Nautical Association to maintain its leading part in intercollegiate sailing and should go a long way toward fulfilling the objective of this Association, whose desire it is to see the sailboat design used universally in American college competitions.

7. *A new 18-foot Fiberglas launch* powered with a 25-horsepower inboard engine is now in use at the Sailing Pavilion. Increased participation in sailing at the Institute made it imperative for safety reasons that a dependable standby launch be available at all times.

8. *The fleet of Pocock eight-oared shells* at the Crew Boathouse has been increased to thirteen by the acquisition of a new Pocock racing shell delivered this Spring.

Special mention should be made of the following teams and individuals: The weightlifting team turned in a perfect record with all wins including the National Collegiate Championship. The rifle team placed fourth among 125 colleges in the National

Championships. Among individual honors, Mr. Edward Melaika, '53, Commodore-elect of the Nautical Association, won the right to represent the United States in the singlehanded Finn class races at the Olympic Games in Helsinki, Finland, and Mr. Charles O. Vickers, '52, was named the recipient of the class of 1948's Outstanding Athlete Award as a result of his outstanding performance in winning the New England Intercollegiate Athletic Association 880-yard run. M. I. T. has won this event for four consecutive years, which establishes a new record in this organization.

A new recreational feature was initiated this year. For the first time, the Alumni Pool was open for daytime mixed swimming for two hours a day two days per week during the summer months. The response on the part of the women employees was very encouraging, and it is expected that this practice will be repeated.

STUDENT HOUSING

For the first time in its history, M. I. T. was able, in September, 1951, to provide dormitory accommodations for all single students desiring them. This has provided many new problems of administration on which considerable progress can be reported. First, the division of responsibility for the dormitories has been clearly defined as follows:

"Administration of the Institute's system of student residences involves two basic functions. One is the physical operation of dormitories, closely analogous to the operation of hotels or other living units. The other we may term for want of a better name the philosophical operation of dormitories, a matter peculiar to the academic world probably without any close analogy in the general world. Physical operation involves the maintenance and control of all non-personal matters pertaining to dormitories. Philosophical operation is essentially an educational function, consisting of the effort to bring adolescents into the living habits of sensible grown men."

Secondly, all matters pertaining to the "philosophical" operation of the dormitories were made the responsibility of this Office through the Associate Dean of Students, thus separating dining and housing as administrative responsibilities.

Thirdly, Faculty Residents were established in each of the three dormitory units as of September, 1951, their duties being to set the intellectual tone of the dormitory units. All three of these moves have been heartily approved by the student body and have already relieved much of the confusion that has existed as the result of our rapidly expanded facilities.

Much work is now being done by the student government and this Office to improve the organization of student government in the houses in order to provide better student control, clearer lines of responsibility, and better communications.

Also, through the Associate Dean of Students, better liaison has been established with the Interfraternity Council, particularly in regard to rushing and moving students from the dormitories to the fraternities, and with the 5:15 Club.

STUDENT GOVERNMENT AND ACTIVITIES

Particularly noteworthy of mention at this time is the Leadership Conference, which was planned and held for the first time by the student government in 1951. It served to highlight the respective areas of responsibility of student government and Faculty and to greatly improve communications. As a result of the general conclusions reached at this Conference, remarkable progress in the efficiency of student government was accomplished during the year.

Both this Office and the student government have come to realize that we have had an inadequate organizational set-up to properly serve and administer student activities and that many activities have inadequate space. The student government has established the new Secretariat, in place of the Walker Memorial Committee, and that group has already started to work with this Office to meet our mutual problems.

It was established this year as a matter of policy that in non-academic matters the relationship of the Dean of Students to the Graduate School was the same as to undergraduates. Under this policy very cordial relationships have been established between the Graduate House Committee and this Office.

In various ways this Office has been attempting to establish closer relationships with women students. It is the belief of this Office that everything possible should be done to make the life of women students a more integral part of the Institute.

STUDENT COUNSELING

Of great significance is the decision of the Faculty to establish as of September, 1952, the Freshman Advisory Council, which

will have its headquarters in and be serviced administratively by this Office. Of equal importance is the decision of the Institute Committee to establish, through the Freshman Coordinating Committee, a system of student advisers for freshmen throughout our dormitory system.

CONCLUSION

Mr. Thomas L. Hilton tendered his resignation as Assistant Dean as of February 1, 1952, to do graduate work, and Mr. Frederick G. Fassett, Jr., joined the Office as Associate Dean of Students as of the same date.

May I take this opportunity to express my deepest appreciation to faculty members, members of the Administration, and members of the student body for their many thoughtful courtesies to Mrs. Bowditch and myself as new members of this community and for the invaluable assistance I have been given in getting established in my work at M. I. T.

E. FRANCIS BOWDITCH

Dean of the Graduate School

FOR THE ACADEMIC YEAR 1951-1952, the Graduate School enrollment has been maintained at substantially the same size as in recent years. Applications for admission continued to exceed vacancies created by completion of advanced-degree requirements. Of those admitted, more than half failed to report in September. The enrollment on November 1, 1951, is presented in the table on next page.

The ratio of applicants to admitted, as usual, exceeds two-to-one. The proportion of full-time students to those devoting less than full-time to study (to permit working to meet expenses) showed the usual fluctuations from time to time but no significant change.

APPLICATIONS, ADMISSIONS, AND ENROLLMENT FOR 1951-1952

Applications	
Regular graduate students	1,598
Special graduate students	288
<i>Total Applications</i>	1,886
Admitted	
Regular students	862
Enrolled	
New students	396
Continuing students	1,071
Special students	253
<i>Total Enrollment</i> (as of November 1, 1951)	1,720

From the Armed Services, 177 officers were enrolled for advanced degrees. In addition, 40 were registered as special students.

The interest of Foreign Students in advanced study at M. I. T. continues unabated. Analyses of this situation are presented in the report of the Adviser to Foreign Students. Newly-admitted foreign graduate students numbered 77; continuing were 54.

Much uncertainty regarding military service has been alleviated by the behavior of Selective Service Boards and the military personnel charged with oversight of our young Reserve Officers. The facts of science and engineering training plus the excellent academic performance of the highly-selected group of graduate students at M. I. T. have armed this office with persuasive data for seeking temporary deferment or delay of active duty in behalf of our graduate students who are candidates for degrees. The favorable responses to deferment requests are due not only to the desire of the boards to do the right thing, but also in high degree to the skill, fairness, and thoroughness of the presentations in behalf of our students by Professor Ernest H. Huntress. He has personally attended to the prosecution of each case for every graduate student who has sought assistance during the last two years. Not all such cases have been simple and without complications.

SCHOLARSHIPS AND FELLOWSHIPS

Fellowship aid from 86 industrial sponsors in the sum of \$183,560 was available for award for the year 1951-1952. Additional graduate scholarship aid of \$94,781 was obtained from gifts and accumulated income from invested funds of the Institute, making a total of \$278,341 available from all sources.

Net scholarship assistance of \$260,836 was awarded among 207 recipients.

It should be noted that staff tuition was paid from departmental funds in the sum of \$108,709 in behalf of 319 other graduate students holding part-time service appointments.

During 1951-1952, twelve additional fellowships were established by the following donors: Allegheny-Ludlum Steel Corporation, 2; Ethyl Corporation, 1; General Electric Company, 2; Grunsfeld Fund, 1; International Business Machines Corporation, 3; Union Carbide and Carbon Corporation, 1; Weirton Steel Company, 1; and Wyman-Gordon Company, 1.

In addition to the above, there have been established several fellowships in various amounts in the School of Industrial Management. From time to time, also, fellowship awards have been charged to special grant-in-aid funds of various Departments.

The renewal of industrially sponsored fellowships was accompanied in several instances by provision for increased stipends to recipients of the order of \$200 to \$300 per academic year.

M. I. T. Swope Fellowships were awarded to Mr. David Anton Lang in Food Technology and to Mr. James Edwin Roberts in Building Engineering and Construction.

GRADUATE DEGREES

During the period July 1, 1951, through June 30, 1952, there were conferred 668 degrees, distributed as follows:

ADVANCED DEGREES CONFERRED, 1951-1952

	<i>S.M.*</i>	<i>Engineer</i>	<i>Sc.D.</i>	<i>Ph.D.</i>	<i>Total</i>
September, 1951.....	136	4	16	22	178
February, 1952.....	71	6	16	23	116
June, 1952.....	247	53	38	35	373
<i>Total</i>	454	63	70	80	667

* Also M.Arch. and M.C.P.

JOHN W. M. BUNKER

Director of the Summer Session

THE SUMMER SESSION OF 1952, like those of the preceding three years, comprised not merely conventional subjects for both undergraduate and graduate M. I. T. students, but also special summer programs together with various conferences and symposia. The growth of the Summer Session is evident from the following tabular summary.

SUMMER SESSION ACTIVITIES, 1949-1952

	1949		1950		1951		1952	
	S*	R†	S	R	S	R	S	R
Regular Subjects	310	1,875	280	1,939	225	1,898	276	4,173
Special Programs	3	166	9	368	20	911	22	976
Conferences and Symposia	2	223	7	1,040	6	1,340	8	2,182
<i>Totals</i>	315	2,264	296	3,347	251	4,149	306	7,331

* S: Subjects

† R: Registrants

The table shows that, in addition to regular students electing to register for work in the summer term, the eight special Conferences and twenty-two Special Summer Programs brought more than 3,150 men and women to the M. I. T. campus in 1952. A large proportion of this group was housed in the M. I. T. dormitory system, taxing the capacity of both Burton House and Baker House for much of the summer and at times requiring the use of East Campus units as well. The registrants in the twenty-two Special Summer Programs comprised representatives of 263 industrial companies, 80 educational or research institutions, and 52 government agencies, a total of some 400 different organizations. The largest of the eight special symposia was the Fourth International Conference on Combustion with a registration of 697. In addition to the above, M. I. T. summer activities also included the Foreign Student Summer Project, sponsored and administered by a student committee; the work at M. I. T.'s Summer Surveying Camp at East Machias, Maine; and that at the Nova Scotia Center for Geological Sciences near Antigonish, Nova Scotia.

Dean Frederick G. Fassett, Jr., who, in addition to various other responsibilities, so effectively operated the Summer Session of 1951, became Associate Dean of Students in February, 1952, and was at that time succeeded as Director of the Summer Session by the undersigned.

ERNEST H. HUNTRESS

Director of Libraries

TWO YEARS AGO, at the time of the occupancy and dedication of the Charles Hayden Memorial Library, it appeared that at last the Library was approaching stability and operational equilibrium. Planning not only of the new building but also of a corresponding library system had successfully passed the initial tests of actuality. The Library prepared to settle down to less spectacular but equally absorbing tasks of integration and operation, although the Visiting Committee had pointed out that the creation of a splendid new edifice did not of itself solve all existing Library problems. Last year the formation of a new School of Industrial Management forecast additional Library responsibilities. The present fiscal year marks the intellectual reconstitution of the Library and with it have come profound changes in the concepts, physical locations, and operations of the M. I. T. Library system.

REAPPRAISAL AND RECONSTITUTION

The School of Industrial Management was visualized as a compact operating unit drawing heavily upon large segments of the Dewey Library of Economics and Industrial Relations. With the purchase of the Sloan Building to serve as its headquarters, the factor of distance dictated the establishment of a new branch library which would have become the tenth, while completion and occupancy of the Dorrance Laboratory containing the Biology-Food Technology branch library would add yet another discrete location

to the roster of branches. A branch library system can operate efficiently only when duplication of holdings and purchases, physical quarters, and staff can be kept under reasonable control. It appeared that, with prospective immediate additions, branch libraries at M. I. T. would clearly pass the point of diminishing returns; accordingly, it was decided to reappraise the Library in its role at the Institute. The distinguished Librarian of Harvard University, Dr. Keyes D. Metcalf, was appointed by President Killian to conduct a thorough survey during the late summer and fall of 1951. His report to the Faculty Committee on the Library discussed the general organization of the Library for administrative purposes, the financial situation, and the branch library question. In briefest summary, he found the Library to be adequate although not distinguished and financially to be "just getting by." A branch library policy for the Institute was reaffirmed, with the recommendation that a limited number of large, well-staffed divisional libraries be created to replace existing small and inadequate branch libraries in the interests of efficient and economical operation. The Executive Board of the Faculty Committee on the Library,¹ under the able chairmanship of Professor Ernest H. Huntress, discussed Dr. Metcalf's recommendations with Department heads and committees, with the Faculty, and with the Administration. Conclusions were formulated that were embodied in a report relating to physical changes in the Library submitted to President Killian in December, 1951. The Committee merits highest praise for the energetic prosecution of its assignment, for its impartial and statesmanlike approach to an extremely complicated problem, and for the formulation of the policy that has subsequently been adopted.

Omitting many details in the interest of brevity, the reconstituted Library organization will include a General Library replacing the former Central and five large divisional libraries corresponding to the five Schools of instruction, namely, Architecture, Engineering, Humanities, Industrial Management, and Science. The library of the School of Architecture will continue as the

¹ Professor Ernest H. Huntress (Chairman), Associate Professor Michael B. Bever, Professor Samuel H. Caldwell, Professor Jacob P. Den Hartog, Professor Philip Franklin, Associate Professor Irwin W. Sizer (the Director of Libraries, and the Associate Librarian, Mr. Robert E. Booth, ex officio members).

Rotch Library of Architecture and Planning in its present location. The Engineering Library comprises the former branch libraries of Aeronautics, Engineering, and Naval Architecture, and the Vail Library of Electrical Engineering and is located on the fifth floor of Building 10. The aeronautics collections, although a part of the Engineering Library, are located in Building 33-304. The Humanities Library, incorporating segments of the former Dewey Library of Economics and Industrial Relations and the English and History Library, together with related functions, will continue in Hayden. For the School of Industrial Management, the bulk of the former branch library of Economics and Industrial Relations has been transferred to well-designed and handsome quarters on the third floor of the Sloan Building and installed as the new Dewey Library. The Science Library, a long awaited necessity, will contain the former Eastman, Lindgren, and Biology-Food Technology branch libraries and is located in Hayden on the ground floor, south wing.

Of necessity, this must be the report of a library in transition. Not all of the changes previously mentioned could be placed in effect before the end of the year. Some, indeed most, must be projected into the next two or three years. The divisional libraries could not be fitted into existing library areas without structural alterations and additions. The only completed segment was the Dewey Library. Progress was made on the Science Library, and the installations of additional stack and other equipment should be completed before the opening of the Fall Term of 1952-1953. The Engineering Library necessitates a much more ambitious program of renovation. In addition to painting, an illuminated ceiling which will preserve the architectural integrity of the area while correcting almost intolerable conditions of lighting, acoustics, and air circulation is scheduled for the coming year. New furniture and additional construction affecting the entry, stack, and service areas will come later. The Architecture Library will require relatively minor but needed changes in equipment to adapt its stack and reader spaces to current uses. In many ways, the Humanities Library has not yet realized its destiny and is not adequately equipped currently to meet its heavy responsibilities. Pending the installation of additional stacks, its facilities remain incomplete and

overtaxed, but these conditions must be regarded as temporary expedients.

It is about as easy to operate a library in a period of cataclysmic evolution as it would be to try to keep house in Grand Central Station. Books in transit, with old systems and job assignments being replaced by new, go hand in hand with endless record changes; this latter item for the library staff as for its users could be a nightmare, for a book that cannot be located is useless. Construction with all of its delays and vexations adds to the other manifold complications that seem always to arise. The net dividends that are gradually being realized, however, are impressive. Library functions and interests have been brought together for the maximum benefit of the user. More material is easily accessible on open stacks; there is less duplication of holdings and of purchases. The libraries can remain open longer hours. Trained library personnel can be relieved from clerical duties to accomplish professional tasks commensurate with their training and experience. More needed material can be acquired and more unneeded material can be eliminated by a compact organization. The general level of physical facilities in all libraries can be brought toward parity. Finally, and by no means of least importance, much extremely valuable and well-located space has been released for other Institute uses.

SUMMARY OF OPERATIONS

From the foregoing paragraphs it might appear that the Library staff expended the entire year in surveys, reorganization, construction, renovation, shifts, planning, and conferences. But the reality is that a library is an amazingly durable and resilient organism fully capable as it proved of meeting all of its obligations and continuing regular day-to-day and special activities under abnormal as well as normal conditions. The Library was augmented from all sources by 16,876 volumes, over 1,200 more than last year, and, after deducting discards, the official count now stands at 482,448 volumes. Another year may see the Library pass the half-million mark, although we hope that the discarding program, which could not be emphasized this year, will forestall the net increase a little longer. The Catalogue Department added a total of 8,235 titles, a few hundred

more than last year, while producing an impressive total of 64,469 cards, some 15,000 more than in the preceding report period. The myriad organizational changes must be reflected in the work of the Catalogue Department for some time to come. A divided catalogue is being prepared for the Science Library, and a similar arrangement for the Engineering Library is under discussion. Circulation continued with a decline of about 4 per cent for one- and two-week books and a somewhat larger decrease in overnight circulation. Certainly the provision of more open-shelf material has favorably affected the circulation of books and the use of the Library.

Reference activity manifested an exceptionally large increase over the past year. Telephone inquiries are up more than 50 per cent; correspondence remains at about the same level. Total reference questions submitted in person increased by about 30 per cent. We borrowed 939 items on interlibrary loan from 132 miscellaneous sources, 86 of them other colleges and universities. We could not borrow 45 requested items, and we loaned a total of 5,099 volumes, an increase of 24. Much of the increase in reference demand has come from industrial concerns and individuals in part directly connected with the Institute through sponsored research contracts, governmental projects, and the Industrial Liaison Program, and in part from outside industrial users. The provision of photostat and microfilm reproductions of theses and other materials at the Institute continued to gain in importance in connection with reference activities. It is hoped that the establishment of the Microreproduction Service will provide increased rapid facilities for obtaining copies, thereby decreasing the heavy interlibrary loan traffic, which is expensive in personnel time, wearing on the materials themselves, and which, worst of all, may deprive Institute users of books at the precise time they are needed.

The Architecture Library. During the year the books in the Rotch Library of Architecture and Planning have been reclassified and rearranged and in some instances recatalogued. The records of architectural and planning literature have been brought together in a single dictionary catalogue. A system of cataloguing standard lantern slides has been instituted. Photographic prints the size and approximate dimension of a catalogue card are being prepared for

each slide. Subject headings, title, and source of illustration are added, and the cards are filed in alphabetical order together with a serial number to identify the slide. A total of 2,210 books, periodicals, and pamphlets were added to the library. Plans were developed for the transfer of the large collection of duplicates to the General Library. The space gained will be used to provide additional seating and open stacks which the use-requirements of the library have made necessary.

The Engineering Library. As yet this library is only a partial entity. In February, 1952, the Engineering and Naval Architecture collections, totaling some 15,000 volumes, were removed to Building 10-500 and combined with the holdings of the Vail Library of Electrical Engineering to form the nucleus of the new divisional library. It is interesting to note that this combination proposed by the Engineering Faculty has not materially, even under adverse conditions, affected the use of the engineering collections during the year. Increases were noted in the fields of Electrical Engineering and Aeronautics, while use of the holdings of the former Engineering and Naval Architecture Library remain about the same. Considerable additions of engineering material from General Library collections will be made early in the following fiscal year or as soon as space can be cleared. A new punched-card circulation system has been inaugurated, and the formation of the Engineering Library is proceeding. The road ahead will be difficult until the renovation is completed. The end result, a great Engineering Library, will be well worth the travail.

The Humanities Library. Near the end of the year the English and History branch library disappeared and its collections with certain materials from the former Dewey and the General formed the beginning of the Humanities Library designed to serve the entire undergraduate liberal education program and more advanced scholarly needs in history, philosophy, political science, and related fields. Use of the books continues to be heavy, and it is a tribute to the effectiveness of the Humanities program to consider the types of books being circulated. Not so many years ago, recreational reading predominated; now more important books, whether required for course work or not, account for much of the circulation.

