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The Report of the President and Other Officers of Rutgers University

1927-1928

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THE REPORT OF THE PRESIDENT AND OTHER OFFICERS OF RUTGERS UNIVERSITY

1927-1928

NEW BRUNSWICK, NEW JERSEY

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sey toward advanced education, but rather that it is lack of clear and general understanding of the State's organization for the purpose. For more than sixty years Rutgers College has functioned as the State College of Agriculture and the Mechanic Arts, and recently, by authority of the Legislature, as the State University. The arrangement has not only given to the State the prestige of an ancient institution of honorable standing, but has also saved the State large sums of money which have been contributed privately for lands, buildings, and current support. With the encouragement of the State, Rutgers University has undertaken an extensive educational program both for men and women, and is rendering services of great value to the people of the State. More than 2,000 New Jersey boys and girls are now in attendance at the University, and extension classes serve several thousands of our teachers, industrial workers, and employees of commercial establishments. The College of Agriculture helps to bring larger profits to the farmer and better food to the consumer. The chemists, engineers and scientists of the University cooperate actively both with private industries and in public enterprises.

"The demands upon the University have grown too great to be met from its own resources and the assistance the Legislature has been accustomed to grant from time to time. New policies must be devised, if New Jersey boys and girls from our humbler homes are to have proper collegiate opportunities, and if our commercial and industrial interests are to have the support of advanced education, which is necessary in this scientific and competitive age.

"I recommend, therefore, the constitution of a commission on higher education and that this commission be instructed to examine the existing relations of the State with Rutgers University and to recommend to the present Legislature such reorganization and means of adequate support as may be deemed to be to the best interest of the State."

In accordance with your recommendation a joint resolution authorizing such a Commission was passed unanimously and a Commission duly appointed, as follows:

Hon. Edward D. Duffield, Newark,
Mr. J. Albert Dear, Jr., Jersey City,
Mrs. Leonard Robbins, Montclair,
Senator Arthur N. Pierson, Westfield,

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Senator Frank D. Abell, Morristown,
Senator Blase Cole, Newton,
Hon. George R. Morrison, New Brunswick,
Hon. Dryden Kuser, Bernardsville,
Hon. Patrick V. Mercolino, Bayonne.

This able Commission undertook its work vigorously but found it impossible to prepare an adequate report in the few weeks remaining of the legislative session. The Commission was therefore continued with instructions to report to the next session.

The case of the University now rests with the Commission and should not be argued in this report. It may not be out of place, however, to express the hope that their efforts may serve to clear up all doubtful questions as to the relation of the University to the State and to indicate methods of systematic and adequate support which will enable all divisions of the University to continue and develop their services to the people of the State unhampered by uncertainty as to legal status and by apparent competition for public funds with the public schools. Matters connected with Rutgers in its relation to the State have been subjects of debate and litigation for more than thirty years, to the injury of the institution and certainly not to the benefit of general public education in the State. What is called in question is not the value of higher education to the State, nor the efficiency of Rutgers as an instrument thereof, but the legal basis of the institution as a recipient of State appropriations. It is a matter of congratulation to all concerned that these questions are now on the way to solution.

VARIETY AND VALUE OF UNIVERSITY SERVICES

No one familiar with the way watches were made a half century ago would imagine that the great watch manufactories of today are merely duplications and enlargements of the little village one-man shops which produced the time-pieces of our grandfathers. Yet there are many people who visualize a modern college as merely an expansion in numbers of teachers and pupils of the institution which bore the name in the days of Eliphalet Nott and Mark Hopkins. A college to them is a place where older children recite lessons learned from authori-

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tative text-books to teachers who learned the same lessons some years before.

As a matter of fact there has been revolution in higher education no less thorough-going than in the making of watches and shoes, or in transportation, communication, banking or surgery. This revolution has been not merely in the subjects taught and the methods of teaching them, but in the kinds of service expected of a university and the individuals benefitted by its endeavors. While the education of youth is still the primary function of a university, it is now called upon to render so many other services to the community that the conception of a university based on the practices of fifty or even twenty years ago is quite inadequate and misleading.

During the Christmas recess of the past year a company of men and women engaged in the real-estate business in New Jersey cities took lodgings for a week in our Rutgers dormitories, attended lectures and conferences in our class rooms throughout the day and evening, and under the guidance of experts studied the laws of New Jersey bearing upon real estate operations, the principles of appraisal, and the relations of real estate to banking and investment. They must have found their studies profitable, for this was their second visit and they have arranged for a similar but larger Real Estate Institute the coming year. That the people of New Jersey will have benefit from such serious effort to improve the practices and raise the ethical standards of a businss so important to the homes of the State goes without saying.

There are doubtless many who if they had looked in upon one of these assemblies of realtors would have thought of it as something extra or apart from the real work of the University. Such is not the case. Developments in modern agriculture, manufacture, and commerce have been so rapid, and a sound knowledge of some phases of science and of economics has become so essential to such large numbers engaged in industry, that the University, the headquarters of scientific investigation and instruction, is called upon for research on problems important to industries and for instruction to adults engaged in them to an extent surpassing the call of youth for undergraduate instruction. For every boy receiving instruction in

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agriculture in our four-year curricula there are many hundreds of New Jersey farmers who seek and welcome instruction through the agricultural extension service.

The visitor to the Real Estate Institute, therefore, would not have seen the University engaged in something extra or unusual. Such enterprises, pursued not merely by the extension divisions but in various forms by nearly all departments of the University, both on the campus and in many hundreds of communities throughout the State, have become regular activities of the institution, and in their total, with the research supporting them, perhaps equal in importance and service the undergraduate instruction. At least the number of citizens affected is very much larger.

Periods of intensive instruction at the University, similar to that of the Real Estate Institute, were conducted by the College of Engineering for sewage plant operators, for highway engineers, and for meter-readers of public utility corporations. What are called "Unit Courses" in a number of the more important branches of practical agriculture were offered to the citizens of the State. These were held in the laboratories and on the farms of the College of Agriculture and were well attended. A beginning was made in class instruction for farmers at points distant from New Brunswick, in addition to the regular extension services, and the response was such as almost to alarm the projectors lest demands be created altogether beyond their power to meet them. In more than twenty cities of the State classes of industrial workers and employees of mercantile establishments were conducted.

The above are only a few examples of the wide variety of educational services rendered by the University each year, aside from what is considered its regular work in the instruction of undergraduates. From the research enterprises of the institution other examples might be cited of services equally varied, perhaps even more important to the public welfare, and all of them quite apart from the traditional or popular conception of a college. This entire volume should be read, including the reports of all departments and divisions, in order to get a picture of the University in its manifold activities, and this would not be complete, since very many public contacts

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are made and services rendered which find no place in the record.

ATTENDANCE

The Registrar reports an undergraduate enrollment, exclusive of the College of Pharmacy, of 2,238 students, 334 more than in 1926-27. The percentage of increase was 17.5, or 18 in the Colleges for Men and 17.1 in the College for Women.

The increase in attendance of undergraduate students, candidates for degrees, for the past four years has been as follows:

	1927-28	*1926-27*	*1925-26*	*1924-25*
Colleges for Men*	1213	1028	868	753
College for Women	1025	876	693	545
	2238	1904	1561	1298

* Exclusive of College of Pharmacy.

Of the undergraduate students in the colleges in New Brunswick, 959 men and 875 women were residents of New Jersey, or 82 per cent of the attendance.

The attendance of all divisions for the past four years is as follows:

	1927-28	*1926-27*	*1925-26*	*1924-25*
Graduate Students	59	40	39	35
College of Arts and Sciences	901	764	590	482
College of Engineering	179	163	171	172
College of Agriculture	94	80	84	77
College for Women	1025	876	693	545
School of Education*	22	.....	.....	.....
College of Pharmacy†	394	260	.....	.....
Short Courses in Agriculture	372	226	195	219
Short Courses in Engineering	87	87	37	.....
Department of Ceramics	17	21	23	22
Special Students	9	14	10	10
Summer Session (1924-27)	1345	1148	991	754
Educational Extension	1766	939	422	286
University Extension:				
Class Students	4145	3727	426	.....
Correspondence Students	2438	1326	243	.....
	12,853	9,671	3,924	2,602

* Prior to 1927-28, the enrollment in the School of Education was included in other groups.

† Included in the University in 1927.

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The University has nearly reached its limit without additional buildings both for instruction and residence. It may again be repeated that only one academic building has been erected on the downtown campus of the Colleges for Men since 1910, when Rutgers was a college of 338 students. Crowding and doubling up can not go much further. Only 68 of the 450 freshmen to be admitted can be lodged in college dormitories. The Trustees have assumed obligations in excess of a million dollars for building construction at the College for Women, primarily for cottage dormitories, under a system of amortization from receipts.