The old English and History Library on the first floor, north wing of Hayden, did not afford sufficient space either to house the book collection or to accommodate the readers, and, when the Dewey Library moved to the Sloan Building, the possibility of establishing the Humanities Library in the vacated space was seriously considered. The plan, which offered many real advantages when weighed against over-all Institute requirements, was finally discarded in favor of a revised north wing and a closer correlation between the General and portions of the Humanities Library. Beginning in the fall term, literature, fine arts, reserve books, and recreational reading will occupy the north wing, while the Humanities core collection will be found on the second floor, south wing, at the west end. Many considerations, not overlooking financial limitations, motivated the decision to place these books in a temporary location. This will mean that for a year at least the operation of the Humanities Library will be handicapped. Even so, immediate and long range advantages are evident. The consolidation of the literature collection in the north wing reveals the strength of the library in titles, although not always in editions. Significant gaps are equally evident. Nearness to the Institute-wide Union Catalogue on the second floor, the reference collection, and the General Reference Department will afford distinct advantages to the users of the Humanities Library.

Those aspects of the Humanities program dealing with music have been particularly well served by the Music Library this year. More than ever before, students, faculty, and others have taxed the capacity of the Music Library and the individual listening rooms. The circulation of records, books, and scores reached the new high totals of 22,795 for records and 2,166 for scores. Regular programs played in the Music Library are transmitted over radio station WMIT by remote control both morning and afternoon. Symphony broadcasts were received in the library for the enjoyment of those who were either unable to obtain tickets to the Symphony or who found the broadcast program in the Music Library more satisfactory than actual presence in the Hall. Live music was brought to the library more frequently than before with six concerts in May alone, some of them in connection with the modern music course. A care-

fully planned purchasing program for records and scores has assembled a good collection. Acquisition of the new facsimile editions of the complete works of Bach, Beethoven, and Brahms, through generous allocation of the Carnegie Fund by the Dean of the School of Humanities and Social Studies, was greatly appreciated. The record collection continued to grow, although it must be reported that our records, both standard and long playing, are being worn out and must be replaced. The life of a popular record in the Music Library may be as short as a single year, but this probably represents 20 years of home use. The most popular composers at M. I. T., incidentally, are Beethoven, Bach, Bartok, Tschaikowsky, Brahms, Mozart, Berlioz, Franck, Stravinsky, and Wagner, in that order. The record players designed for the library have proved highly successful, although we have found that commercial components designed primarily for the home will not stand up under almost constant use. A tape recorder is being incorporated in the program for the coming year.

The Industrial Management Library. The Dewey Library moved to the Sloan Building on April 17, 1952, to become the library of the fifth School. Almost all of the books are housed on open stacks with pamphlet and related material in convenient vertical files. The library itself is unusually commodious. This unexpected pleasant dividend resulted from the conversion of an office building whose floors could not support closely placed library stacks. Specially designed tables, chairs, and other fittings, together with a harmonious color scheme, all the work of Professor William H. Brown and his associates, complete an extremely satisfactory divisional library. Contextually, the Dewey Library has met present needs of the School of Industrial Management. Its future development will be conditioned in large part by the events of the next few years. At this early date, greater emphasis on advanced materials is apparent. Certain undergraduate reserves have been transferred to the reserve book room in Hayden. Future policy in this regard is as yet undetermined. More remains to be done in perfecting working arrangements between this library and that of Humanities.

The Science Library. A Science Library that could incorporate the Eastman graduate library, Lindgren, Biology-Food Technology,

and elements of the General Library with particular attention to Chemical Engineering and Meteorology has been a dream of many years' standing. This year it has become a reality. Eastman, chronically busy, overcrowded and woefully inadequate, moved to the ground floor, south wing, of Hayden on May 26, 1952, to form the nucleus of the Science Library. As soon as a mezzanine can be completed, Biology-Food Technology and Lindgren will follow. Of the year itself in the several libraries little could be said that would not be a repetition of previous reports. The collections were augmented as occasion warranted, but these collections are now in the process of amalgamation, and an over-all assessment of the holdings of the Science Library is premature. Longer hours in the Science Library from eight in the morning until eleven at night six days a week and from one to nine on Sundays ranks as one of the great achievements. Loss of the former Biology-Food Technology librarian last spring, coupled with temporary and inadequate quarters in 10-500, materially hampered the development and to a certain extent the use of our collections in these fields. Throughout the period of planning, the Library and the Faculty Committee on the Library had the benefit of an ad hoc departmental committee concerned with the Science Library whose labors and achievements are gratefully acknowledged.

RELATED LIBRARY ACTIVITIES

It is disturbing to attempt to compress into the restricted pages of a brief report the many activities that in themselves are important and deserve more than the scant mention that can be made here. The Boston Stein Club Map Room, for example, has emerged as an extremely useful facility. With the approaching move of the Lindgren Library, the Theodore Schwarz Memorial Map Collection has been moved and housed in the Map Room, thereby bringing together the Institute's holdings in the field for the first time. The Projection Room, in addition to irregular but fairly constant use in conjunction with the instructional program, was used throughout the year three afternoons per week for scheduled showings of educational and industrial motion pictures open to all who cared to attend. It was often filled to capacity and the average attendance

was something better than 30 persons. The Library Lounge, originally visualized as a more or less informal locale for Faculty and related groups, did serve this purpose but in addition there were over 300 scheduled meetings ranging from an hour or two to the entire day and evening. Most involved Faculty and Staff groups (192), but the Industrial Liaison Office scheduled 18 conferences, the Sloan Fellows, 22, student associations, 16, faculty-sponsored occasions where the public was admitted, 23, the Foreign Student Summer Project and the International Association, 9, outside groups as, for example, the Technology Matrons, 9, and a miscellaneous grouping, 11. Numerous exhibits of greater or lesser magnitude were held in the library and in the contiguous areas not including the Exhibition Gallery which is separately reported.

The Library received a larger number of gifts than ever before, some of them complete libraries and others selections, presentations of books, and sets of periodicals and serials. The Friends of the Library continued active interest in the program through the purchase of certain materials and through the sponsorship of a "spring lecture" by Professor I. Bernard Cohen of Harvard University entitled "The Record of the Engineer in Western Civilization" on April 3, 1952. On April 16, 1952, the RCA-Clark Collection of Radioana, presented to the Institute by the Radio Corporation of America, was formally dedicated with the unveiling of a commemorative photosensitive glass plaque in the Engineering Library. Dr. Charles B. Jolliffe, Vice-President and Technical Director of RCA, made the presentation, and President Killian accepted on behalf of the Institute in the presence of Mr. George H. Clark, M. I. T. '03, Dr. Compton, Mr. Arthur Van Dyck of RCA, and a group of members of the Faculty, students, and others. The Visiting Committee held a one-day meeting on February 26, 1952, to review the Metcalf Report and to meet at luncheon with the Executive Board of the Faculty Committee on the Library to discuss the several implementations formulated by the Committee.

Rare books at M. I. T. are being brought together in the new Rare Book Room, and, even though this activity could only be undertaken on a piecemeal basis, the results are exceedingly interesting. While the census of rare books is as yet incomplete, a sur-

prising and gratifying collection is taking shape. Library publications during the year followed the usual pattern. The complete guide to the Institute libraries prepared two years ago must now be fully revised, and its precursor in outline form was distributed and circulated during the year. To acquaint the M. I. T. community with the library activities of general interest — new acquisitions, new projects, exhibits, visitors, and the like — a monthly library publication, *About M. I. T. Libraries*, was instituted in October. The ninth or summer number completed the publication year. The four-page newsletter has been distributed to departmental headquarters and to an increasing number of individual recipients. If the work of the year could be compressed into a single word, that word would be activity. The results should make interesting reading in the next annual report and those to follow.

VERNON D. TATE

Medical Director

SINCE THE HEALTH of the students and staff of the Institute continued to be at its usual high level, the work of the members of the Medical Department has continued to emphasize the preventive aspects of medical care. Aside from the usual medical care, the chief project of the year has been the Faculty Health Survey. On a volunteer basis, 275 faculty members have had a thorough health evaluation, including various laboratory procedures, extensive checks by the otolaryngologist and ophthalmologists, a psychological evaluation, and, central to all this, a thorough physical examination by a specialist in internal medicine. It is hoped that this health evaluation will serve both to call attention of the individual to any factors in his way of living or in his physical condition that call for modification, and to be the vehicle of a positive program

of health education. The period of middle age is a particularly appropriate one for the application of preventive or corrective health measures if the maximum in health is to be achieved. The information gained from the survey is now being studied, and the main findings will be reported next year.

The clinical work of the Department conforms very closely to the pattern set in the last three or four years. The number of visits to the various services were:

Surgery.....	11,553
Medicine.....	7,156
Psychiatry and Neurology.....	2,983
Otolaryngology.....	1,258
Ophthalmology.....	1,287
Dermatology.....	1,062
Dental.....	5,633
Emergency Clinic.....	2,335
Physical Examinations.....	3,449
Occupational Medicine.....	810
Radiology.....	9,042
<i>Total</i>	<u>46,568</u>

Of the clinic visits, about 62 per cent were made by students, the rest by staff members and employees. In the Infirmary, there were 827 admissions, of which 73 per cent were students. The total number of patient-days was 2,948, the average stay for each patient being slightly over three and one-half days. There were ten cases of communicable disease during the year, five of which were German measles, and four cases of active pulmonary tuberculosis were found in employees and staff members.

Laboratory procedures carried out by the Clinical Pathological Service totaled 12,071. The work of this service increases slightly each year.

The Occupational Medical Service has had a very satisfactory year in its new quarters with adequate laboratory facilities. During this fiscal year of 1951-1952, there has been added a microfilm library of literature relevant to occupational disease. This library comprises microfilm of 43,000 catalogue cards taken from the Division of Occupational Hygiene of the Massachusetts Department of Labor and Industry covering all their material from the beginning of this Division in 1935. Microfilm copy of certain important

literature pertaining to illness following toxic exposures has also been added. In addition to this collection, considerable reprint and periodical material necessary for the Medical Department's activities has been catalogued and filed. This means that, when the work is completed, about October 1, 1952, there will be readily available the most important data in the fields of clinical toxicology, occupational chemistry, engineering, and radiation safety. This library will continue to select and classify data from current periodicals in the field of occupational illness. At the end of five years, this material will be microfilmed, thus conserving space and keeping the library up to date. The Department is much indebted to Dr. Hervey Elkins, Acting Director of the Massachusetts Division of Occupational Hygiene, who made it possible for us to photograph the data under his care, and to much help from our own librarian, Dr. Vernon D. Tate.

The Occupational Medical Service of the Medical Department, in co-operation with the Department of Industrial Hygiene of the Harvard School of Public Health, gave a course in the chemical, medical, and engineering aspects of occupational hygiene to students of sanitary engineering at the Institute. This course was initiated at the request of the Sanitary Engineering Division of the Department of Civil and Sanitary Engineering.

DANA L. FARNSWORTH

Registrar

THE LAST of the large post-war undergraduate classes graduated last June, and the following three classes average slightly over 700 students each. Therefore, the total undergraduate registration will be about 3,000 for the next few years unless there is a change in the size of the freshman classes from the recent average of 750 or a change in the number of college transfers entering the undergraduate school.

The majority of students transferring from other colleges to M. I. T. now enter at the sophomore and junior levels. The post-war peak in college transfers was in 1949, when 163 entered as sophomores and 160 as juniors. Due, presumably, to the present military deferment regulations, these numbers have been decreasing. In 1950, there were 90 sophomores and 106 juniors, while last fall the corresponding numbers were only 60 and 79. Usually, the college transfers have about balanced the normal attrition in the first two years, but this will not be true if there is a further decrease in college transfers.

The statistics for the year 1951-1952 and the summary statistics for the preceding years follow.¹

¹ All statistics on registration and staff as of the Fifth Week of the Fall Term, except 1943-1944 as of August 2, 1943; 1944-1945 as of November 27, 1944; 1945-1946 as of July 30, 1945.

TABLE 1. REGISTRATION OF STUDENTS
SINCE THE FOUNDATION OF THE INSTITUTE*

Year	Number of Students	Year	Number of Students	Year	Number of Students
1865-66	72	1894-95	1,183	1923-24	2,949
1866-67	137	1895-96	1,187	1924-25	2,938
1867-68	167	1896-97	1,198	1925-26	2,813
1868-69	172	1897-98	1,198	1926-27	2,671
1869-70	206	1898-99	1,171	1927-28	2,712
1870-71	224	1899-00	1,178	1928-29	2,868
1871-72	261	1900-01	1,277	1929-30	3,066
1872-73	348	1901-02	1,415	1930-31	3,209
1873-74	276	1902-03	1,608	1931-32	3,188
1874-75	248	1903-04	1,528	1932-33	2,831
1875-76	255	1904-05	1,561	1933-34	2,606
1876-77	215	1905-06	1,466	1934-35	2,507
1877-78	194	1906-07	1,397	1935-36	2,540
1878-79	188	1907-08	1,415	1936-37	2,793
1879-80	203	1908-09	1,461	1937-38	2,966
1880-81	253	1909-10	1,479	1938-39	3,093
1881-82	302	1910-11	1,506	1939-40	3,100
1882-83	368	1911-12	1,559	1940-41	3,138
1883-84	443	1912-13	1,611	1941-42	3,055
1884-85	579	1913-14	1,685	1942-43	3,048
1885-86	609	1914-15	1,816	1943-44	1,579
1886-87	637	1915-16	1,900	1944-45	1,198
1887-88	720	1916-17	1,957	1945-46	1,538
1888-89	827	1917-18	1,698	1946-47	5,172
1889-90	909	1918-19	1,819	1947-48	5,662
1890-91	937	1919-20	3,078	1948-49	5,433
1891-92	1,011	1920-21	3,436	1949-50	5,458
1892-93	1,060	1921-22	3,505	1950-51	5,171
1893-94	1,157	1922-23	3,180	1951-52	4,874

*From 1943-46 Army and Navy Students omitted. See Table 3-B in reports for 1943-46.

TABLE 2. THE CORPS OF INSTRUCTORS

	'39	'40	'41	'42	'43	'44	'45	'46	'47	'48	'49	'50	'51
Faculty Members of the Staff . . .	282	285	292	313	319	317	330	379	398	413	435	436	457
Professors	98	99	95	97	97	107	113	110	118	124	131	132	136
Associate Professors	89	92	99	104	108	105	103	128	131	131	141	137	144
Assistant Professors	83	83	86	98	99	92	101	125	137	133	138	144	154
Ex-Officio	7	7	7	8	9	10	10	11	11	10	10	8	11
Professors Emeriti (Lecturers) . .	—	—	—	—	—	—	—	—	—	14	13	13	10
Instructors	3	3	2	3	3	—	—	—	—	—	—	—	—
Technical Instructors	—	—	1	1	1	1	1	1	—	—	—	—	—
Research Associates	2	1	2	2	2	2	2	2	—	—	2	2	2
Library Fellows	—	—	—	—	—	—	—	2	1	1	—	—	—
Other Members of the Staff . . .	401	396	395	370	306	222	252	694	846	824	861	940	999
Instructors	99	91	101	100	97	70	82	119	154	142	151	145	139
Technical Instructors	—	—	6	7	8	6	8	14	17	15	15	13	12
Administrative Assistant	—	—	—	—	—	—	—	1	—	—	—	2	2
Teaching Assistants	—	—	—	—	1	—	—	—	—	—	—	—	186
Teaching Fellows	52	55	52	60	52	8	18	74	77	72	91	98	—
Fellows in Applied Math	—	—	—	—	—	—	—	4	3	—	—	—	—
Assistants	78	85	87	75	49	44	47	127	137	116	124	122	—
Technical Assistants	—	—	—	—	—	—	—	—	—	—	—	—	46
Consultant	—	—	—	—	—	—	—	—	—	—	1	—	—
Lecturers	31	31	17	18	16	7	7	11	10	13	11	22	32
Research Consultant	—	—	—	—	1	—	—	—	—	—	—	—	—
Research Associates	36	35	47	34	23	33	39	151	176	155	120	105	86
Research Assistants	90	91	84	64	59	54	51	193	272	311	348	433	474
Research Fellows	15	8	—	—	—	—	—	—	—	—	—	—	—
National Research Council Fellows	—	—	1	—	—	—	—	—	—	—	—	—	—
Carnegie Fellows	—	—	—	—	—	—	—	—	—	—	—	—	2
Fellows	—	—	—	—	—	—	—	—	—	—	—	—	20
Staff Members (D. I. C.)	—	—	—	12	—	—	—	—	—	—	—	—	—
Total	683	681	687	683	625	539	582	1073	1244	1237	1296	1376	1456
Other Members of the Faculty . .	28	32	37	40	39	44	52	60	67	50	50	54	55
Professors: Emeriti (not Lecturers)*	27	31	36	39	38	43	51	59	66	49	49	53	54
Non-Resident	1	1	1	1	1	1	1	1	1	1	1	1	1

*Beginning 1948-49

TABLE 3. CLASSIFICATION OF STUDENTS BY COURSES AND YEARS

COURSE NAME AND NUMBER	1949-50						1950-51						1951-52					
	YEAR						YEAR						YEAR					
	I	2	3	4	G	Total	I	2	3	4	G	Total	I	2	3	4	G	Total
Aeronautical Engineering XVI	40	44	37	50	85	236	45	40	22	33	97	237	37	31	17	19	105	209
Aeronautical Engineering (Cooperative) XVI-B																		
Architecture IV-A	25	30	39	31	19	144	40	37	30	34	21	162	18	37	34	29	24	142
Architecture (IV-A) Fifth Year																		
Biology																		
Quantitative VII	8	14	12	16	22	72	11	13	13	9	33	79	12	22	10	10	32	86
Physical VII-A																		
Chemical VII-B																		
Building Engineering and Construction XVII	11	31	35	33	14	124	14	21	30	38	13	116	10	12	23	31	31	94
Business and Engineering Administration XV	46	99	115	122	33	415	45	63	106	118	39	371	46	75	68	98	37	324
Chemical Engineering X	98	84	128	94	129	533	103	77	81	93	119	473	118	76	81	110	110	452
Chemical Engineering Practice X-A, X-B																		
Chemistry V	35	30	28	43	145	281	42	20	31	28	151	272	29	23	26	31	149	258
City Planning IV-B	2	2	1	5	23	33	1	1	1	3	24	30						
Civil Engineering I	56	49	61	57	44	267	56	56	58	57	47	274	60	43	59	56	51	269
Army Engineer (in Civil Eng. Department)																		
Economics and Engineering XIV																		
Economics and Engineering XIV																		
Electrical Engineering VI	5	16	25	35	4	81	2	7	20	27	57	113	1	6	10	25	50	92
Electrical Engineering (Cooperative) VI-A	167	160	130	133	262	852	160	136	99	111	255	761	153	129	100	103	285	770
Food Technology																		
Food Technology XX, XX-A																		
Biochemical Engineering XX-B																		
General Engineering IX-B																		
General Science IX-A																		
Geology XII																		
Industrial Economics	7	22	19	11	27	86	5	17	22	19	36	99	5	10	18	31	82	20
Marine Transportation XIII-C																		
Marine Transportation (XIII-C) Fifth Year																		
Mathematics XVIII	12	26	18	26	83	165	11	17	29	15	68	140	12	13	17	26	79	147
Mechanical Engineering II	106	133	134	189	131	693	110	98	96	138	121	563	85	100	70	91	124	470
Mechanical Engineering (Cooperative) II-B																		
Metallurgy III	10	45	47	40	12	231	12	25	40	46	95	218	13	25	32	42	91	293
Ceramics (in Metallurgy Department)																		
Meteorology XIX	3	9	6	12	35	65	7	6	8	11	39	71	6	6	8	11	84	115
Naval Architecture and Marine Eng. XIII	17	9	22	12	6	66	17	14	12	19	11	73	18	14	12	16	7	67
Naval Construction and Engineering XIII-A																		
Physics VIII	93	77	66	70	172	478	97	79	72	61	293	512	95	72	62	72	213	514
Sanitary Engineering XI																		
Science Teaching IX-C																		
Total	744	897	1,038	1,177*	1,602	5,458	784	739	900	1,061*	1,675	5,171	736	711	766	941*	1,720	4,874

* These totals include fifth year in Architecture IV-A and Marine Transportation XIII-C.
 † After June 1950 included in Economics and Engineering XIV.