The increase of attendance in American colleges is not a spasmodic movement. It is based on the economic necessity of a larger proportion of educated men and women in our complex industrial civilization. The demands must be met to a reasonable degree, or our prosperity and high standards of living can not be maintained.

FACULTY AND CURRICULA

Progress has again been made toward adequate compensation to instructors. During the year the salaries of ninety-six instructors of the Colleges for Men were increased, although in all cases the amounts were small and the scale as a whole is lower than it should be. Several strong men were lost because of our inability to afford larger salaries.

A forward step was taken in the formation of an Honor School in the College of Arts and Sciences. Seventy men were selected for membership in this school, which will afford them special opportunities in the development of initiative and real scholarship. Plans have been adopted for a similar Honor School in the College for Women.

By far the largest number of the students in the College of Arts and Sciences are enrolled in the general curriculum, which aside from a not over severe requirement of a major affords little guidance in a consecutive plan of study and offers much appreciated opportunities of election of studies reputed to be not over-taxing to the mind. Some students intending the study of medicine and law register in the general curriculum rather than in the pre-medical or pre-legal curriculum in

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order to escape the delights of calculus and constitutional law. At Rutgers the general or liberal course serves the function of a "lame-duck refuge," which traditionally in many institutions belongs to the course in commerce and business. This does not mean that many of the most scholarly and purposeful men on the campus are not registered in the same curriculum, but they are using its liberty wisely and with courage.

The liberal or cultural course in the college should be the course of the choice spirits, the men who love learning and pursue it eagerly. How to give it that character and to make it sufficiently difficult without restrictions and prescriptions which destroy its liberal character is a problem which Rutgers should face earnestly in the near future.

In the College for Women arrangements have been made for a French House, a home for a few students where the French language will be used exclusively. Madame de Visme, head of the department, who has had experience in a similar undertaking elsewhere, will have charge of the house, which will afford exceptional advantages to advanced students of French.

STUDENT WELFARE

The scholarship and student loan funds of the University have not at all kept pace with the growing attendance. In fact, except for certain additions for the benefit of students for the ministry, Rutgers has few more scholarships to grant than when the institution numbered about three hundred. Aside from the State Scholarships only about twenty-five men from each class can be granted scholarship assistance. It is therefore gratifying to report the receipt of a bequest from the late Richard Herbert of Wickatunk in the amount of $20,000 for scholarships for agricultural students, and of $2,500 from the class of 1902 for the Student Loan Fund. Further additions to these funds could be used wisely for the benefit of deserving students.

Shortly after the opening of the college year the University suffered the loss of the services of its chaplain, Dr. Stanley White, through illness. By his kindly gracious Christian character he had greatly endeared himself to many students.

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The position was filled in February by the appointment of Colonel John T. Axton, D. D., recently chief of chaplains of the United States Army. Through his wide experience as a chaplain, his rare gifts of understanding of men, his forcefulness, initiative and executive ability he is qualified to render service of great value, as he has already demonstrated on the campus. As in the Army and Navy, the position of university chaplain is entirely non-sectarian in its services.

The work of the chaplain, the Y. M. C. A., and many student organizations would be greatly helped by a Student Union Building, a center of student activities and a campus headquarters for the large number of men who commute to college from neighboring cities.

Many student activities, such as publications, and musical, dramatic and social entertainments, involve the handling of considerable sums of money. The experience of other institutions is that administrative cooperation is necessary in these matters if deficits and confusion of records are to be avoided, and for the same reasons that graduate managers of athletics are found in all colleges. With the cordial assistance of the students such cooperation has now been arranged through the formation of a Student Business Activities Committee, on which three administrative officers serve.

Dormitory life was improved during the year through the services of a house mother. The university dining hall, unsatisfactory for many years, has been transformed into a cafeteria, with the best purchasable equipment.

The appointment of Mr. Harry J. Rockafeller as head football coach resulted not only in a more satisfactory season but also in a better esprit de corps throughout the student body. The records of the year in other sports were entirely creditable and Rutgers athletics appear now in a way to perform their function in fusing student loyalty and imparting the high qualities of the best American sportsmanship.

LANDS AND BUILDINGS

The lands, buildings and equipment of all divisions of the University now stand on the books in the sum of $8,052,386, an increase of $926,107 over the previous year.

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Francis Cuyler Van Dyck Hall, the new physics laboratory erected by the State at a cost with equipment of $372,500, was opened for use January 30, 1928. In design, arrangement and equipment it is an excellent building for its purpose.