TABLE 4-B
CLASSIFICATION OF SPECIAL STUDENTS BY COURSES AND YEARS
 (Included in Table 4-A)

COURSE	YEAR					TOTAL	COURSE
	I	2	3	4	G		
I Civil Engineering	—	—	1	1	2	4	I
II Mechanical Engineering	2	5	1	1	13	22	II
III Metallurgy	2	1	5	1	2	11	III
IV-A Architecture	—	—	2	1	2	5	IV-A
Fifth Year	—	—	—	1	—	1	(Fifth Year)
IV-B City Planning	—	—	—	1	—	1	IV-B
V Chemistry	1	—	3	3	3	10	V
VI Electrical Engineering	5	5	10	12	78	110	VI
VII Quantitative Biology	—	—	—	2	5	7	VII
VIII Physics	4	1	—	2	17	24	VIII
IX-B General Engineering	—	—	—	1	—	1	IX-B
X Chemical Engineering	—	—	—	1	7	8	X
X-A Chemical Engineering Practice	—	—	—	—	1	1	X-A
XIII Naval Architecture and Marine Engineering	—	—	—	—	3	3	XIII
XIII-C Marine Transportation	—	—	—	1	—	1	XIII-C
XIV Economics and Engineering	—	—	—	2	4	6	XIV
XV Business and Engineering Administration	—	—	—	2	4	6	XV
XVI Aeronautical Engineering	—	—	—	—	31	31	XVI
XVII Building Engineering and Construction	—	—	—	2	2	4	XVII
XVIII Mathematics	—	2	1	3	25	31	XVIII
XIX Meteorology	1	1	1	2	54	59	XIX
XX Food Technology	—	—	2	—	—	2	XX
Total	15	15	26	39	253	348	Total

TABLE 4-C
CLASSIFICATION OF FORMER STUDENTS WHO RETURNED THIS YEAR*
 (Included in Table 4-A)

COURSE	YEAR					TOTAL	COURSE
	I	2	3	4	G		
I Civil Engineering	—	3	4	—	5	12	I
II Mechanical Engineering	—	5	7	8	9	29	II
III Metallurgy	—	1	2	—	—	3	III
IV-A Architecture	1	—	—	—	1	2	IV-A
Fifth Year	—	—	—	2	—	2	(Fifth Year)
IV-B City Planning	—	—	—	—	1	1	IV-B
V Chemistry	—	—	1	—	3	4	V
VI Electrical Engineering	1	2	5	5	5	18	VI
VII Quantitative Biology	—	—	1	—	—	1	VII
VIII Physics	—	1	1	2	11	15	VIII
IX-A General Science	—	—	—	1	—	1	IX-A
IX-B General Engineering	—	—	2	1	—	3	IX-B
IX-C Science Teaching	—	—	1	—	—	1	IX-C
X Chemical Engineering	—	1	2	—	4	7	X
X-A Chemical Engineering Practice	—	—	—	—	1	1	X-A
XII Geology	—	—	—	—	1	1	XII
XIII Naval Architecture and Marine Engineering	1	—	—	—	1	2	XIII
XIII-A Naval Construction and Engineering	—	—	—	—	1	1	XIII-A
XIV Economics and Engineering	—	1	1	1	2	5	XIV
XV Business and Engineering Administration	3	4	2	2	3	14	XV
XVI Aeronautical Engineering	—	—	—	2	6	8	XVI
XVII Building Engineering and Construction	—	—	1	1	1	3	XVII
XVIII Mathematics	—	2	3	—	1	6	XVIII
XIX Meteorology	—	—	—	—	4	4	XIX
XX Food Technology	—	—	—	—	1	1	XX
Total	6	19	32	27	61	145	Total

* Excludes 59 special students

TABLE 5. CLASSIFICATION OF STUDENTS BY COURSES SINCE 1944

	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52
<i>School of Engineering</i> Total	976	1,225	4,092	4,398	4,094	4,055	3,287	3,094
Aeronautical Engineering XVI, XVI-B	136	208	425	346	304	274	276	246
Building Engineering and Construction XVII.	11	15	70	98	111	124	116	94
†Business and Engineering Administration XV	61	73	490	556	449	415	—	—
Chemical Engineering X, X-A, X-B	185	220	695	693	611	596	541	482
Civil Engineering I	62	63	209	220	258	277	277	273
†Economics and Engineering XIV	—	—	4	69	87	81	—	—
Electrical Engineering VI, VI-A	218	303	1,091	1,215	1,051	996	900	908
General Engineering IX-B	10	12	32	51	57	62	44	40
Mechanical Engineering II, II-B	139	178	718	749	691	711	617	526
Metallurgy III	30	31	135	155	203	243	231	218
†Meteorology XIX	15	12	46	46	66	65	71	115
Naval Architecture and Marine Eng. XIII, XIII-C	25	26	85	85	92	92	101	85
Naval Construction and Engineering XIII-A	75	81	78	101	98	98	91	86
Sanitary Engineering XI	3	3	14	14	16	21	22	21
<i>School of Science</i> Total	187	269	895	1,037	1,090	1,151	1,176	1,159
Biology VII, VII-A, VII-B	13	21	66	85	77	85	89	92
Chemistry V	77	108	272	292	280	281	272	258
**Food Technology XX, XX-A, XX-B	—	4	29	41	59	46	49	43
General Science IX-A	1	3	3	6	7	10	15	20
Geology XII	3	4	27	38	61	86	99	82
Mathematics XVIII	20	36	105	116	137	165	140	147
Physics VIII	73	93	393	459	469	478	512	514
Science Teaching IX-C	—	—	—	—	—	—	—	3
<i>School of Architecture and Planning</i> Total	30	40	156	179	204	202	224	205
Architecture IV-A	—	—	—	—	—	—	—	—
*City Planning IV-B	30	40	156	144	169	169	194	179
<i>School of Humanities and Social Studies</i> Total	—	—	—	35	35	33	30	26
Business and Engineering Administration XV	—	—	—	—	—	—	—	—
Economics and Engineering XIV	—	—	—	—	—	—	484	92
<i>School of Industrial Management</i> Total	—	—	—	—	—	—	—	—
Business and Engineering Administration XV	—	—	—	—	—	—	371	92
Economics and Eng. or Natural Science, Industrial Economics, and Group Psychology	—	—	—	—	—	—	113	—
†Economics and Eng. or Natural Science, Industrial Economics, and Group Psychology	5	4	29	48	45	50	—	—
Grand Total	1,198	1,538	5,172	5,662	5,433	5,458	5,171	4,874

* Prior to February 1947 included in Architecture.
 † September 1946, Meteorology changed from Course XIV to Course XIX; Economics and Engineering, Course XIV started.
 ‡ Prior to July 1945, included in Biology. From July 1945 to September 1946, Course VII-B, September 1946, changed to Course XX.
 † After June 1950 included in Economics and Engineering XIV.
 ¶ June 1950, School of Humanities and Social Studies started.
 ¶ School of Engineering to New School. 1951-52 Business and Engineering Administration changed to School of Industrial Management.

TABLE 6
GEOGRAPHICAL CLASSIFICATION OF STUDENTS SINCE 1947

UNITED STATES	1947	1948	1949	1950	1951
<i>North Atlantic</i> Total	3,837	3,633	3,590	3,297	3,139
Connecticut	213	199	199	174	151
Maine	44	43	52	41	40
Massachusetts	1,817	1,710	1,672	1,523	1,542
New Hampshire	54	51	47	45	47
New Jersey	337	311	307	286	280
New York	1,009	981	973	901	824
Pennsylvania	285	262	267	258	205
Rhode Island	57	53	51	49	38
Vermont	21	23	22	20	22
<i>South Atlantic</i> Total	351	343	308	319	262
Delaware	17	14	8	13	11
District of Columbia	57	50	49	44	38
Florida	54	66	65	69	52
Georgia	14	15	10	12	17
Maryland	79	68	61	61	45
North Carolina	29	26	18	20	16
South Carolina	19	12	11	8	8
Virginia	56	63	65	67	55
West Virginia	26	29	21	25	20
<i>South Central</i> Total	210	194	200	175	161
Alabama	21	15	25	20	23
Arkansas	19	15	14	11	10
Kentucky	17	25	28	25	23
Louisiana	26	29	20	18	16
Mississippi	12	10	9	12	12
Tennessee	41	36	33	25	25
Texas	74	64	71	64	52
<i>North Central</i> Total	675	641	659	633	597
Illinois	189	175	174	151	139
Indiana	31	37	38	41	36
Iowa	21	20	22	11	14
Kansas	21	17	14	17	14
Michigan	83	88	97	94	96
Minnesota	41	31	35	38	35
Missouri	68	61	58	48	47
Nebraska	19	18	28	20	16
North Dakota	8	5	3	2	5
Ohio	144	136	140	158	145
South Dakota	4	2	3	4	5
Wisconsin	46	51	47	49	45
<i>Western</i> Total	276	282	290	284	259
Arizona	8	6	7	11	12
California	95	97	99	102	96
Colorado	21	22	28	16	20
Idaho	6	7	8	8	7
Montana	7	10	8	7	9
Nevada	3	4	3	3	2
New Mexico	11	7	7	8	5
Oklahoma	34	39	33	32	28
Oregon	25	22	17	20	20
Utah	13	13	15	14	9
Washington	49	50	58	52	44
Wyoming	4	5	7	11	7
<i>Territories and Dependencies</i> Total	11	20	26	28	26
Alaska	1	2	4	5	6
Canal Zone	—	3	6	5	4
Hawaii	7	9	12	12	14
Puerto Rico	3	6	4	6	2
Total for United States	5,360	5,113	5,073	4,736	4,444

(continued)

TABLE 6 — (Continued)
GEOGRAPHICAL CLASSIFICATION OF STUDENTS SINCE 1947

FOREIGN COUNTRIES	1947	1948	1949	1950	1951
Total	302	320	385	435	430
Afghanistan	—	—	1	—	—
Africa	1	—	—	—	—
Argentina	7	8	9	8	10
Australia	4	2	2	6	8
Austria	—	—	1	2	3
Azores	—	—	—	—	1
Bahamas	—	—	—	1	—
Belgium	1	1	4	5	1
Bolivia	—	1	2	2	2
Brazil	10	12	13	12	15
British West Indies	2	1	3	5	3
Burma	—	—	1	—	1
Canada	57	60	76	80	73
Canary Islands	—	—	—	1	—
Ceylon	—	—	1	—	—
Chile	1	1	1	—	1
China	30	22	21	18	17
Colombia	6	6	6	14	12
Costa Rica	—	—	—	—	1
Cuba	20	16	17	18	17
Cyprus	1	1	1	—	—
Czechoslovakia	2	2	1	1	—
Denmark	—	1	—	1	1
Dominican Republic	1	1	2	—	—
Ecuador	1	6	6	—	2
Egypt	3	—	—	4	5
England	8	13	12	9	14
Ethiopia	—	—	—	—	1
Finland	2	2	2	4	2
France	14	10	15	12	12
French West Indies	1	1	—	—	—
French Indochina	—	—	1	—	1
Germany	—	—	—	—	1
Gold Coast	—	—	1	—	—
Greece	4	6	6	12	12
Guatemala	1	4	3	4	4
Honduras	2	2	—	—	—
Hong Kong	—	—	5	11	14
Hungary	2	—	—	1	—
Iceland	2	4	3	3	1
India	25	27	34	34	30
Iran	—	—	—	1	2
Iraq	5	3	5	6	4
Ireland	—	—	—	1	—
Israel	3	2	3	14	19
Italy	2	3	4	7	3
Jamaica	—	—	—	—	1
Japan	—	—	—	1	6
Kenya	—	—	—	1	1
Korea	—	1	1	2	1
Lebanon	—	—	2	1	1
Luxembourg	—	1	1	—	—
Malaya	—	1	2	2	1
Mexico	9	11	13	15	12
Morocco	1	—	1	—	1
Mozambique	—	—	1	2	1
Netherlands East Indies	3	3	2	—	—
Netherlands West Indies	1	1	2	2	2
Netherlands	1	2	1	3	3
New Zealand	—	2	2	3	2

(continued)

TABLE 6—(Continued)
GEOGRAPHICAL CLASSIFICATION OF STUDENTS SINCE 1947

FOREIGN COUNTRIES	1947	1948	1949	1950	1951
Nicaragua	—	1	2	3	2
Nigeria	—	—	—	1	1
Norway	26	33	31	25	22
Pakistan	—	—	1	3	2
Panama	2	2	—	—	1
Peru	9	5	3	5	7
Philippines	6	11	13	10	14
Poland	—	—	1	1	—
Portugal	2	2	5	4	3
Salvador	2	2	—	—	2
Scotland	—	—	2	3	4
Singapore	—	—	1	3	2
South Africa	1	—	—	—	—
Spain	2	4	2	1	1
Sweden	4	3	3	6	10
Switzerland	4	2	3	2	3
Syria	—	—	—	—	1
Tanganyika	—	—	1	1	1
Thailand	—	—	—	4	3
Turkey	8	6	5	2	2
Union of South Africa	2	3	4	7	5
Uruguay	1	1	4	7	8
United States of Indonesia	—	—	—	3	—
Venezuela	—	3	7	15	11
Yugoslavia	—	1	1	—	—
Grand Total, United States and Foreign	5,662	5,433	5,458	5,171	4,874

TABLE 7
NEW STUDENTS ENTERING FROM OTHER COLLEGES AS
CANDIDATES FOR DEGREES

Class Joined at the Institute	Years Spent at College				Total
	One	Two	Three	Four or more	
First Year	22	4	3	4	33
Second Year	23	16	9	12	60
Third Year	3	13	39	24	79
Fourth Year	—	—	3	4	7
Graduate Year	—	—	48	348	396
Total	48	33	102	392	575

TABLE 8. WOMEN STUDENTS CLASSIFIED BY COURSES AND YEARS

Course	Year					Total
	1	2	3	4	G	
I Civil Engineering	1	—	—	—	1	2
II Mechanical Engineering	1	—	—	—	—	1
III Metallurgy	—	1	—	—	—	1
IV-A Architecture	2	4	4	1	1	12
Fifth Year	—	—	—	3	—	3
IV-B City Planning	—	—	—	—	1	1
V Chemistry	2	—	3	2	4	11
VI Electrical Engineering	1	1	—	1	1	4
VII Quantitative Biology	3	2	1	—	7	13
VIII Physics	3	—	2	1	6	12
IX-A General Science	—	—	—	1	—	1
X Chemical Engineering	1	2	—	—	2	5
XII Geology	—	—	1	—	1	2
XIV Economics and Engineering	—	1	1	—	1	3
XV Business and Engineering Administration	—	2	—	—	—	2
XVI Aeronautical Engineering	—	—	—	—	1	1
XVIII Mathematics	1	1	2	—	10	14
XIX Meteorology	—	1	1	—	—	2
XX Food Technology	1	2	—	—	2	5
Total	16	17	15	9*	38	95

* This total includes fifth year in Architecture.

TABLE 9. OLD AND NEW STUDENTS

Year	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52
Students registered at end of last academic year (including specials)	2,762	4,118	3,663	3,639	3,461	3,251
Students who have previously attended the Institute but were not registered at end of last academic year (including specials)	1,242	261	262	189	186	204
New students who entered by examination	460	530	501	433	510	443
New students who entered without examination	241	294	261	241	206	238
New students who entered from other colleges as candidates for degrees	406	396	645	877	732	575
New students (specials, not candidates for degrees)	61	63	101	79	76	163
Total	5,172	5,662	5,433	5,458	5,171	4,874

TABLE 10. LIST OF AMERICAN COLLEGES AND UNIVERSITIES WITH NUMBER OF GRADUATES ATTENDING THE INSTITUTE

<i>College</i>	<i>College</i>	<i>College</i>
Aeronautical University . . . 1	Drexel Institute of Tech. . . 1	Massachusetts Maritime Academy 3
Akron University 1	Duke University 1	Massachusetts State Teachers College 1
Alabama Polytechnic Inst. . . 4	Duquesne University 4	Massachusetts, University of . . 8
Alabama, University of 5	Eastern Nazarene College . . 1	Memphis State College 1
Alma College 5	Emmanuel College 2	Miami, University of 1
Amherst College 12	Fisk University 3	Miami University (Ohio) 9
Antioch College 4	Florida, University of 6	Michigan College of Mining and Technology 3
Arizona, University of 1	Fordham University 1	Michigan State College 10
Arkansas, University of 1	Franklin College 1	Michigan, University of 22
Babson Institute 1	Franklin and Marshall Coll. 2	Michigan Western State Teachers College 1
Bard College 3	Geneva College 1	Middlebury College 3
Barnard College 1	George Washington Univ. . . 4	Minnesota, University of . . . 14
Bates College 1	Georgetown University . . . 1	Mississippi State College . . . 4
Bennington College 2	Georgia School of Technology 2	Missouri School of Mines and Metallurgy 4
Bethany College 2	Gettysburg College 1	Missouri, University of 2
Boston College 15	Goucher College 1	Monmouth College 1
Boston University 10	Grinnell College 1	Montana School of Mines 2
Bowdoin College 8	Hamilton College 1	Montana State College 1
Bradley University 1	Hampden-Sydney College . . 1	Montana, University of 1
Bridgewater Teachers College 1	Hardin-Simmons University 1	Nebrasks, University of 7
Brimham Young University . . 3	Harvard University 42	Nevada, University of 1
Brooklyn College 14	Haverford College 2	Newark Coll. of Engineering . . 1
Brooklyn Polytechnic Inst. . . 6	Holy Cross, College of the . . 5	New Hampshire, Univ. of . . . 13
Brown University 14	Houston, University of 1	New Jersey State Teachers College 1
Bryn Mawr College 4	Howard College 1	New Mexico State Teachers College 1
Bucknell University 1	Howard University 3	New Mexico, University of . . . 1
Buffalo, University of 1	Hunter College 1	New York State College for Teachers 2
California Inst. of Tech. . . . 15	Idaho, University of 1	New York University 19
California, University of at Berkeley 8	Illinois Institute of Tech. . . 8	Niagara University 1
California, University of at Los Angeles 21	Illinois, University of 20	North Carolina State College . . 5
Canisius College 1	Indiana Technical College . . 1	North Carolina, University of 3
Carleton College 1	Indiana University 1	North Dakota Agric. College . . 2
Carnegie Inst. of Technology . . 9	Iona College 1	North Dakota State College . . 1
Carroll College 1	Iowa State College 4	North Dakota, University of . . 2
Case Inst. of Technology . . . 11	Iowa State University 3	Northeastern University 33
Catholic University of America 6	Johns Hopkins University . . . 9	North Texas State Teachers College 2
Chicago, University of 10	Juanita College 3	Northwestern University 4
Cincinnati, University of . . . 6	Kansas State College of Agric. and Applied Science . . 7	Norwich University 4
Citadel, The 3	Kansas, University of 1	Notre Dame, University of . . . 7
Clark University 1	Kentucky, University of . . . 2	Oberlin College 5
Clemson College 2	Kenyon College 2	Occidental College 1
Coe College 1	King College 1	Ohio Northern University 1
Colby College 1	Lafayette College 7	Ohio State University 12
Colgate University 1	Lawrence Inst. of Technology 1	Ohio University 12
College of City of New York 42	Lehigh University 3	Ohio Wesleyan University 4
College of Wooster 5	Lincoln University 5	Oklahoma Agric. and Mech. College 5
Colorado Agricultural and Mechanical College 4	Louisiana Polytechnic Inst. . 1	Oklahoma, University of 6
Colorado School of Mines . . . 3	Louisiana State University and Agric. and Mech. Coll. 10	Oregon State College 5
Colorado, University of 4	Lowell Textile Institute . . . 4	Oregon, University of 1
Columbia College 4	Macalester College 1	Pacific Union College 2
Columbia University (N. Y.) 15	Maine, University of 11	Park College 1
Concord College 1	Manhattan College 1	Pembroke College 1
Connecticut, University of . . 2	Marquette University 3	Pennsylvania State College . . . 15
Cooper Union 4	Maryland, University of . . . 4	Pennsylvania State Teachers College 1
Cornell University 17	Maryville College 1	Pennsylvania, University of 14
Dartmouth College 5	Maryville College of the Sacred Heart 1	
Delaware, University of 2	Massachusetts Inst. of Tech. 536	
Denison University 1		
Denver, University of 3		
DePauw University 2		
Detroit Institute of Tech. . . . 1		
Dickinson College 1		

(continued)

TABLE 10. LIST OF AMERICAN COLLEGES AND UNIVERSITIES
WITH NUMBER OF GRADUATES ATTENDING THE INSTITUTE (*Continued*)

<i>College</i>	<i>College</i>	<i>College</i>
Pittsburgh, University of 1	South Dakota School of Mines and Technology 2	Valparaiso University 1
Pomona College 4	Southern California, Univ. of 2	Vanderbilt University 2
Pratt Institute 4	Southern Methodist Univ. 1	Vermont, University of 9
Princeton University 15	Southwestern Louisiana Institute 1	Virginia Military Institute 3
Principia College 2	Spring Hill College 1	Virginia Polytechnic Inst. 6
Purdue University 21	Stanford University 15	Virginia Union University 1
Queens College (N. Y.) 2	State College of Washington 3	Virginia, University of 2
Radcliffe College 3	Stevens Inst. of Technology 6	Wake Forest College 1
Reed College 3	Sul Ross State Teachers College 1	Washington, University of 15
Regis College 1	Swarthmore College 6	Washington-Jefferson College 3
Rensselaer Polytechnic Inst. 30	Syracuse University 5	Washington-Lee University 1
Rhode Island School of Design 1	Temple University 3	Washington University 6
Rhode Island State College 1	Tennessee, University of 2	Wayne University 4
Rice Institute 2	Texas Agric. and Mech. College 7	Webb Inst. of Naval Arch. 3
Ripon College 4	Texas Christian University 1	Wellesley College 8
Rochester, University of 7	Texas State College for Women 1	Wesleyan University 5
Rose Polytechnic Institute 3	Texas Technical College 6	Western Maryland College 1
Rutgers University 8	Texas, University of 5	West Virginia University 6
St. Bonaventure College 1	Toledo, University of 2	Wheaton College 1
St. Francis Coll. (Brooklyn) 1	Trinity College 3	William and Mary College 9
St. Joseph College 1	Tri-State College 1	Williams College 10
St. Lawrence University 1	Tufts College 17	Wisconsin, University of 8
St. Louis University 1	Tulane University 2	Worcester Polytechnic Inst. 6
St. Michael's College 1	Union College (N. Y.) 17	Wyoming, University of 4
St. Olaf College 1	U.S. Coast Guard Academy 27	Yale University 20
St. Patrick's College 1	U.S. Merchant Marine Academy 3	Yeshiva College 4
San Diego State College 2	U.S. Military Academy 27	Total 1,891
Santa Clara, University of 1	U.S. Naval Academy 77	Number of American Colleges Represented 262
Seattle College 1	Utah, University of 8	Number of Foreign Colleges Represented (not listed) 105
Simmons College 1		Total 367
Smith College 2		
South, University of the 1		
South Carolina, University of 5		

TABLE 11
REGULAR STUDENTS FROM COLLEGES CLASSIFIED BY COURSES

COURSE	No Previous Degree			Graduates of Other Colleges				Graduates of M. I. T. Taking Graduate Work		
	Entered			Entered				S. B. Degree 1951	Other Graduates	Total
	Sept. 1951	Pre-vious Years	Total	Sept. 1951		Previous Years					Total
				Under-grad.	Grad.	Under-grad.	Grad.			
Aeronautical Engineering XVI	6	18	24	1	26	2	26	14	8	22
Architecture IV-A	11	17	28	4	18	15	4	—	—	—
Biology VII, VII-A	2	6	8	—	4	1	19	5	2	7
Building Engineering and Construction XVII	4	14	18	2	4	2	7	5	—	5
Business and Engineering Administration XV	10	17	27	3	21	6	12	42	—	42
Chemical Engineering X, X-A, X-B	18	14	32	5	23	3	61	26	11	37
Chemistry V	2	7	9	1	39	—	94	4	9	13
City Planning IV-B	—	1	1	—	5	—	15	1	1	2
Civil Engineering I	8	32	40	3	28	6	15	2	8	10
Economics and Engineering XIV	3	6	9	—	12	—	29	1	4	5
Electrical Engineering VI, VI-A	42	65	107	5	52	17	118	60	21	81
Food Technology XX, XX-A, XX-B	1	1	2	—	3	3	10	16	3	3
General Engineering IX-B	—	8	8	2	—	1	—	—	—	—
General Science IX-A	1	3	4	—	—	—	—	—	—	—
Geology XII	—	3	3	—	7	—	17	3	4	7
Mathematics XVIII	2	9	11	—	19	—	28	2	5	7
Mechanical Engineering II	24	64	88	4	31	13	44	13	23	36
Metalurgy III	4	10	14	1	16	2	58	18	12	30
Meteorology XIX	1	4	5	—	9	—	15	3	3	6
Naval Architecture and Marine Eng. XIII, XIII-C	3	10	13	—	2	6	—	1	1	2
Naval Construction and Engineering XIII-A	—	—	—	—	28	—	55	83	3	3
Physics VIII	6	24	30	—	41	4	104	12	39	51
Sanitary Engineering XI	—	—	—	—	8	—	12	1	—	1
Science Teaching IX-C	—	1	1	—	—	—	—	—	—	—
Total	148	334	482	31	396	81	743	171	157	328

TABLE 12. NUMBER OF DEGREES AWARDED IN SEPTEMBER 1951, JANUARY 1952, AND JUNE 1952

Name of Course	S.B.			B.Arch. and B.C.P.			S.M.			M.Arch. and M.C.P.			Adv. Eng.			Ph.D.			Sc.D.			Total							
	Sept.	Jan.	June	Sept.	Jan.	June	Sept.	Jan.	June	Sept.	Jan.	June	Sept.	Jan.	June	Sept.	Jan.	June	Sept.	Jan.	June	Sept.	Jan.	June					
	Aeronautical Engineering	5	1	30	—	—	—	1	2	26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	3	58
Architecture	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20	5	26	
Biochemical Engineering	—	—	1	—	3	25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	
Biology	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Building Eng. and Constr.	—	—	27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Business and Eng. Admin.	—	—	87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ceramics	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chemical Biology	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chemical Engineering	9	1	56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chemical Engineering Practice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chemistry	4	1	24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Planning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Civil Engineering	3	1	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Economics and Engineering	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Economics and Science	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Electrical Engineering	22	21	86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Food Technology	—	—	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Engineering	2	1	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Science	1	1	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Geology	—	—	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Economics	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Marine Engineering	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Marine Transportation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mathematics	—	—	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mechanical Engineering	6	11	98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Metalurgy	—	—	37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Meteorology	—	—	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Naval Architecture	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Naval Arch. and Marine Eng.	—	—	15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Physical Biology	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Physics	—	—	59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Quantitative Biology	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sanitary Engineering	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Textile Technology	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without Course Classification	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	67	61	673	3	4	25	117	67	240	7	4	7	19	4	53	4	6	6	22	23	35	16	16	38	248	181	1,071		

TABLE 13
DEGREES OF BACHELOR OF SCIENCE ACCORDING TO CLASS IN WHICH THEY WERE AWARDED

Class (Calendar Year)	Aeronautical Eng.	Architectural Eng.†	Architecture	Biology or Natural Hist. (Inc. VII-A)	Bldg. Eng. & Constr.	Business and Eng. Admn.	Chemical Eng.	Chemical Eng. Practice X-B	Chemistry	Civil Engineering	Economics and Engineering	Electrical Eng. (Inc. VI-A)	Electrochemical Engineering*	Food Technology	General Eng.	General Science or Mathematics	Mechanical Eng. (Inc. II-A)	Metallurgy**	Meteorology	Military Eng.	Mining Eng. and Metallurgy	Naval Arch.	Physics	Sanitary Eng.	Total	Total by Decades	
1866										6							1								14		
1866										2							2									5	
1871										4							2									10	
1871										1							2									17	
1872										3							1									12	
1873										3							1									26	
1874										7							4									18	
1875										10							2									28	
1875										10							7									43	
1876										12							8									32	
1877										12							6									32	
1878										8							2									19	
1879										3							2									23	
1880										1							8									8	
1881										3							—									28	
1882										3							5									24	
1883										2							7									19	
1884										3							5									36	
1884										5							6									28	
1885										4							7									59	
1886										4							7									58	
1887										9							17									77	
1888										10							25									103	
1888										11							24									103	
1889										14							17									75	
1890										25							28									103	
1891										13							28									103	
1892										11							26									133	
1892										18							26									129	
1893										22							30									138	
1894										25							31									146	
1895										21							30									191	
1896										17							34									179	
1897										26							40									199	
1898										20							33									176	
1898										25							41									176	
1899										32							37									185	
1900										30							37									185	
1900										32							34									1,579	
1900										19							21									4	

* Prior to 1909 this Course was designated as Option 3 (Electrochemistry) of Course VIII.
 † Prior to 1923 degrees were awarded in Architecture.
 ** Prior to 1938 included in Mining Engineering and Metallurgy

(Continued)

TABLE 13 — (Continued)
DEGREES OF BACHELOR OF SCIENCE ACCORDING TO CLASS IN WHICH THEY WERE AWARDED

Class (Calendar Year)	Aeronautical Eng.	Architectural Eng.†	Architecture	Biology or Natural Hist. (Inc. VII-A)	Bldg. Eng. & Constr.	Business and Eng. Admin.	Chemical Eng.	Chemical Eng. Practice X-B	Chemistry	Civil Engineering	Economics and Engineering	Electrical Eng. (Inc. VI-A)	Electrochemical Engineering*	Food Technology	General Eng.	General Science or General Course	Geology	Mathematics	Mechanical Eng. (Inc. II-A)	Metalurgy**	Meteorology	Military Eng.	Mining Eng. and Metallurgy	Naval Arch. and Marine Eng.	Physics	Sanitary Eng.	Total	Total by Decades
1901			21	1			14		17	37		25				6	1		65				18	19	1	4	200	
1902			18	5			9		14	24		35				3			46				14	14	3	7	192	
1903			15	1			10		13	26		39				1	1		37				27	12	3	4	190	
1904			24	3			7		15	34		34				5	1		45				32	17	5	2	232	
1905			12	3			13		23	46		31				3	1		54				26	24	—	5	244	
1906			22	2			10		21	47		37				—	—		69				38	19	4	6	278	
1907			21	—			14		10	37		32				—	2		52				22	10	—	3	208	
1908			19	4			15		16	48		38				—	—		62				19	5	—	2	230	
1909			18	5			13		12	51		42				2	—		41				30	5	—	9	232	
1910			18	3			18		10	57		36				2	—		57				24	11	—	12	251	2,257
1911			10	1			19		12	46		49				2	—		49				17	6	—	15	232	
1912			21	4			31		7	55		52				1	—		47				21	3	—	14	261	
1913			26	2			30		12	58		43				1	—		50				20	4	—	15	269	
1914			19	6			37		9	60		51				4	—		65				17	8	—	19	304	
1915			30	3			33		23	49		42				3	—		69				17	8	—	3	289	
1916			37	5			32		11	45		56				2	—		84				5	7	—	12	321	
1917			27	10			43		13	49		45				5	2		75				14	9†	—	17	345	
1918			28	7			40		10	45		50				4	1		63				10	4	—	5	324	
1919			16	9			44		8	45		50				1	—		66				7	4	—	3	300	2,963
1920			19	2			63		6	52		30				4	—		55				13	12	—	2	318	
1921			11	3			92		9	98		75				1	—		128				24	18	—	3	565	
1922			32	8			98		15	65		109				1	—		56				27	16	—	7	637	
1923			13	18			73		19	64		78				3	—		106				23	13	—	3	608	
1924			6	15			57		8	69		125				4	—		82				19	11	—	1	557	
1925			6	18			53		18	57		110				2	—		98				23	10	—	5	555	
1926			9	24			45		13	76		108				3	—		76				20	14	—	2	561	
1927			2	15			39		6	73		121				4	—		72				9	4	—	4	514	
1928			8	19			38		7	59		114				2	—		67				12	3	—	5	471	
1929			29	25			37		11	46		84				1	—		64				11	5	—	4	483	
1930			15	44			59		12	46		76				1	—		48				6	6	—	6	459	5,410

(continued)

* Prior to 1909 this Course was designated as Option 3 (Electrochemistry) of Course VIII.
 † Two received the degree in Naval Architecture, Course XIII-B, in 1916 and three in 1917.
 ‡ Prior to 1923 degrees were awarded in Architecture.
 ** Prior to 1938 included in Mining Engineering and Metallurgy.

TABLE 13 — (Continued)
DEGREES OF BACHELOR OF SCIENCE ACCORDING TO CLASS IN WHICH THEY WERE AWARDED

Class (Calendar Year)	Aeronautical Eng.	Architectural Eng.	Architecture	Biology or Natural Hist. (Inc. VII-A)	Bldg. Eng. & Constr.	Business and Eng. Adm.	Chemical Eng.	Chemical Eng. Practice X-B	Chemistry	Civil Engineering	Economic and Engineering	Electrical Eng. (Inc. VI-A)	Electrochemical Engineering	Food Technology	General Eng.	General Science or General Course	Geology	Mathematics	Mechanical Eng. (Inc. II-A)	Metallurgy**	Meteorology	Military Eng.	Mining Eng. and Metallurgy	Naval Arch. and Marine Eng.	Physics	Sanitary Eng.	Total	Total by Decades
1911	39	10	8	91	51	68	32	10	12	49	—	83	4	—	22	5	3	4	70	—	—	—	12	13	7	2	496	
1912	27	16	5	15	18	70	45	7	15	38	—	74	6	—	29	3	3	3	68	—	—	4	21	16	21	4	505	
1913	27	9	—	13	9	56	38	3	18	47	—	86	8	—	16	3	2	7	86	—	—	—	14	13	14	2	471	
1914	26	10	—	16	13	78	48	6	15	35	—	82	7	—	8	9	1	8	95	—	—	—	26	25	28	5	496	
1915	27	8	—	18	8	74	43	5	15	18	—	57	8	—	19	4	1	3	45	—	—	—	14	14	19	1	401	
1916	27	3	—	13	12	63	31	20	16	23	—	68	5	—	25	6	2	8	47	—	—	—	10	18	11	2	410	
1917	30	3	—	9	4	61	34	9	13	15	—	67	5	—	20	4	—	4	46	—	—	—	19	19	17	1	380	
1918	25	3	—	11	4	56	51	6	14	22	—	62	4	—	28	6	1	2	50	10	—	5	23	14	2	399		
1919	30	2	—	6	7	56	53	12	25	23	—	67	7	—	10	13	4	2	72	20	—	9	8	17	1	453		
1920	29	—	—	12	9	59	59	12	23	14	—	73	2	—	36	20	6	7	68	22	—	7	24	22	—	504	4,515	
1921	36	—	—	12	9	59	54	8	28	22	—	79	2	—	36	20	6	7	68	22	—	—	18	23	—	501		
1922	36	—	—	17	3	61	60	8	34	16	—	66	—	—	20	11	5	4	98	34	—	—	29	25	1	531		
1923	38	—	—	10	5	49	49	14	21	14	—	83	—	—	18	11	2	6	80	24	—	—	33	14	1	472		
1924	57	—	—	4	3	28	41	20	12	18	—	47	—	—	14	4	1	2	78	8	—	—	37	20	2	396		
1925	22	—	—	1	5	22	36	—	5	9	—	45	—	—	6	1	—	5	70	3	—	—	13	16	—	255		
1926	84	—	—	—	1	33	59	—	9	13	—	91	—	1	12	2	1	4	93	7	—	—	29	12	—	479		
1927	84	—	—	4	9	154	114	—	23	45	—	189	—	6	28	3	—	7	170	20	—	—	30	35	—	933		
1928	64	—	—	13	29	225	163	—	35	31	10	262	—	3	37	8	1	12	186	16	—	—	12	60	—	1,173		
1929	51	—	—	3	23	157	72	12	28	49	16	176	—	12	33	7	3	5	114	17	—	—	16	40	—	839		
1930	50	—	—	16	29	121	92	33	37	55	35	180	—	13	39	6	11	21	185	36	—	—	17	61	—	1,047	6,926	
1931	50	—	—	14	32	119	92	27	26	55	23	159	—	10	26	7	18	13	139	40	—	—	23	53	—	924		
1932	31	—	—	6	28	95	61	11	25	51	13	107	—	7	11	5	18	21	109	38	—	—	26	62	—	734		
Total	962	172	865	395	305	2,778	2,484	322	1,115	2,664	97	4,418	301	52	721	285	1,483	173	4,457	324	72	5	880	801	715	264	25,770	

** Prior to 1938 included in Mining Engineering and Metallurgy.
§ Includes only January and June degrees.

TABLE 14
DEGREES OF MASTER OF SCIENCE AWARDED

Class (Calendar Year)	Aeronautical Engineering	Architecture	Biol. & P. H. (Inc. VII-A)	Bldg. & Eng. Constr. XVII	Business and Eng. Admin.	Ceramics	Chemical Engineering	Chem. Eng. Practice X-A	Chemistry	Civil Engineering	Economics and Engineering or Natural Science	Electrical Eng. (Inc. VI-A)	Food Technology	Geology	Marine Engineering	Mathematics	Mech. Eng. (Inc. II-A)	Metallurgy	Meteorology	Naval Architecture	Naval Construction & Eng.	Petroleum Engineering	Physics	Sanitary Engineering	Without Course Classification	Total	
1886																										1	
1887																											1
1888																											—
1889																											—
1890																											—
1891																											—
1892																											—
1893		1																									1
1894											1																1
1895		1								1														1			3
1896		2								1																	3
1897		2					1																	1			4
1898		1					2																	1			5
1899		1	1							1														1			3
1900																											—
1901		2															2										4
1902		3								3							2										8
1903		5															1								1		7
1904		4								1			2				1					3					12
1905		9																				8		1			18
1906		3								1											2	3					9
1907		6					1															8					15
1908		1								1		3										7					12
1909		6					1			1	2	1		1			1					3	1				17
1910		6	1							1	2	1		1			1					7					19
1911		5	2							2	2	4				2	2					3					20
1912		4	2							3	3	2										4			2		20
1913		4	1				7			1		1		1		2	2					2					19
1914		3	2				3			5	3	2		1			1					2		3			25
1915	1	4					2			2	1	10				4				1	2						27
1916	5	7	1				1			3	5	6				4						2		1			35
1917	4	3					1			1	3	5				1						9	1	2			30
1918	5	1	1				1			1	1	2					2								1		15
1919	2						3			3	4	4					1										15
1920			1				3			2	4	7		3		1	5				19		1		4		50
1921	3						20			6	2	4		2			10					20					17
1922	5						6	32		4	5	37		2		2	4				10		1			18	
1923	10						3	34		1	5	45		2			15	1			4	21	3			26	
1924	4						6	41		1	5	34		1			8	1				12	5			28	
1925	5				1		3	35		3	5	35					10	2				2	2	1	21		123
1926	6						5	20		2	2	60		3			6	1				12				25	
1927	9		1				2	26		4	6	54		6		1	13					6	1			32	
1928	9						5	14		2	8	63				2	13					9	1			43	
1929	5				2		3	21		4	6	79		4		2	16					6	2	1		45	
1930	3				1		7	22		5	9	51		1		2	5	3		1	5		1	1		53	170