At the College for Women the third recitation and laboratory building provided by the State was completed and placed in use, the Music Building donated largely by the Women's Clubs of the State was completed, an infirmary given by Mrs. Kate Macy Ladd of Far Hills was under construction, twelve cottage dormitories were erected, three brick dormitories for 150 students were contracted for, and additional lands of over thirty acres were purchased, including the site for the infirmary and brick dormitories which was provided by gift of Mr. Edwin C. Jameson.

Many repairs and alterations were made in the older buildings of the downtown campus, including complete renovation of the roofs of Queen's and the Engineering Buildings. A sidewalk was laid on all sides of College Field, landscaping was done about Hegeman Hall, the Library, and on Bleecker Place, which was further ornamented by a statue of William the Silent, the gift of the Holland Society of New York, and a most appropriate historical monument for an institution founded by Dutch colonists. The unveiling of this statue at Commencement was graced by the presence of the Minister from the Netherlands and by representatives from the Holland Society. Both the grounds and buildings of this portion of the University property now present a better appearance than for many years.

FINANCIAL

The accumulated deficit of the men's colleges reported a year ago, amounting to $73,125.25, was reduced to $14,704.87. As last year the excess of receipts over expenditures in operation of the men's dormitories was set up as a reserve, the amount for the year being $16,418.47.

The income for current expenses, exclusive of that of the New Jersey Agricultural Experiment Station, the New Jersey College for Women, and the College of Pharmacy was $1,315,469.34, a gain of $187,638.05 over the previous year, and of $444,456.47 over two years ago.

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Gifts and bequests for general university purposes received during the year aggregated $281,040.13. Of these the largest were payments from the Mary B. Pell estate, $75,713.24 for a building and $64,546.46 unrestricted. Among the additions to the endowment funds were $34,336.75 from the estate of the late Frederick A. Canfield of Mine Hill and $21,000 bequeathed by Thomas H. Grant of the class of 1881. $22,850 was received from several donors toward the purchase of lots on Bishop Place which greatly improve the property acquired a few years ago for men's dormitories.

For a second year the Legislature made no appropriations for major buildings. Serious reductions were made in the amounts requested for maintenance of several departments and divisions. I have called attention in a former section of this report to the imperative need of larger plant facilities, and in view of the growth of the University the necessity of additional sums for maintenance goes without saying.

The work of Mr. Albert S. Johnson as comptroller, which began on August 1, fully realized expectations. Progress was made in budget control, in central purchasing, and in the general management of the University's business. His report of the financial operations of the year is included in this volume.

CHANGES IN TRUSTEES AND FACULTY

At their Commencement meeting, the trustees elected Mr. William H. Waldron '86, and Mr. William V. B. Van Dyck '96, nominated by the alumni, to succeed Mr. Charles M. Mason, deceased, and Mr. Irving L. Reed.

At the same meeting the resignations of Edward H. Rockwell, dean of the College of Engineering; Henry P. Schneeweiss, treasurer, and Winthrop Alexander, superintendent of grounds and buildings, were accepted with regret. Dean Rockwell in his six years service did much to raise the standards of the College of Engineering and win the esteem of members of the faculty. It will be difficult for many of the alumni to imagine old Queen's without Mr. Schneeweiss, who in the earlier periods of his thirteen years service performed many duties for the University which in the larger institution have devolved upon others.

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Alfred A. Titsworth, professor of mathematics, at his own request retired at the close of the year after forty-two years as a Rutgers teacher. Among the many strong men who have taught mathematics at Rutgers the name of Professor Titsworth will always bear an honored place.

Frank F. Thompson, professor of electrical engineering, died suddenly September 4, 1927. His gracious memory will be preserved in a fund of $3,000 bequeathed by him for scholarships for engineering students.

The College of Pharmacy lost its founder and aggressive and able leader in the death on April 2, 1928 of William O. Kuebler of Newark. The Pharmacy College will always remain a monument to his unconquerable faith and his tireless energy.

THE FUTURE

The coming year is likely to prove an eventful one for Rutgers University. The report of the Commission on relations with the State and the following action of the Legislature may mark an era in the life of the institution. Fears lest the essential character of our historic institution be changed, and lest the treasures of the spirit acquired through severest efforts and sacrifices for more than a century and a half be lost, are not unnatural. On the other hand, some may expect an immediate expansion of the University in numbers, program, and services such as would be neither possible nor wise.

It is a time to hold steady and to remember that historic institutions such as ours do not change their character in a day. The Rutgers of the future will be the loyal child of the Rutgers of the past, both of the century following 1766 and the half century during which she has faithfully served as the land grant college of the State of New Jersey.