(continued)

TABLE 14 — *Continued*
DEGREES OF MASTER OF SCIENCE AWARDED

Class (Calendar Year)	Aeronautical Engineering	Architecture	Biol. & P. H. (Inc. VII-A)	Bldg. & Eng. Constr. XVII	Business and Eng. Admin.	Ceramics	Chemical Engineering	Chem. Eng. Practice X-A	Chemistry	Civil Engineering	Economics and Engineering or Natural Science	Electrical Eng. (Inc. VI-A)	Food Technology	Geology	Marine Engineering	Mathematics	Mech. Eng. (Inc. II-A)	Metallurgy	Meteorology	Naval Architecture	Naval Construction & Eng.†	Petroleum Engineering	Physics	Sanitary Engineering Without Course Classification	Total
1931	4	2	—	5	15	34	5	12	—	57	—	2	—	5	10	4	4	—	8	—	2	—	20	189	
1932	5	5	—	9	25	33	8	17	—	56	—	2	—	3	16	1	4	—	7	—	6	—	40	237	
1933	10	1	—	5	14	26	7	12	—	46	—	—	—	1	18	2	—	1	13	—	4	—	20	182	
1934	7	5	—	5	16	19	11	9	—	46	—	3	—	3	20	5	1	—	11	—	3	1	21	186	
1935	3	1	—	2	16	14	4	13	—	55	—	—	—	3	16	6	—	—	10	—	7	2	21	173	
1936	5	—	—	4	2	7	3	19	—	22	—	2	—	2	14	—	4	1	7	1	5	—	23	151	
1937	12	1	—	5	1	12	29	8	17	7	35	—	—	1	15	4	4	—	8	1	2	1	23	186	
1938	13	—	—	8	11	28	1	29	2	58	—	—	—	1	24	1	4	—	7	1	3	—	30	221	
1939	8	3	—	8	20	34	1	31	3	45	—	2	—	1	21	6	6	—	8	—	5	2	28	232	
1940	9	1	—	9	16	37	3	20	—	54	—	4	—	5	22	7	8	18	10	2	3	2	37	267	
1941	16	1	—	12	15	42	3	10	3	35	—	3	1	2	25	7	18	14	22	—	4	1	25	259	
1942	9	2	—	16	1	12	23	2	5	1	24	—	2	15	1	24	8	11	—	9	—	—	1	7	173
1943	21	1	—	—	15	36	3	9	—	30	—	2	7	—	26	5	14	—	18	—	2	1	4	194	
1944	22	—	—	1	1	3	7	2	9	—	13	—	—	—	12	5	11	1	55	—	—	3	5	150	
1945	9	3	—	1	12	—	3	5	—	25	—	—	—	2	11	7	6	—	23	—	2	3	9	121	
1946	47	1	—	4	29	2	5	24	—	45	—	2	—	5	47	4	5	3	46	—	2	4	9	284	
1947	67	5	—	18	65	32	12	47	1	63	5	5	3	9	64	13	8	4	—	—	10	13	12	456	
1948	40	4	9	19	1	31	39	13	30	5	92	—	4	5	63	11	12	—	33	—	5	9	13	438	
1949	44	6	5	29	—	36	41	7	26	3	109	5	1	2	10	58	15	8	3	—	11	9	19	447	
1950	32	2	7	22	—	57	19	3	29	3	110	2	2	—	11	58	17	6	3	—	14	9	20	426	
1951	40	4	3	25	1	56	30	8	20	2	106	1	5	5	14	53	20	8	3	—	12	10	18	444	
*1952	28	5	4	24	—	27	15	4	21	3	85	1	2	2	4	19	21	7	—	—	10	7	20	307	
Total	527	84	66	28	235	760	815	183	499	33	1,721	14	66	39	99	767	177	149	59	478	5	135	93	737	7,618

Total of degrees in discontinued courses, Architectural Engineering, Electrochemical Engineering, Fuel and Gas Engineering, General Science, Mining Engineering, Naval Construction (Foreign Students), and Railroad Operation (see 1940-41 Report) 126

Grand Total 7,744

*Includes only January and June degrees.
†Beginning 1949 see Naval Engineer, Table 17.

TABLE 15

DEGREES AWARDED IN ARCHITECTURE AND CITY PLANNING

Class (Calendar Year)	Bachelor in Architecture	†Bachelor in City Planning	Master in Architecture	Master in City Planning
1921	—	—	3	—
1922	—	—	2	—
1923	—	—	7	—
1924	—	—	8	—
1925	—	—	5	—
1926	—	—	9	—
1927	—	—	7	—
1928	—	—	6	—
1929	—	—	9	—
1930	—	—	7	—
1931	—	—	9	—
1932	11	—	5	—
1933	24	—	7	—
1934	27	—	—	—
1935	17	4	11	—
1936	14	4	4	2
1937	9	2	11	3
1938	19	1	3	3
1939	14	1	10	3
1940	11	2	21	7
1941	17	2	6	1
1942	15	1	4	4
1943	10	—	3	6
1944	8	—	2	3
1945	5	—	—	7
1946	7	—	2	8
1947	9	1	20	15
1948	11	3	14	13
1949	24	2	10	12
1950	20	4	17	13
1951	27	2	20	12
1952	28	1	3	8
Total	327	30	245	120

* Includes only January and June degrees.

† From 1935 to 1944 Bachelor of Architecture in City Planning.

TABLE 16
DEGREES OF MASTER IN PUBLIC HEALTH AWARDED
(Discontinued after 1944)

Class (Calendar Year)	Number of Degrees Awarded		
	Prior to 1948	1948*	Total
1923	—	2	2
1926	—	1	1
1927	—	2	2
1929	—	1	1
1930	—	5	5
1931	—	4	4
1933	—	7	7
1934	—	4	4
1935	—	4	4
1937	—	6	5
1938	—	2	2
1939	—	6	6
1940	—	6	6
1941	3	6	9
1942	11	1	12
1943	10	10	20
1944	7	5	12
Total	31	72	103

*72 former recipients of the Certificate of Public Health were awarded the degree of Master in Public Health in June 1948 as of the class in which they received their Certificate of Public Health.

TABLE 17
DEGREES OF ADVANCED ENGINEERING AWARDED

Class (Calendar Year)	Aeronautical Engineer	Chemical Engineer	Electrical Engineer	Mechanical Engineer	Metallurgical Engineer	Meteorologist	Naval Architect	Naval Engineer	Sanitary Engineer	Total
1949	—	—	2	—	—	1	—	37	—	40
1950	2	—	10	8	2	—	—	27	—	49
1951	3	1	9	10	2	—	1	33	—	59
*1952	1	—	5	12	—	1	—	38	2	59
Total	6	1	26	30	4	2	1	135	2	207

* Includes only January and June degrees.

TABLE 18
DEGREES OF DOCTOR OF PHILOSOPHY AWARDED

Class (Calendar Year)	Biology	Chemistry	Electrical Engineering	Food Technology	Geology	Industrial Economics	Mathe- matics	Physics	Group Psychol- ogy	Total
1907	—	3	—	—	—	—	—	—	—	3
1908	—	3	—	—	—	—	—	—	—	3
1909	—	—	—	—	—	—	—	—	—	—
1910	—	1	—	—	1	—	—	—	—	2
1911	1	—	—	—	—	—	—	—	—	1
1912	—	3	—	—	3	—	—	—	—	6
1913	—	1	—	—	—	—	—	—	—	1
1914	—	2	—	—	—	—	—	—	—	2
1915	—	2	—	—	—	—	—	—	—	2
1916	—	1	—	—	1	—	—	1	—	3
1917	—	3	—	—	1	—	—	—	—	4
1918	—	3	—	—	1	—	—	—	—	4
1919	—	—	—	—	—	—	—	1	—	1
1920	—	4	—	—	1	—	—	—	—	5
1921	1	3	—	—	—	—	—	3	—	7
1922	—	4	—	—	1	—	—	—	—	5
1923	—	5	—	—	1	—	—	—	—	6
1924	2	10	—	—	—	—	—	2	—	14
1925	—	11	—	—	—	—	—	—	—	11
1926	—	2	—	—	2	—	—	—	—	4
1927	2	6	—	—	1	—	1	1	—	11
1928	1	5	—	—	1	—	1	—	—	8
1929	4	8	—	—	2	—	1	—	—	15
1930	—	5	—	—	2	—	3	—	—	10
1931	—	9	—	—	—	—	1	—	—	10
1932	1	12	—	—	—	—	1	2	—	16
1933	2	10	—	—	3	—	3	—	—	18
1934	2	10	—	—	2	—	2	1	—	17
1935	4	15	—	—	2	—	3	7	—	31
1936	—	15	—	—	—	—	3	12	—	30
1937	2	11	—	—	4	—	1	10	—	28
1938	2	12	—	—	2	—	4	7	—	27
1939	1	33	—	—	4	—	3	4	—	45
1940	3	19	—	—	5	—	4	5	—	36
1941	1	18	—	—	1	—	3	5	—	28
1942	1	19	—	—	5	—	1	8	—	34
1943	2	8	—	—	2	—	3	8	—	23
1944	2	12	—	—	—	1	—	9	—	24
1945	1	6	—	—	—	—	1	1	—	9
1946	2	5	—	1	—	4	4	1	—	17
1947	3	14	1	1	—	3	4	17	—	43
1948	3	27	—	—	5	1	8	34	5	83
1949	2	40	—	2	4	3	5	36	3	95
1950	4	31	—	—	3	7	6	40	—	91

(continued)

TABLE 18—(Continued)
DEGREES OF DOCTOR OF PHILOSOPHY AWARDED

Class (Calendar Year)	Biology	Chemistry	Electrical Engineering	Food Technology	Geology	Industrial Economics	Mathe- matics	Physics	Group Psychol- ogy	Total
1951	2	30	—	—	8	7	7	30	—	84
*1952	2	17	—	—	9	6	5	19	—	58
Total	53	458	1	4	77	32	78	264	8	975

* Includes only January and June degrees.

TABLE 19. DEGREES OF DOCTOR OF SCIENCE AWARDED

Class (Calendar Year)	Aero. Eng.	Ceramics	Chem. Eng.	Chemistry	Civil Eng.	Elec. Eng.	Electrochem. Eng.	Food Technology	Geology	Mathematics	Mech. Eng.	Metalurgy	Meteorology	Min. Eng.	Naval Arch.	Petroleum Eng.	Physics	San. Eng.	Total	
1911						1													1	
1912																				
1913																				
1914																				
1915						1													1	
1916																			1	
1917						1													1	
1918																				
1919																				
1920									1					1						3
1921																				
1922				1																3
1923									1											5
1924						2			1			1					2			6
1925						3						3								7
1926				1		1						4								9
1927							1				1									6
1928						5						2								10
1929						3						1			1					6
1930						9				1	3									20
1931				2		3						1								9
1932						5			1		2	1								14
1933				1		10				1	2	6		1						24
1934						3			1		3	2	1							13
1935				1		2				2		1								14
1936	2					12					2	3								24
1937	1			1		9					2									24
1938						12			1		2									23
1939	2					10					2	5	3			1				38
1940						12			1		2	4	1							26
1941	1			3		15					3	8								29
1942	1					14					1	3								41
1943						10						5								26
																				20

(continued)

TABLE 19. DEGREES OF DOCTOR OF SCIENCE AWARDED — (Continued)

Class (Calendar Year)	Aero. Eng.	Ceramics	Chem. Eng.	Chemistry	Civil Eng.	Elec. Eng.	Electrochem. Eng.	Food Technology	Geology	Mathematics	Mech. Eng.	Metalurgy	Meteorology	Min. Eng.	Naval Arch.	Petroleum Eng.	Physics	San. Eng.	Total
1944	2	—	4	—	—	1	—	—	2	—	1	4	—	—	—	—	1	—	15
1945	—	1	7	—	2	—	—	—	—	—	1	3	1	—	—	—	—	—	15
1946	1	—	11	—	3	1	—	—	1	—	2	1	2	—	—	—	1	—	23
1947	2	1	10	—	2	4	—	2	1	—	2	11	1	—	—	—	1	—	37
1948	3	1	10	—	3	3	—	—	1	—	4	9	9	—	—	—	3	—	46
1949	2	5	21	—	6	8	—	—	—	—	7	15	4	—	—	—	1	2	71
1950	6	3	12	1	5	13	—	1	—	—	14	11	4	—	—	—	—	—	70
1951	5	2	10	—	7	11	—	—	—	—	10	19	2	1	—	—	3	4	74
*1952	1	2	11	1	3	10	—	2	—	—	6	11	3	—	—	—	1	3	54
Total	35	27	236	12	47	100	2	5	12	5	68	139	36	5	2	1	41	12	785

* Includes only January and June degrees.

TABLE 20
DEGREES OF DOCTOR OF PUBLIC HEALTH AWARDED
(Discontinued after 1944)

Class (Calendar Year)	Number
1924	1
1927	1
1928	1
1930	1
1939	1
1942	1
1944	3
Total	9

TABLE 21
DEGREES OF DOCTOR OF ENGINEERING AWARDED
(Discontinued after 1918)

Class (Calendar Year)	Electrical Engineering	Electrochemical Engineering	Total
1910	1	—	1
1914	1	—	1
1916	1	—	1
1917	—	1	1
Total	3	1	4

TABLE 22
SUMMARY OF DEGREES AWARDED (1868-1952)

Bachelor of Science	25,770
Bachelor in Architecture	327
Bachelor in City Planning	30
Master of Science	7,744
Master in Architecture	245
Master in City Planning	120
Master in Public Health (Discontinued after 1944)	103
Advanced Engineering	207
Doctor of Philosophy	975
Doctor of Science	785
Doctor of Public Health (Discontinued after 1944)	9
Doctor of Engineering (Discontinued after 1918)	4
Grand Total	36,319

JOSEPH C. MACKINNON

Director of Admissions

THIS REPORT, following the precedent of other years, covers the twelve-month period ending with the opening of the new academic year in September, 1952, which date marks the natural termination of the Admissions Office year.

The following table compares, for this year and last, applications for admission to the freshman year, and those for transfer from other colleges at the undergraduate level:

FIRST YEAR CLASSES*

	<i>September, 1951</i>	<i>September, 1952</i>
Total applications	2,413.0	3,031.0
Admissions granted	1,214.0	1,425.0
Actual registration	735.0	943.0
Registration as per cent of admissions	60.5	66.2
Number of secondary schools represented	478.0	611.0

* Exclusive of former students returning in the first year, but including college transfers entering the first year.

COLLEGE TRANSFERS

	<i>September, 1951</i>	<i>September, 1952</i>
Total applications	663.0	668.0
Preliminary applications not followed up	205.0	300.0
Admissions granted	215.0	210.0
Actual registration	179.0	174.0
Combined plan of study	43.0	34.0
Registration as per cent of admissions	83.5	79.2

The year has been characterized by an increase of over 25 per cent in applications for admission to the first year. Although the shortage of scientific and engineering personnel had been widely publicized at a time that was thought early enough to affect the class that entered in 1951, no stimulus to enrollment was noted; the post-war diminishing trend continued to prevail. The 1952 increase appears to be attributable to continued publicity about the manpower shortage, but with a greater lag than had been anticipated. With the increase went a sharp drop in the number of cancellations, so that the class considerably exceeds in size the number originally planned.

Despite the increased number, the average quality of applicants has been raised through a somewhat higher margin of refusal.

SCHOOL VISITING PROGRAM

The secondary-school-visiting program was further extended during the past year, 455 schools having been visited by five members of the Admissions Office staff, aided by Mr. Malcolm G. Kispert, Mr. Philip A. Stoddard, Mr. Robert A. Plachta, and Mr. Charles O. Jackson, Jr. This assistance from Institute staff members not regularly concerned with admissions has proved so effective that the plan is to be much extended in the coming year. Some 30 younger members of the Faculty have volunteered to make one-week trips (two weeks in a few cases); arrangements have been made for covering their classes while they are absent, and a series of briefing meetings have been held. This plan will broaden the base of our school-visiting program in a manner analogous to the broadening of alumni interest resulting from the establishment of the Educational Council. We expect good results from putting a group of effective faculty members in contact with the schools. Not least among the advantages is a closer acquaintance by a faculty group with the problems of the transition from school to college, an area in which college faculties have seldom taken the interest that its importance justifies.

Close contact has been maintained with the Honorary Secretaries and the rapidly increasing membership of the Educational Council. School-visiting personnel have been regularly put in touch with these alumni groups, as well as with alumni clubs.

Reports to Honorary Secretaries, Educational Counselors, and schools about students in whom they are interested are being issued regularly.

Studies of non-intellectual factors in personality, in which the office has collaborated with Dr. John V. Gilmore, have thus far yielded only limited results of a predictive nature. Thanks are due to Dr. Gilmore for his painstaking efforts in this study and also to Professor Wadsworth and Dr. Bryan, whose counsel on statistical aspects has been invaluable. The data collected in September, 1951, are to be subjected to further analysis. The Office will continue to be actively interested in the important field of personality tests.

The program of promotional literature has been strengthened this year by the publication of *This is M. I. T.*, designed to replace the catalogue issue of the *Bulletin* for sub-freshman students, and *Liberal Education at M. I. T.*, outlining the work of the School of Humanities and Social Studies. These are being widely distributed to schools and teachers.

B. ALDEN THRESHER

Adviser to Foreign Students

IN THE ACADEMIC YEAR 1951–1952, 485 foreign students were enrolled at the Institute; of these, 271 were undergraduate and 214 graduate students. They were citizens of 67 different countries. They comprised about 10 per cent of the Institute's total student body. This percentage of foreign students to our total student body has remained fairly stable in the last several years. It is the highest percentage of foreign students among the major American universities. The next highest are Harvard University, 7.1 per cent; Howard University, 5.7 per cent; Columbia University, 5.1 per cent; University of Chicago, 4.8 per cent; University of Michigan, 4.6 per cent; University of California, 4.2 per cent; and Cornell University, 4.0 per cent.

The countries sending the largest delegations were as follows (figures in parentheses are for 1950–1951): Canada, 89 (80), China, 43 (34), India, 29 (34), Norway, 25 (27), Great Britain, 24 (23), Israel, 20 (13), France, 17 (15), Colombia, 14 (14), Cuba, 14 (17), Greece, 13 (16), Australia, 10 (7), and Mexico, 10 (10).

As will be noted, most of these populations are fairly stable. The chief reason for this is, of course, that the factors — economic, cultural, and political — which operate to draw students from a particular country in one year are likely to do so in the next.

Another reason is that the average stay of the foreign student is about three years, so that two thirds of the populations of successive years are the same people. Nevertheless, with a slightly longer view, it is possible to see some interesting reflections of world history in the Institute's foreign student count.

For example, Norway's figures for 1951-1952 and for 1950-1951 are 27 and 25, respectively, while those of Sweden, with over twice Norway's population, are 5 and 9, respectively. The reason seems to be that there is only one school of engineering in Norway, although it is an excellent one. Immediately after the close of World War II, the back-log of well-qualified students was very great, and many found it necessary to look abroad for their education. The Institute received a similar influx of Norwegians in the few years after World War I.

It is interesting, and a little surprising, to find a considerable increase in Chinese students at M. I. T. A few of these are young men whose families have fled to Hong Kong, who have finished their secondary schooling there, and who have qualified for our freshman year. Others are from Formosa and have entered our Graduate School. One, a young lady, is from a family which has started life over again in Argentina; after schooling in Shanghai and Buenos Aires, she entered the first-year class at M. I. T. for the five-year course in Architecture. A number of Chinese students, new to M. I. T. this year, have finished their undergraduate work in other American universities and have been admitted to the Institute for post-graduate study. All of these hold passports from the Chinese Nationalist Government and are on student visas.

In September, 1949, Israel had four of its citizens at M. I. T.; in 1950, nine; and in 1951, twenty. This reflects the interest in rapid industrialization in that new country and its limited resources in higher education.

For several years there has been a steady decrease in inquiries from abroad and in completed applications. This year has seen a sharp reversal of this trend, as the accompanying table will show. Not all of those admitted actually register. About 30 per cent are, for various reasons, unable to come.

	<i>For September, 1951</i>	<i>For September, 1952</i>
Informal applications	978	1,541
Completed applications	317	599
Admitted	196	278
Refused admission	91	278
Cancelled	30	43

FOREIGN STUDENT SUMMER PROJECT

The Foreign Student Summer Project, begun in 1948, has completed its fifth successful year. This program, initiated and completely managed by undergraduate students, brought 84 young men and women from 35 countries for a program of study and research at the Institute during the summer of 1952. The work at M. I. T. was supplemented by an intensive program of plant visits and home hospitality designed to introduce the visitors to varied aspects of American life. The Project has already over 300 alumni among the leading young industrialists, teachers, and research workers of the world. It has served to increase considerably the high prestige of M. I. T. abroad. This Project is a remarkable training-ground for the undergraduate students, who are responsible for every phase of its operation, including substantial fund-raising. It could not continue, however, without the generous support of the Alfred P. Sloan Foundation, Inc.

The Student Chairman of FSSP in 1952 was Mr. John G. Polk '53, Course X. Assisting the student committee is a Faculty Advisory Committee, consisting of Professors Paul M. Chalmers, Walter H. Gale, and Glenn C. Williams.

For the year 1952-1953, twelve students from M. I. T. have been granted Fulbright scholarships for a year's study abroad. Their selection was made initially by a screening committee at the Institute under the Chairmanship of Professor David A. Dudley, Assistant Director of Admissions.

Professor Paul M. Chalmers has been for the last three years a member of an Advisory Committee to the Department of State on Emergency Aid to Chinese Students, and in 1951-1952 was President of the National Association of Foreign Student Advisers.

PAUL M. CHALMERS

Placement Officer

REPORTS ON STUDENT PLACEMENT, which is under the direction of Professor Carlton E. Tucker, and Alumni Placement, which is under the direction of Mrs. James A. Yates, follow:

ALUMNI PLACEMENT

During this fiscal year, the Alumni Placement Office has been hampered by a shortage of personnel. This has increased our sympathy for industries' problems while slowing down our efforts to help them.

Demand for manpower remains high with strong emphasis on the need for mechanical and electrical engineers. There has been a noticeable falling-off in demand for chemical engineers but a sudden strong interest in men experienced in electro-chemical equipment.

ALUMNI PLACEMENT OPERATIONS, 1950-1952

	<i>July, 1951 to June, 1952</i>	<i>July, 1950 to June, 1951</i>
Number of jobs	3,115	3,643
Men who went on available list	805	843
Men who came off available list	432	592
Placements	170	186

“Higher salary,” “better location,” and “more opportunity” (in that order) were the reasons most frequently given by the men looking for a change of employment. No more than ten or twelve men who registered this year were unemployed.

This office does not count as a “placement” a man who, as a result of our efforts, receives an offer of employment from a company and then refuses it because his own company meets or betters the new offer. If we did, our record of men placed this year, would be considerably larger.

STUDENT PLACEMENT

During the period of July, 1951, to June, 1952, a total of 425 companies conducted personal interviews at the Student Placement Bureau — an increase of 200 companies over the inter-

viewing period of 1950–1951. Because of the shortage of engineering graduates this year, many of the companies visited us to interview all three graduating groups — September, 1951, February, 1952, and June, 1952 — thus giving some repetition in the number of companies included in the above figures. There was a corresponding slight decrease in the number of companies requesting qualified and interested students to contact them directly, this year's figure being 401 companies as compared to 471 the previous year.

Salaries are currently running higher than those mentioned last year. Bachelor's degree men are being offered \$325 to \$375, Master's degree men from \$375 to \$450, and Doctors from \$500 up.

At the time of graduation 80.5 per cent of the year's graduates reported accepting employment. By September 1, 90.0 per cent of the class was known placed. The average student received from four to six offers of employment, and many had not decided which to accept before commencement. With the majority of the students eligible for selective service or about to receive orders as commissioned officers following R.O.T.C. training, it was difficult in many cases for men to give definite information as to their employment status. Most companies request deferment of engineering and scientific personnel and have reasonable success. In cases where such an employee is drafted or ordered to active duty, he is usually given military leave.

PLACEMENT OF 1951–1952 GRADUATES

	<i>Total Number of Graduates</i>	<i>On Graduation Day, 1952</i>		<i>On September 1, 1952</i>	
		<i>Number Placed</i>	<i>Per Cent</i>	<i>Number Placed</i>	<i>Per Cent</i>
Bachelors' Degrees...	781	592	76	684	88
Masters' Degrees...	457	386	84	417	91
Engineers' Degrees...	63	58	92	62	99
Doctors' Degrees....	148	128	87	138	93
<i>Totals</i>	1,449	1,164	80.5	1,301	90

As of graduation day, 201 students received commissions. Our records show that 183 of the 1,043 graduates of the June class were in the Armed Services by September 1.

JUNE, 1952, GRADUATES IN THE ARMED SERVICES
ON SEPTEMBER 1, 1952

	<i>Total Number of Graduates</i>	<i>Number in Armed Services</i>	<i>Per Cent in Armed Services</i>
Bachelors' Degrees	669	91	14
Masters' Degrees	249	52	19
Engineers' Degrees	53	40	75
Doctors' Degrees	72	0	—
<i>Totals</i>	1,043	183	18

At the present time, industry still has a very serious manpower shortage. Companies are requesting detailed information on the number of graduates by Course and degree for the 1953 class much earlier than in any previous year.

NATHANIEL McL. SAGE

*Executive Vice-President
of the Alumni Association*

UPON COMPLETION OF THE SUCCESSFUL CAMPAIGN of the Institute's Committee on Financing Development in the spring of 1951, plans were formulated to reactivate the Alumni Fund, which had been temporarily suspended after 1949-1950. The mission of the Alumni Fund has always been to seek many modest gifts from many annually rather than to concentrate upon obtaining larger gifts from a few. Hence it was not expected that the Fund's 1952 totals would approach those of the Development Program. Moreover, doubts were entertained by the Alumni Fund Board as to whether the 1952 totals would approach those of the Fund's last previous year of operation, during which 10,631 alumni participated, and contributions amounted to \$152,704.

The Board recognized that during 1951-1952 more than 4,600 alumni would still be paying on Development Fund pledges and hence could not appropriately be solicited by the Alumni Fund; and further that some alumni other than these 4,600 might be less inclined than heretofore to respond to Alumni Fund appeals timed closely after they had made contributions to the Institute through the Development Fund.

In these circumstances, it is indeed heartening to observe that up to its close on June 30, 1952, the amount contributed to the 1952 Alumni Fund totaled \$168,752 or nearly 11 per cent more than the final total two years ago, although the number of alumni contributing was 7,174, or approximately 33 per cent less than two years ago.

Beginning in January, steps were initiated to transfer our general alumni mailing list, approximately 45,908 names, to the IBM punched-card system, and this transfer will be completed by early autumn. From the viewpoint of the Alumni Association, operation under this system becomes economically practicable because of the existing installation of IBM equipment in the Institute's Office of Statistical Services.

The true significance of the change is that from early autumn on it will be possible for us to select the names of alumni by machine methods according to an individual's Class and degree status, his geographical location, and whether or not he is a subscriber to the *Technology Review* or has supported the Alumni Fund in any year since 1940. These are the basic codings now being incorporated into our lists; others may be added at will from time to time as their introduction appears to be desirable and economically justified.

As mentioned in last year's report, our first Alumni Regional Conference took place in January, 1951, under the auspices of the M. I. T. Club of Chicago. At morning and afternoon sessions, four members of the Institute's Faculty discussed various aspects of the day's topic, "New Frontiers in Science"; and the program concluded with a dinner at which various other Institute personalities were among the speakers.

This successful experiment of bringing a "sampling" of the

current Institute to an audience of over 300 at an alumni center distant from Cambridge prompted the holding of a similar Regional Conference last January under the auspices of the M. I. T. Club of Southern California. Comment following this second Conference has been equally enthusiastic as in the aftermath of the first; and the attendance at Los Angeles exceeded that at Chicago in 1951.

Expenditures incident to the transportation of necessary conference personnel and apparatus from Cambridge to distant points such as Chicago and Los Angeles are indeed appreciable; and, obviously, the Institute's budgetary problems may preclude scheduling such meetings regularly on an annual basis. It is to be hoped, however, that conferences of this type may be held at least biennially to supplement the customary procedure of maintaining contact between Cambridge and the M. I. T. Clubs through sending individual speakers.

With the establishment of the M. I. T. Club of Northeastern Pennsylvania at Scranton during 1951-1952, the roster of these alumni geographical groups now totals 88, 68 being located in the continental United States, 10 elsewhere in the Americas, and 10 overseas in the other hemisphere. During the twelve months ended last April 30, a total of 57 members of the Institute staff went forth as direct emissaries of the Alumni Association to attend 135 meetings of 64 different M. I. T. Clubs. The corresponding figures for the previous year were: 37 individuals attending 70 meetings of 46 different clubs.

HAROLD E. LOBDELL

*Director of the
Division of Industrial Cooperation*

THE INCREASE in dollar volume and personnel on Division of Industrial Cooperation projects was largely occasioned by the Institute's undertaking Project Lincoln for the Armed Services.

A large group is presently housed in a government facility in Lexington, where additional buildings are under construction by the government. Plans are to house Lincoln at that location at the earliest possible date.

As in the past, the academic Departments will report on appropriate D.I.C. researches falling within their Departments, and individual reports will be made for the laboratories that have inter-departmental status.

FISCAL REPORT FOR THE YEAR ENDING JUNE 30, 1952

<i>Dollar Volume</i>	<i>Fiscal Years</i>	
	<i>1951-1952</i>	<i>1950-1951</i>
General Government	\$23,919,800*	\$14,554,000
Industrial	360,100	466,000
<i>Total</i>	\$24,279,900	\$15,020,000

* Includes \$222,600 for new construction

<i>Active Projects</i>	<i>Number on July 1, 1951</i>	<i>Additions</i>	<i>Expirations</i>	<i>Number on July 1, 1952</i>
General Government	209	78	40	247
Industrial	63	24	5	82
<i>Total</i>	272	102	45	329

<i>Personnel</i>	<i>As of June 30, 1952</i>	<i>As of June 30, 1951</i>	<i>As of June 30, 1950</i>
D.I.C. Staff	1,161	788	500
D.I.C. Non-staff	1,799	1,170	900
M. I. T. Staff	644	550	483
<i>Total</i>	3,604	2,508	1,883

NATHANIEL McL. SAGE

*Director of the
Division of Business Administration*

THIS YEAR has marked the largest building program undertaken at M. I. T. since the construction of the original plant in Cambridge. Completed and occupied were four facilities totaling 175,000 square feet: the Metals Processing Building, the Sloan Building, the Combustion Laboratory, and the Burton House Snack Bar. In addition, the Dorrance Laboratories, totaling another 102,000 square feet, are nearing completion. Further, the plans for the Kresge auditorium are in the working-drawing stage. Plans for the Spofford Room, a commons room to be used jointly by the engineering Departments on the west side of the main group, are well advanced.

The occupancy of the new buildings and the consolidation of the branch library system have resulted in the biggest reallocation of space in the history of the Institute; the rehabilitation cost over a two-year period will exceed \$1,250,000. This task has been a co-operative effort involving almost every segment of the Institute family. The basic program involving analysis of the departmental needs was carried out most effectively by Mr. Joseph C. MacKinnon and Mr. Carl M. F. Peterson. The changes have provided much needed expansion for the academic Departments and certain of the administrative offices. Of perhaps equal importance are two other objectives that have been achieved in large measure: the consolidation and co-ordination of departmental activities; and the elimination of obsolescence in some of the larger laboratories. In a few Departments, some of the office furniture has been replaced.

DORMITORIES AND DINING SERVICE

The increased emphasis on the residential aspects of the Institute, together with the substantial increase in the number of students in the dormitories, made it clear that the Dean of Students should have a more effective way of bringing to bear the influences of his office than through the Advisory Committee on Housing

and Dining; accordingly, late in the spring of 1952, the Dean assumed full responsibility for the educational and philosophical aspects of dormitory living, for the assignment of rooms, and for being the principal liaison between the administration and the several student government groups in the dormitories. The appointment of Mr. Frederick G. Fassett, Jr., as Associate Dean of Students greatly implemented this division of responsibilities. At the same time, the responsibility for the collection of all dormitory fees was returned to the Bursar. These steps have left the management of the dormitories free to devote full attention to the business aspects of that operation.

The increase in size of the residential group brought with it increased demand for attention to the dining services. The management of the dining services was already under considerable burden because of rising food and labor costs. These factors both led to the conclusion that Mr. Frank M. Baldwin, who has had long experience in dining operations, should be left free to concentrate on the Institute's dining problems. Accordingly, Mr. Henry K. Dow was given responsibility for the business management of the dormitories.

During the last year, student staff under Mr. William H. Carlisle continued to provide building service for Burton House, and a larger number of students were employed on dormitory desk duty. Plans were completed to extend student staff to the Walcott-Bemis-Goodale unit next year.

With the opening of the Faculty Club in May, table service was discontinued in the Campus Room of the Graduate House, as was the buffet service in the Blue Room of Walker. Except for special luncheons and dinners, the Institute dining service will concentrate on cafeteria meals. In 1951-1952, commons meals were a requirement for the first time for all freshmen in the dormitories as well as for all residents of Baker House. About a hundred upperclassmen living on East Campus and in Burton House took commons meals on a voluntary basis. This has worked out very satisfactorily and will be continued. Several plans are under active discussion to improve the atmosphere in the dining halls

and to effect economies that will reflect in reduced prices if food and labor costs stabilize.

PERSONNEL OFFICE

During the last year, the main problems of the Personnel Office have stemmed from the expansion in the research program with the rapid growth of the Lincoln Laboratory. The total number of employees has increased from 2,170 on June 30, 1951, to 2,885 on June 30, 1952. We hired 1,400 employees during the year, about half of them to replace personnel who left the Institute.

This expansion, coupled with a shortage of skilled people available for office and laboratory positions, required more extensive use of advertisement in the newspapers, more frequent contact with schools and agencies, and keeping the office open one evening a week.

The following statistics show the number of employees as of June 30, 1952, and the annual turnover rates:

	<i>Office</i>	<i>Laboratory</i>	<i>Buildings and Power</i>	<i>Dining Service</i>	<i>Dormitory Operations</i>	<i>Totals</i>
Number of Employees . . .	981	1,407	304	113	80	2,885
Annual Turnover	44%	18%	13%	78%	10%	29%

The turnover rate for office employees is accounted for by the fact that many of the secretaries and clerical personnel are wives of graduate students and junior staff.

The high turnover in the dining service is due primarily to three factors: (1) We close some of our dining halls during the summer and only a percentage of the employees return. (2) Employees in the food industries shift jobs frequently. (3) We opened the Faculty Club late in the spring when it was hard to get dining service employees.

The rapid growth of the Institute's plant and the forces of inflation have made it increasingly evident that every service must be carefully and constantly reviewed in terms of other demands on the available funds. Much time has been spent in making cost

analyses in the last year, with the objective of maintaining the proper balance between the primary educational needs of the Institute and the standards of housekeeping. The same philosophy has been applied to self-supporting activities, such as housing and dining, and it is noteworthy that dormitory rents have been kept the same for the last three years while only minor changes have been made in food prices.

ROBERT M. KIMBALL

Honors and Awards to the Staff

ADMINISTRATIVE OFFICERS

PIETRO BELLUSCHI

Fellow, American Academy of Arts and Sciences.

Member, National Fine Arts Commission.

JOHN ELY BURCHARD

Official guest, Australian National Government, as consultant on the National Library and lecturer on modern art and architecture in Australian universities in the Jubilee Year.

PAUL MAYNARD CHALMERS

President, National Association of Foreign Student Advisers.

KARL TAYLOR COMPTON

Honorary degree of Doctor of Science, Cambridge University, England.

GEORGE RUSSELL HARRISON

Honorary degree of Doctor of Science, St. Lawrence University.

ROBERT EARL HEWES

President, New England Association of Collegiate Registrars and Admissions Officers.

JAMES RHYNE KILLIAN

Award, Freedoms Foundation, for address, "Our Shared Convictions."

THOMAS KILGORE SHERWOOD

Honorary degree of Doctor of Science, McGill University.

Chairman, Advisory Selection Committee for the Fulbright Program (in Engineering), National Research Council.

FACULTY MEMBERS

Department of Aeronautical Engineering

CHARLES STARK DRAPER

Testimonial of Appreciation, Industrial Instruments and Regulation Division of the American Society of Mechanical Engineers, for "accomplishments in advancing the theory and practice and teaching of instrumentation."

JEROME CLARKE HUNSAKER

Wright Brothers Memorial Trophy, National Aeronautic Association, for
 "significant public service of enduring value to aviation in the United States."

Department of Architecture

RONALD GOURLEY

First prize, with Dan Kiley, public competition for the design of a Memorial
 Student Union Building for the University of New Hampshire.

THOMAS McNULTY

Fulbright Award for studies at the University of Venice.

Department of Biology

KURT SIEGFRIED LION

Bronze Medal, American Congress of Physical Medicine, for work on the
 plethysmograph.

FRANCIS OTTO SCHMITT

Honorary degree of Doctor of Science, Washington University.

IRWIN WHITING SIZER

Fellow, American Academy of Arts and Sciences.
 Special Lecturer, Brown University.

Department of Chemical Engineering

ERNST ALFRED HAUSER

Honorary degree of Doctor of Science, Worcester Polytechnic Institute.

WARREN KENDALL LEWIS

Honorary degree of Doctor of Science, Bowdoin College.

Department of Chemistry

JOHN DOMBROWSKI ROBERTS

Guggenheim Fellowship for study in theoretical organic chemistry in England.

Department of City Planning

FREDERICK JOHNSTONE ADAMS

Arnold W. Brunner Scholarship, New York Chapter of the American Institute
 of Architects.

ROLAND BRADFORD GREELEY

Managing Director, *Journal* of the American Institute of Planners.

JOHN TASKER HOWARD

Vice-President, American Institute of Planners.

KEVIN LYNCH

Ford Foundation grant for research in civic design in Italy.

LLOYD RODWIN

Fulbright Award.

Senior Lecturer, School of Civic Design, University of Liverpool, England.

Department of Civil and Sanitary Engineering

JOHN MELVIN BIGGS

Desmond-Fitzgerald Medal, Boston Society of Civil Engineers, for paper entitled *The Design of Eccentrically Loaded Steel Columns*.

MYLE JOSEPH HOLLEY, JR.

Structural Section Prize, Boston Society of Civil Engineers, for paper entitled *Conical Shell Theory Applied to Concrete Tanks*.*Department of Economics and Social Science*

HAROLD ADOLPH FREEMAN

Guggenheim Fellowship.

JOSEPH CARL ROBNETT LICKLIDER

Member, Society of Experimental Psychologists.

Council Member, Acoustical Society of America.

GEORGE ARMITAGE MILLER

Member, Society of Experimental Psychologists.

PAUL ANTHONY SAMUELSON

President, Econometric Society.

Department of Electrical Engineering

JORDAN JAY BARUCH

Chairman, Professional Group on Audio-Frequency Equipment, Institute of Radio Engineers.

EUGENE WHEELOCK BOEHNE

Chairman, Boston Section, American Institute of Electrical Engineers.

GORDON STANLEY BROWN

George Westinghouse Award, American Society for Engineering Education, "in recognition of outstanding achievements in the teaching of students of engineering."

HAROLD EUGENE EDGERTON

Gold Medal Award, *U. S. Camera Magazine*, "in recognition of his enormous contributions in the research and development of the many aspects of stroboscopic photography."

Chairman, High-Speed Photography Committee, Society of Motion Picture and Television Engineers.

TRUMAN STRETCHER GRAY

Chairman, Subcommittee on Organization, Instruments and Measurements Committee, American Institute of Electrical Engineers.

HAROLD LOCKE HAZEN

Chairman, Region II Committee for Undergraduate Engineering Curricula, Engineers Council for Professional Development.

Chairman, Engineering Education Mission to Japan, American Society of Engineering Education and Unitarian Service Committee.

OSMAN KAMEL MAWARDI

Biennial Award, Acoustical Society of America, for outstanding contributions to acoustics.

ARTHUR ROBERT VON HIPPEL

Chairman, Conference on Electrical Insulation, National Research Council.

Department of Food Technology

CECIL GORDON DUNN

Vice Chairman and Treasurer, 52nd General Meeting of the Society of American Bacteriologists.

Commanding Officer, 1050th Research and Development Army.

ROBERT SAMUEL HARRIS

Scientific Director, Food Analysis Laboratories, Finlay Institute, Cuba.

ERNEST EARL LOCKHART

Treasurer, Northeast Section, Institute of Food Technologists.

BERNARD EMERSON PROCTOR

President, Institute of Food Technologists.

Department of Geology

MARTIN JULIAN BUERGER

Arthur L. Day Award, Geological Society of America, for "distinguished application of physics and chemistry to geology."

Department of Mathematics

WITOLD HUREWICZ

Fulbright Award, for lecturing and research in France.

RAPHAEL SALEM

Guggenheim Fellowship.

Department of Mechanical Engineering

SAMUEL CARVEL COLLINS

John Price Wetherill Medal, Franklin Institute, for invention and development of Collins Helium Cryostat.

JACOB PIETER DEN HARTOG

Worcester Reed Warner Medal, American Society of Mechanical Engineers, for outstanding contributions to engineering literature.

JOHN ANTHONY HRONES

Fellow, American Academy of Arts and Sciences.

JOSEPH HENRY KEENAN

Award, Freedoms Foundation, for article in the *Technology Review* entitled "Education for Freedom."

WARREN MAX ROHSENOW

Gold Medal Award, Pi Tau Sigma, to the most outstanding American mechanical engineer for the period 1941-1951.

Award for Advancement of Basic and Applied Science, Yale Engineering Association.

EDWARD ROBINSON SCHWARZ

Honorary Life Member, American Society for Quality Control and American Association of Textile Technologists.

ASCHER HERMAN SHAPIRO

Fellow, American Academy of Arts and Sciences.

CARL RICHARD SODERBERG

John Ericsson Medal, American Society of Swedish Engineers, in recognition of extraordinary merit in the technical and scientific field.

KENNETH ROBERT WADLEIGH

Harry M. Goodwin Medal and Award, Massachusetts Institute of Technology, for excellence in teaching.

Medical Department

DANA LYDA FARNSWORTH, M.D.

President-Elect, American College Health Association.

JAMES HOWARD MEANS, M.D.

Sidney Hillman Foundation Prize Award, for outstanding magazine reporting for two articles in the *Atlantic Monthly* during 1950.

Department of Metallurgy

JOHN CHIPMAN

President, American Society for Metals.

Francis J. Clamer Medal, Franklin Institute of Pennsylvania, in recognition of his contributions as an individual and as a teacher to the application of the theories of physical chemistry to steelmaking practice.

ANTOINE MARC GAUDIN

Sir Julius Wernher Lecture, Institute of Mining and Metallurgy, London, England.

FREDERICK HARWOOD NORTON

Trinks Award, Industrial Furnace Manufacturers Association, for his leadership in a field upon which the success of the industrial heating industry so vitally depends, his outstanding contributions to the developments of special refractories, and his collection, analysis, and publishing of information on refractories.

MARIA TELKES

First Award, Society of Women Engineers, for meritorious contributions to engineering.

CARL WAGNER

Palladium Medal, Electrochemical Society, for distinguished achievement in electrochemistry.

Honorary degree of Doktor der Naturwissenschaften ehrenhalber, Technische Hochschule Darmstadt, Germany, in recognition of distinguished merits regarding the application of thermodynamics to chemistry and the theoretical and experimental investigation of semi-conductors, alloys, and surface layers.

Department of Modern Languages

WILLIAM NASH LOCKE

Vice-President, New England Modern Languages Association.

Chairman, Experimental Phonetics Section, Modern Languages Association.

Department of Physics

WILLIAM PHELPS ALLIS

Fellow, American Academy of Arts and Sciences.

RICHARD HENRY BOLT

President, International Commission on Acoustics.

Fellow, American Academy of Arts and Sciences.

MARTIN DEUTSCH

Young Man of the Year Award, Boston Junior Chamber of Commerce.

PHILIP McCORD MORSE

President, Operations Research Society of America.

WAYNE BUCKLES NOTTINGHAM

Fellow, American Academy of Arts and Sciences.

FRANCIS WESTON SEARS

Treasurer, American Association of Physics Teachers.

VICTOR FREDERICK WEISSKOPF

Member, National Academy of Science.

Periodical Publications, Books, and Reviews By the Staff

This year for the first time publications of members of the Division of Industrial Cooperation have been included in this listing. (Persons desiring reprints of articles should apply to the Department concerned. Photostat or microfilm copies may be obtained from the Reference Librarian.)

DEPARTMENT OF AERONAUTICAL ENGINEERING

- ASHLEY, HOLT, G. ZARTARIAN and D. O. NEILSON. Investigation of Certain Unsteady Aerodynamic Effects in Longitudinal Dynamic Stability. U.S.A.F. Technical Report no. 5981, December, 1951.
- ASHLEY, HOLT, H. M. VOSS and H. J. HASSIG. Introductory Study of Flutter of Low-Aspect-Ratio Wings at Subsonic Speeds. M. I. T. Aeroelastic and Structures Research. Lab. Report for the U. S. Navy, Bureau of Aeronautics, May 1, 1952.
- BISPLINGHOFF, RAYMOND L. and A. L. LANG. Some Results of Sweptback Wing Structural Studies. *J. Aero. Sci.* 18, pp. 705-717, November, 1951.
- BISPLINGHOFF, RAYMOND L. and C. S. DOHERTY. Some Studies of the Impact of Vee Wedges on a Water Surface. *Franklin Inst. J.* 253, p. 547, June, 1952.
- CHU, YAOHAN. Feedback Control System with Dead-Time Lag by Root-Locus Method. (Preprint copy of the summer General Meeting of A.I.E.E.)
- DRAPER, CHARLES S. and LI, Y. T. *Principles of Optimizing Control Systems and an Application to the Internal Combustion Engine.* New York: Am. Soc. Mech. Engrs., 1951.
- DRAPER, CHARLES S., WALTER MCKAY and SIDNEY LEES. *Instrument Engineering, Part I. Physical Situations of Instrument Engineering and Derivation of Associated Mathematical Forms.* New York: McGraw-Hill, 1952.
- HALFMAN, ROBERT L. Experimental Aerodynamic Derivatives of a Sinusoidally Oscillating Airfoil in Two-dimensional Flow. *N.A.C.A. Tech. Note* 2465, November, 1951.
- HALFMAN, ROBERT L., H. C. JOHNSON and S. M. HALEY. Evaluation of High-Angle-of-Attack Aerodynamic-Derivative Data and Stall-Flutter Prediction Techniques. *N.A.C.A. Tech. Note* 2533, November, 1951.

- HUNSAKER, JEROME C., *Chairman*. U. S. National Advisory Committee for Aeronautics. Annual Report 37, 1951. Washington, D. C.: Govt. Print. Office, 1951.
- HUNSAKER, JEROME C., J. H. DOOLITTLE, *Chairman*, and C. F. HORNE. The Airport and Its Neighbors; Report of the President's Airport Commission. Washington, D. C.: Govt. Print. Office, 1952.
- HUNSAKER, JEROME C. Dugald Caleb Jackson (1865-1951). In *Am. Phil. Soc. Year Book*. pp. 297-301, 1951.
- HUNSAKER, JEROME C. Stuart Farrar Smith (1874-1951). *Shipmate* (U. S. Naval Academy Alumni Monthly), 14, no. 11, p. 20, November, 1951.
- HUNSAKER, JEROME C. The Foucault Centenary. *Sperryscope* 12, no. 8, p. 2, Winter, 1952.
- LI, YAO T. Optimizing System for Process Control. *Instruments* 25, pp. 72-77, January, 1952; pp. 190-193+, February, 1952; pp. 324-327+, March, 1952.
- MAR, JAMES W. and R. L. BISPLINGHOFF. Influence of Structural Damping and Fatigue on Missile Structural Design. *Shock and Vibration Bulletin*, no. 18, August, 1951.
- MILLER, RENE H. Principaux Facteurs Influençant les Caractéristiques de Pilotage des Hélicoptères. *Technique et Science Aéronautiques*, no. 6, pp. 339-346, 1951.
- STEVER, H. GUYFORD and K. C. RATHBUN. Theoretical and Experimental Investigations of Condensation of Air in Hypersonic Wind Tunnels. *N.A.C.A. Tech. Note* 2559. November, 1951.
- STEVER, H. GUYFORD and W. C. COOLEY. Determination of Air Velocity by Ion Transit-time Measurement. *Rev. Sci. Instr.* 23, no. 4, p. 151, April, 1952.
- TRILLING, LEON. The Collapse and Rebound of a Gas Bubble. *J. Appl. Phys.* 23, no. 1, pp. 14-17, January, 1952.
- TRILLING, LEON. Transonic Flow Past a Wedge at Zero Angle of Attack; prepared by M. I. T. Department of Aeronautical Engineering Transonic Aircraft Control Project. U. S. Air Force Wright Air Development Center, Wright-Patterson Air Force Base, Dayton, Ohio. WADC Tech. Rept., no. 52-61, USAF, March, 1952. [Same title. *Am. Phys. Soc. Bull.*, no. 1, pp. 25-26, January, 1952. (Abstract.)]

DEPARTMENT OF ARCHITECTURE

- ANDERSON, LAWRENCE B. Buildings for Athletics. (Chapter 47 in *Forms and Functions of Twentieth-Century Architecture*; edited by Talbot Hamlin. Vol. 4. New York: Columbia Univ. Press, 1952.)
- ANDERSON, LAWRENCE B. Graduate Study. *Line Magazine* 2, p. 22, May, 1952.

- BELLUSCHI, PIETRO. Shopping Centers. (Chapter 30 in *Forms and Functions of Twentieth-Century Architecture*; edited by Talbot Hamlin. Vol. 4. New York: Columbia Univ. Press, 1952.)
- BELLUSCHI, PIETRO. Vacation House in Oregon. *Arch. Record* 110, no. 1, pp. 100-109, July, 1951.
- BELLUSCHI, PIETRO. Hilltop House Centered on a Court. *Arch. Forum* 95, no. 5, pp. 226-227, November, 1951.
- BELLUSCHI, PIETRO. Modern Gothic in Wood. (Central Lutheran Church, Portland.) *Arch. Forum: The Magazine of Building* 95, no. 6, pp. 163-167, December, 1951.
- BELLUSCHI, PIETRO. First Presbyterian Church, Cottage Grove, Oregon. *Progressive Arch.* 33, no. 3, pp. 63-68, March, 1952.
- BELLUSCHI, PIETRO. Belluschi Appraises the Gropius Challenge. *Arch. Forum* 96, no. 5, p. 113, May, 1952.

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- BEAR, RICHARD S. and C. M. M. CANNAN. The "Lotmar-Picken" X-Ray Diffraction Diagram of Muscle. *Nature* 168, p. 684, October 20, 1951.
- BEERS, ROLAND F., JR. and I. W. SIZER. Analysis of the Kinetics and Thermodynamics of the Catalase-Hydrogen Peroxide System. *Federation Proc.* 11, p. 11, March, 1952.
- BEERS, ROLAND F., JR. and I. W. SIZER. A Spectrophotometric Method for Measuring the Breakdown of Hydrogen Peroxide by Catalase. *J. Biol. Chem.* 195, p. 133, March, 1952.
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- BLAKE, CHARLES H. Wear of Towhee Bands. *Bird-Banding* 22, p. 179, October, 1951.
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- BLAKE, CHARLES H. Whither Bird-Banding? (An editorial.) *Bird-Banding* 23, p. 56, January, 1952.
- BLAKE, CHARLES H. Intermittent Trapping of a Chickadee. *Bird-Banding* 23, p. 74, May, 1952.

- BLAKE, CHARLES H. Comments on the Applications Relating to the Names "Crangon" Fabricius, 1798, and "Ligia" Fabricius, 1798 (Class Crustacea, Order Decapoda) Submitted by Dr. L. B. Holthuis, and to the Application Relating to the Name "Tylos" Meigen, 1800 (Class Insecta, Order Diptera) Submitted by Martin L. Aczél. *Bull. Zool. Nomenclature* 6, p. 182, May, 1952.
- BRYAN, JOHN H. D. DNA-Protein Relations During Microsporogenesis of *Tradescantia*. *Chromosoma* 4, p. 369, August, 1951.
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- GROSS, JEROME. The Structure and Biological Reactivity of Connective Tissue. (In *The Musculoskeletal System; a Symposium . . .* at the New York Academy of Medicine, October 9-20, 1950; edited by Mahlon Ashford. pp. 1-40. New York: Macmillan, 1952.)
- GROSS, JEROME. Fiber Formation in Trypsinogen Solutions: An Electron Optical Study. *Soc. Exp. Biol. & Med. Proc.* 78, p. 241, October, 1951.
- HOCH, FREDERIC L. and B. L. VALLEE. Extraction of Zinc-containing Protein from Human Leucocytes. *J. Biol. Chem.* 195, p. 531, April, 1952.
- KOECHLIN, BERNARD A. Preparation and Properties of Serum and Plasma Proteins, XXVIII. The β_1 -Metal-combining Protein of Human Plasma. *Am. Chem. Soc. J.* 74, pp. 2649-2653, May 20, 1952.
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- LION, KURT S. and R. J. BROCKHURST. Analysis of Ocular Movements by Means of an Electrical Method. *Arch. Ophthalmology* 46, pp. 311-314, September, 1951.
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Index of Authors

- Abrahams, S. C.: 368
Adams, C. W.: 368
Adams, D. P.: 348
Adelman, M. A.: 336, 337
Adelstein, S. J.: 325
Adler, R. B.: 338, 339
Ahrens, L. H.: 346, 347
Alden, H. L.: 368
Aldrich, H. P., Jr.: 335
*Aldrich, L. T.: 347
Allis, W. P.: 360
Amdur, I.: 328
Anderson, L. B.: 322
Angelo, E. J., Jr.: 339
Annis, M.: 364
Archer, J. E.: 366
Armstrong, D. B.: 339
Aronin, L. R.: 368
Ashdown, A. A.: 328
Ashley, H.: 321
*Atchley, R. D.: 340
Austin, J. M.: 359
Averbach, B. L.: 353, 354, 355, 358, 366
Backer, S.: 350
*Backer, W. R.: 357
Backofen, W. A.: 354
*Bailey, D. K.: 342
Baldwin, G. B.: 337
*Ball, W. P.: 373
*Barbarossa, R.: 326
Barrett, F. D.: 338
*Barriault, R. J.: 328
Bartlett, H. R.: 342
*Bartter, F. C.: 353
Baruch, J. J.: 339
*Bates, C. J.: 346
Bear, R. S.: 323
*Beasley, J. K.: 330
Beattie, J. A.: 328, 329
*Beck, P. A.: 371
*Becker, F. B.: 353
Beckett, J. A.: 326
Beers, R. F., Jr.: 323
Belluschi, P.: 323
Bemis, A. C.: 359
Benedict, M.: 327
Beranek, L. L.: 339
*Berets, D. J.: 334
Berry, M. M.: 368
*Best, R. L.: 372
Bever, M. B.: 354, 355, 366
*Bhatia, D. S.: 346
Biggs, J. M.: 335
Bishop, R. L.: 338
Bisplinghoff, R. L.: 321, 322
Bitter, F.: 360
Blackburn, J. F.: 368
Blake, C. H.: 323, 324
*Bloch, M. R.: 373
Bloom, D. S.: 354
*Blue, R. W.: 334
Blum, J. M.: 342, 344
Boehmer, H. W.: 368
Bolt, R. H.: 363
Booton, R. C., Jr.: 339, 368
*Bose, A. K.: 333
Bowles, E. A.: 343
*Boyles, H. B.: 330
Brachman, A. E.: 331
Brainerd, H. B.: 368, 369
*Brasunas, A. de S.: 356, 358
*Breck, D. W.: 333
Breger, I. A.: 347
Brenner, C. W.: 369, 371
*Bridge, H. S.: 364, 368, 369
*Brierley, J. S.: 328
*Brockhurst, R. J.: 324
Brossel, J.: 360
Brown, E. C.: 337
Brown, G. S.: 339
*Brown, J. F., Jr.: 334
Brown, S. C.: 360, 361
Brownell, G. L.: 360, 361
Brubaker, C. H., Jr.: 334
Bryan, J. H. D.: 324
Buechner, W. W.: 361, 365, 366
Buerger, M. J.: 347
*Buhle, E.: 333
Burchard, J. E.: 366
Burg, M.: 329
*Butt, A. J.: 328
Buttner, F. H.: 354
*Byrne, J. T.: 332
*Cameron, M. E.: 344
*Cameron, R. H.: 349
Campbell, H. C.: 329
Campbell, L. G.: 336
*Cannady, R. L.: 350
*Cannan, C. M. M.: 323
*Capozzoli, L. J., Jr.: 336

*Not on Institute Staff, 1951-52.

- *Carr, J. S.: 356
 Carroll, T. J.: 369
 *Carron, M.: 373
 *Carruthers, R. C.: 354
 Carver, C. E., Jr.: 336
 *Castleman, L. S.: 353
 *Cave, G. C. B.: 330
 Cerrillo, M. V.: 369
 Chadwick, G.: 360
 Chamberlain, J. W.: 353
 *Chambers, V. C.: 331
 Chandler, A. D., Jr.: 342, 343
 *Chang, C. S.: 356
 Chang, H. C.: 354
 Cheatham, R. G.: 325
 Chien, K. L.: 350
 Chipman, J.: 354, 355, 356, 357
 *Christensen, W. R.: 353
 Chu, Y.: 321
 Clark, J. A.: 350, 352
 Clark, J. S.: 361
 *Clark, R. A.: 349
 *Cobb, J. R.: 358
 Coddington, E. A.: 348
 Cohen, I. S.: 348
 Cohen, M.: 353, 354, 355, 356, 357
 Cole, A. G.: 334
 Cole, H., Jr.: 361
 Coleman, J. R.: 337, 338
 *Coleman, M. T.: 345
 *Colladay, G. S.: 369
 Collins, C.: 343
 Collins, S. C.: 350
 Connolly, W. H.: 325
 Cook, N. H.: 350, 352
 *Cooley, W. C.: 322
 Cope, A. C.: 329
 *Corey, E. J.: 333
 *Corriveau, M. P.: 356
 *Corson, M.: 344
 Coryell, C. D.: 329
 Courant, H. W. J.: 369
 *Craig, R. A.: 359
 Crandell, S. H.: 350
 Crawford, G. M.: 353
 Cross, J. S.: 326
 Crossley, H. E., Jr.: 335
 Cunningham, R. M.: 359
 *D'Addieco, A. A.: 329
 Damiano, V.: 355
 Daniels, R. V.: 368
 Das Gupta, S. C.: 371
 Dasher, B. J.: 339
 Davenport, W. B., Jr.: 339
 Davis, P.: 329
 *Davisson, C. M.: 361
 *De Ford, D. D.: 330
 Demos, P. T.: 364
 *Denny-Brown, D.: 353
 De Sesa, M. A.: 332
 *Despres, E.: 337
 Deutsch, K. W.: 343
 Deutsch, M.: 361
 Dietz, A. G. H.: 325
 *Diskant, E. M.: 336
 Doherty, C. S.: 321
 Dolansky, L.: 340
 *Dolansky, M. P.: 340
 *Doolittle, J. H.: 322
 *Douslin, D. R.: 328
 Deaper, C. S.: 321
 *Dryden, H. L., Jr.: 329
 Duff, G. F. D.: 348
 Dulit, E. P.: 361
 *Dunkerley, F. J.: 355
 Dunn, C. G.: 344
 Dwight, H. B.: 340
 *Eldin, A. S.: 350
 *Eldridge, R. G.: 326
 Elias, P.: 340
 Eliassen, R.: 335
 *Elkin, M.: 353
 Elwell, F. S.: 369
 *Emmons, A. H.: 336
 Endt, P. M.: 362, 365, 366
 Enge, H. A.: 361, 365, 366
 England, A. C., Jr.: 353
 *Eshbach, J. R.: 365
 Evans, R. D.: 361
 *Evans, W. W.: 342
 Everett, R. R.: 369
 *Everhart, E.: 360
 Fairbairn, H. W.: 346, 347
 Falabella, G., Jr.: 369
 Falkoff, D. L.: 369
 *Fant, M.: 360
 *Farkas, L.: 373
 Farnsworth, D. L.: 353
 *Faul, H.: 362
 Feld, B. T.: 361
 *Fenton, S. W.: 329
 Feshbach, H.: 361, 362
 Fiedler, H. C.: 355
 Fischer, H. C.: 326
 Fitzgerald, A. E., Jr.: 340
 Flinn, P. A.: 355

*Not on Institute Staff, 1951-52.

- Floe, C. F.: 354, 355
 Forrester, J. W.: 369
 Frame, J. D.: 336
 *Francis, A. E.: 362
 Frazier, R. H.: 340
 Freyberger, W. L.: 356
 Fricker, S. J.: 338
 Frisch, D. H.: 361, 362
 Frost, H. B.: 340
 *Fry, W. J.: 371
 Fulton, J. C.: 355
 *Fundingsland, O. T.: 360
 Funk, E. R.: 354, 355
 *Fuson, N.: 370
 *Gales, G. F.: 354
 Gatos, H. C.: 358
 Gaudin, A. M.: 355, 356
 *Gayer, A. D.: 344
 *Gilbert, T. W.: 330
 Gilileo, M. A.: 340
 Gilliland, E. R.: 327
 *Gilmore, J. V.: 353
 *Gilroy, T. I.: 349
 *Glass, W. G.: 373
 *Goddu, R. F.: 332
 Gokcen, N. A.: 356
 Gokhale, B. U.: 365
 *Gold, N. I.: 324
 Goldblith, S. A.: 344, 345, 346
 *Goldman, M. I.: 335
 Goodman, C.: 362
 Gorham, W. F.: 332
 Gould, B. S.: 324
 Gove, H. E.: 362, 365
 Graham, E. S.: 329
 Granke, R. C.: 342
 Grant, N. J.: 354, 356
 Green, B. F., Jr.: 370
 Green, M.: 370
 *Greenberg, A. E.: 336
 Greene, W. C.: 343
 Grenville-Wells, H. J.: 370
 *Griess, J. C., Jr.: 332
 *Grison, E.: 368
 Gross, J.: 324
 *Grott, G. J.: 357
 Guillemin, E. A.: 340, 369
 *Gunnar, C.: 360
 Gyorgy, E. M.: 362
 Haffner, J. W.: 362
 Haley, S. M.: 321
 Halfman, R. L.: 321
 Halle, M.: 360
 Halpern, I.: 363
 Haltmaier, R. G.: 340
 Hamilton, L. F.: 330
 Hamilton, R. W.: 368
 Hammerle, O. A.: 345, 346
 Hansen, R. J.: 335
 *Harbison, F. H.: 337
 Hardy, H. L.: 353
 Hare, H. F.: 342
 Harleman, D. R. F.: 335
 Harris, L.: 330
 Harris, R. S.: 345
 Harrison, G. R.: 366, 367
 Harvey, G. G.: 362
 Haskell, N. A.: 347
 Hassig, H. J.: 321
 Hatch, R. W.: 370
 Hauser, E. A.: 326, 327, 328
 Hazen, H. L.: 340
 Hedgran, A.: 362
 Heidt, L. J.: 330, 334
 *Helmert, E. N.: 336
 Herlin, M. A.: 360, 362
 Hershenson, H. M.: 332
 Herzog, L. F., II: 347
 *Hill, H. W., Jr.: 333
 Hill, T. M.: 326, 327
 *Hillger, R. E.: 365
 Hine, G. J.: 362, 363
 Hoch, F. L.: 324
 *Hogness, J. R.: 344
 Holyk, W. K.: 347
 *Horne, C. F.: 322
 *Horton, J. P.: 335
 Horwood, M. P.: 335
 Houghton, H. G.: 359
 Hrones, J. A.: 350
 *Hudson, H. W., Jr.: 353
 Hueter, T. F.: 363
 Hume, D. N.: 330
 Hunsaker, J. C.: 322
 Huntress, E. H.: 367
 Hurley, P. M.: 347
 Ingard, K. U.: 363
 Inouye, H.: 357
 Ippen, A. T.: 335
 Irvine, J. W., Jr.: 328, 332
 Isakson, G.: 371
 *Isbin, H. S.: 328
 Jaccarino, V.: 371
 Jaccia, L.: 340
 Jacobs, H., Jr.: 373
 *Jaffin, A. E.: 353

*Not on Institute Staff, 1951-52.

- *Jakobson, R.: 360
 *Jetter, W. W.: 345
 *Johnson, H. C.: 321
 Johnson, H. R.: 365
 *Johnson, R. A.: 339
 *Jordan, J. W.: 328
 *Josefsson, A.: 356
 *Josien, M. L.: 370
 *Juda, W.: 373
 *Julius, A. L.: 372
 *Kadison, R. V.: 350
 *Kalling, U.: 356
 Kalnajs, J.: 368
 *Kamen, E. L.: 371
 *Kaplansky, I.: 348
 Kaufman, D. F.: 356
 *Kaufman, W. J.: 335
 *Kavanagh, G. M.: 328
 Kaye, J.: 351
 Kaysner, F.: 355
 Keenan, J. H.: 351
 *Kelly, P. M.: 368
 *Kenyon, E. M.: 346
 Kessler, J. A.: 339
 *Ketchum, G. M.: 351
 Keyes, F. G.: 330
 Killian, J. R., Jr.: 367
 Kindleberger, C. P.: 337
 King, G. W.: 363
 King, J. G.: 371
 Kingery, W. D.: 356
 Kingsley, C., Jr.: 340
 Kingston, R. H.: 362
 Kinter, M. R.: 329
 Kip, A. F.: 364, 365
 Klein, M. W.: 373
 *Klingensmith, K. K.: 351
 Koechlin, B. A.: 324
 Koehl, R. L.: 343
 *Koenig, G.: 329
 Kopal, Z.: 340
 Koster, G. F.: 371
 Kraushaar, W. L.: 363
 Ku, Y-H.: 340
 Kula, E. B.: 356
 *Kulin, S. A.: 355
 Kuo, H. L.: 371
 *Lambou, M. G.: 346
 Landers, L. A.: 334
 Landrock, A. H.: 345
 *Lane, J. R.: 356
 *Lang, A. L.: 321
 Lang, D. A.: 346
 Langham, W. H.: 344
 Latta, H.: 324
 Laubach, G.: 333
 Lauderdale, R. A.: 336
 Lawrance, R. B.: 365
 Leary, W. A.: 351
 Leavitt, W. Z.: 356
 Le Beau, D. S.: 327
 Lebow, I. L.: 361
 Lee, C. C.: 331
 Lee, S. Y.: 368
 Lees, S.: 321
 Leith, C. E., Jr.: 373
 Leith, T. H.: 347
 Lement, B. S.: 371
 Lephakis, A. J.: 341
 Lettvin, J. Y.: 371, 372
 *Levine, S. W.: 328
 Levinson, N.: 348
 Li, Y. T.: 321, 322
 Ligda, M. G. H.: 359
 Lin, C. C.: 340, 348, 349
 Linde, H. W.: 330, 332
 *Lindgren, B. W.: 349
 Linville, J. G.: 341
 Linville, W. K.: 341
 Lion, K. S.: 324, 325
 *Lippincott, E. R.: 330, 331
 *Lipscomb, W. N.: 368
 Livengood, J. C.: 351
 Livingston, M. S.: 363
 Livingstone, B. J.: 325
 Lizell, B.: 341
 Lockhart, E. E.: 345
 Lockhart, H. S.: 361
 Loeb, A. L.: 330
 Lord, R. C.: 330, 331
 Lord, S. S., Jr.: 332
 Lorenz, E. N.: 371
 *Lorris, S. G.: 354
 *Lovington, J. A.: 371
 Luce, R. D.: 371
 *Luikart, R. H., Jr.: 353
 McClintock, F. A.: 351
 McCue, J. J. G.: 362, 371, 372
 *MacDonald, J. E.: 369
 *McDonald, R. S.: 330, 331
 MacGregor, A. M.: 346
 Machlin, E. S.: 356, 357
 McKay, W.: 321
 McKinney, R. E.: 335
 McMahon, H. O.: 363
 McReynolds, G. E.: 344

- Mageli, O. L.: 331
 Mahoney, T. H. D.: 344
 *Maier, J. C., Jr.: 364
 Maletskos, C. J.: 364
 Malone, T. F.: 359
 *Manly, W. O.: 371
 Mar, J. W.: 322
 *Markakis, P. C.: 344
 Marshall, E. R.: 357
 *Martin, G. R.: 370
 Martin, W. T.: 349
 Mason, E. A.: 327, 328
 Mattill, J. I.: 367
 Mawardi, O. K.: 341
 *Mayne, R. Y.: 346
 Mazlish, B.: 343
 *Mazur, R. H.: 331
 Maxfield, M.: 325
 *Meyer, J. R., Jr.: 369
 *Michael, A. B.: 356
 *Middleton, D.: 339
 Milas, N. A.: 331
 Miller, F. A.: 331
 Miller, G. A.: 337
 Miller, R. H.: 322
 Moon, P.: 341
 Morison, E. E.: 344
 Morse, P. M.: 364
 Morton, A. A.: 331
 *Mowry, A. L.: 357
 *Moyer, B. J.: 373
 Murray, J. A.: 326, 362
 Myers, C. A.: 337, 338
 Nash, J. F., Jr.: 349
 *Nason, W. C., Jr.: 350
 Neilson, D. O.: 321
 *Nesbitt, J. B.: 335
 Neumann, E. P.: 351
 *Newman, J.: 349
 Nickerson, J. T. R.: 345
 Norris, C. H.: 336
 Norton, F. H.: 357
 Norton, G. A.: 362
 *Norton, J. L.: 351
 Norton, J. T.: 357
 Olsen, K. H.: 341
 *O'Neill, R. C.: 332, 333
 Orowan, E.: 351
 Osborne, L. S.: 361
 *Outwater, J. O.: 352
 *Overberger, C. G.: 329
 Padelford, N. J.: 337
 Palmer, G. G.: 330
 *Pannell, J. H.: 355
 Papian, W. N.: 372
 Parikh, N. M.: 357
 Parks, R. D.: 347
 Parmenter, R. H.: 372
 Paynter, H. M.: 336
 Peattie, R. W.: 325
 Penner, H. P.: 331
 Pery, J. W.: 368
 Phelps, A. V.: 360
 *Phillbrick, G. A.: 336
 Phillips, M. L.: 372
 *Phillips, W. D.: 331
 *Phinney, D. E.: 335
 *Pigford, R. L.: 367
 Pigors, P.: 337
 *Piore, E. R.: 362
 Pitts, W. H.: 372
 *Pledger, F.: 355
 *Podolsky, T.: 347
 *Polychrone, D. A.: 336
 Porter, C. E., Jr.: 364
 Powell, R. L.: 370
 *Powsner, E. R.: 324
 Preston, W. M.: 362, 371, 372
 Pridmore Brown, D. C.: 363
 *Primakoff, H.: 364
 Proctor, B. E.: 342, 344, 345, 346
 Putman, J. W.: 354
 Rabinowicz, E.: 372
 Radford, W. H.: 339
 Rae, J. B.: 344
 Rathbone, R. R.: 372
 Rathbun, K. C.: 322
 Reed, R. J.: 372
 Regan, C. M.: 332
 *Register, C. L.: 357
 Reid, R. C.: 328
 Reintjes, J. F.: 341
 Reissner, E.: 349
 Resnick, H.: 328
 Reswick, J. B.: 350
 Reza, F. M.: 341
 *Rice, S.: 344
 Richards, L. G.: 353
 Richardson, R. E.: 373
 *Rideout, S.: 371
 Rightmire, B. G.: 352, 357
 Ritchie, W. E.: 327
 *Roberts, B. W.: 366
 Roberts, C. S.: 354
 Roberts, J. D.: 331, 332
 *Robinson, C. A.: 333

- Robinson, Romney: 337
 Rodwin, L.: 335
 Rogers, H. H.: 333
 Rogers, L. B.: 330, 332
 Rohsenow, W. M.: 350, 352
 Roseborough, W. D.: 362
 Rosebury, F.: 373
 Rosenblith, W. A.: 341
 *Rosenzweig, M. R.: 341
 Ross, J.: 328
 Rossi, B.: 364, 369
 Rostow, W. W.: 344
 *Rothe, H.: 358
 Rothstein, F.: 325
 *Rubin, L. C.: 327
 Rubinow, S. I.: 364
 Rudin, W.: 349
 Rule, J. T.: 348
 *Ryan, J. J.: 333
 Salem, R.: 349
 Samuelson, P. A.: 337, 338
 Sangster, R. C.: 332
 Satterfield, C. N.: 328
 *Savage, J. H.: 357
 Sawyer, C. N.: 336
 Scatchard, G.: 332
 *Scharff-Goldhaber, G.: 361
 Schell, E. H.: 327
 Schindel, L. H.: 368
 Schmitt, F. O.: 325
 Schuhmann, R., Jr.: 357
 Schumb, W. C.: 333
 *Schwartz, A. J.: 344
 Schwarz, E. R.: 352
 Schweinler, H. C.: 364
 *Schwinger, J.: 361
 Seifert, W. W.: 373
 *Seifter, J.: 328
 *Sells, R. E.: 369
 Sentfle, F. E.: 356
 Servi, I.: 356
 Shaler, A. J.: 358
 Shank, M. E.: 352
 Shapiro, A. H.: 352
 Shaw, M. C.: 350, 352, 357
 Sheehan, J. C.: 333
 Shen, S. F.: 348, 349
 Shepard, H. A.: 338
 Sherman, C. W.: 354, 355
 Sherman, H.: 345
 Sherwood, T. K.: 367
 Shillaber, C.: 373
 Shoulberg, R. H.: 351
 Shultz, G. P.: 338
 Simmons, H. E., Jr.: 331
 *Simon, I.: 364
 *Simons, J. C.: 364
 Simpson, H.: 326
 *Simpson, H. E.: 357
 Simpson, S. G.: 330
 Singer, I. M.: 350
 Sizer, I. W.: 323, 325
 Skrinde, R. T.: 336
 Slater, J. C.: 364
 Smakula, A.: 373
 Smiltens, J.: 373
 *Smith, C. O.: 355
 Smith, D. B.: 357
 *Smith, J. M.: 328
 Smith, P. A.: 352
 Smullin, L. D.: 373
 Sofer, G. A.: 326
 Solow, R. M.: 338
 *Southam, F. W.: 330, 334
 Spedden, H. R.: 356
 *Spencer, D. C.: 348
 Spencer, D. E.: 341
 *Spenke, E.: 358
 Sperduto, A.: 361, 365, 366
 Spiegler, K. S.: 329, 373
 *Spilhaus, A. F.: 367
 Stanley, W. E.: 336
 Starr, V. P.: 359
 Steinhardt, J.: 334, 373
 Stephenson, C. C.: 334
 Stevens, K. N.: 342, 373
 *Stevens, R.: 371
 Stevenson, D. T.: 361
 Stever, H. G.: 322
 Stockmayer, W. H.: 329, 334
 Stoddart, H. F.: 362, 365
 *Stokes, C. A.: 328
 *Stout, J. W.: 334
 Strandberg, M. W. P.: 365
 Sullivan, E. A.: 330, 334
 *Sullivan, T. E.: 327
 *Susich, G.: 350
 Swain, C. G.: 334
 *Sydney, S.: 348
 *Tabor, O.: 372
 Tanenhaus, S. J.: 350
 Tate, V. D.: 374
 Taylor, D. W.: 336
 Taylor, H. F.: 354, 357, 358
 Taylor, N. H.: 373
 Telkes, M.: 357

*Not on Institute, Staff, 1951-52.

- Terrall, J. R.: 364
 Thomas, J. E.: 363
 Ticknor, L. B.: 354
 *Tiffany, B. D.: 329
 Tilley, R. F.: 353
 Tinkham, M.: 365
 Tisza, L.: 365
 *Tittle, C. W.: 362
 Tomlinson, J. W.: 357
 Toong, T. Y.: 351
 Townsend, A. L.: 352
 *Traina, V.: 328
 Trilling, L.: 322
 *Troili, O.: 356
 Trump, J. G.: 342
 Tucker, C. E.: 342
 *Tucker, D.: 371
 Udin, H.: 354, 355, 358
 Uhlig, H. H.: 358
 Ulman, J. N., Jr.: 344
 Underwood, E. E.: 358
 *Utterback, E.: 370
 Vallee, B. L.: 324, 325
 Van de Graaff, R. J.: 342, 365
 *Van Dilla, M. A.: 362
 Van Patter, D. M.: 361, 362, 365, 366
 Vivian, J. E.: 328
 Von Hippel, A. R.: 342
 Voss, H. M.: 321
 Voss, W. C.: 326
 Wadleigh, K. R.: 351
 Wadsworth, G. P.: 350
 Wagner, C.: 358
 *Wagstaff, J. B.: 327
 Walker, C. B.: 366
 Wall, P. D.: 371, 372
 *Wallace, J. F.: 357
 Warren, B. E.: 361, 366
 Waugh, D. F.: 325
 *Webb, G. B.: 327
 *Webster, E. W.: 342
 Weinberg, L.: 342
 Weinstein, R.: 365
 *Weiss, M. T.: 365
 *Whipple, F. L.: 340
 White, G.: 353
 *White, M. A.: 333
 *White, M. P.: 335
 *White, R. M.: 359
 Whitehead, G. W.: 350
 Whitehead, W. L.: 347
 *Whiting, F. B.: 347
 Wieser, C. R.: 373
 Wiesner, J. B.: 339, 342
 *Wigglesworth, H. W.: 344
 Wilbur, J. B.: 336
 *Wilkinson, G.: 334
 Willett, H. C.: 359, 360
 Williams, G. C.: 328
 *Wittig, G.: 329
 Wright, K. A.: 342
 Wulff, J.: 354, 355, 358
 Wyckoff, H. W.: 325
 Young, R. C.: 334
 Zaiser, E. M.: 334
 Zarterian, G.: 321
 *Zaruba, W. G.: 354

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