The people of New Jersey are not likely to be so unwise as to throw away the distinction and the many advantages which lie in the fact that New Jersey is the only State whose State University is built upon the foundation of a colonial college. No one wishes to destroy the historical continuity nor anything honorable or valuable in the old Rutgers. No one wishes a State University which will be the football of politics, which will practice low standards of admission or graduation,

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whose attendance will be dominated by any particular race or sect, or which will not prize above all else the presence in its faculty of men of high culture and character, worthy successors of those who have placed the American college in the proud position it now occupies. Both the people of the State and the alumni and friends of Rutgers desire the institution to become stronger, worthier, and nobler in all its parts, and that such may be the issue of present efforts to clarify and strengthen the relations with the State may be confidently expected.

Perhaps in the discussion of our problems we have come to exaggerate the differences between State institutions and those on private foundations. The following paragraphs from one of the most eminent American educators are worthy of careful attention.

> "If the overworked traveler from Mars were to be introduced without previous warning into some of our larger metropolitan institutions on private foundation and were then suddenly translated to certain of our tax-supported universities, he could discern few or no material differences, whether in aims or ideals or procedure, and certainly would encounter no external evidences of different sources of support. He would find both over-crowded with students; in both, many underpaid teachers; in both, an impenetrable thicket of student organizations largely monopolizing active interest; in both, a rather noisy and naive student loyalty, chiefly centered in athletics; in both, a pervasive faculty conviction that its members were boss-ridden by the administration and that the trustees were mainly opinionated absentee creatures of the Wall Street interests or of the local Tammany organization. In both he would find some, though not too many, brilliant and powerful teachers; in both, a small group of scholars of distinction; in both, the great majority of the staff striving faithfully to discharge their full obligations. The privately endowed institutions undoubtedly contain a greater range of variation in the extremes of type represented than could be detected between the two groups, public and private, taken en masse. In both groups there are instances of particular institutions with sharp individual peculiarities or characteristics.
>
> "It is easy to exaggerate the importance of the source from which educational resources are derived. Ultimately, the money all comes from the pockets of the citizens, in

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the one case more or less willingly and voluntarily, in the other case under the compulsion of taxation. Both groups are beholden to the constituencies which support them, the one group to federal, state, county or city officials and the people behind them, the other to sectarian agencies, to patrons or to alumni. If the one group is sometimes subject to outrageous political interference—and one naturally thinks at once of Mr. McAndrew and his experiences with the eminent historical scholar who presides over the destinies of Chicago—the other has at times suffered not less from the palsying hand of religious bigotry and the indiscreet meddling of graduates. No educational institution is or ever will be completely foolproof."

The above paragraphs are cited from an address by President James R. Angell of Yale University, as published in the *Educational Record* of April, 1928.

Respectfully submitted,

JOHN M. THOMAS.

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COLLEGE OF ARTS AND SCIENCES

To the President of Rutgers University:

In the reports of the past two years I have explained at some length the general educational policies which in my judgment should control the developing of our college of arts and sciences. These I shall not now restate other than to affirm my continued faith in their validity and to urge the gradual carrying out of them in practice as the resources and growth of the University permit. The present report will be confined to a brief and concise summary of the work of the college as actually proceeding, of the progress made during the closing academic year, and of the needs which must be met in the near future if the standards of the college are not to be lowered and if its progress is to continue.

THE FUNCTIONS OF THE COLLEGE OF ARTS AND SCIENCES

Within the university the college of arts and sciences holds a central and fundamental position. On the one hand it provides basic and preliminary instruction and on the other hand it is the mother college within which vocational curricula originate, perhaps to be separated later as independent professional schools.

Specifically its functions are four in number. First, the college of arts and sciences offers a general or prevocational higher education; second, it furnishes so-called "service courses" chiefly to the professional schools of the university; third, it gives vocational training in fields where either the small number of students or the lack of resources forbids as yet the organizing of independent university schools; and fourth, it fosters research in the subjects which it teaches.

As a general or prevocational school the instruction of this college varies from the virtually vocational to the purely philosophical and cultural. For example, at the one extreme its students are preparing to enter after graduation a medical school and must be given a specifically premedical training in physics, chemistry, and biology; whereas at the other extreme are students whose interests are as yet entirely non-vocational and who seek what for centuries has been called a liberal edu-

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cation. Specifically its first function is to meet the educational needs of the following three types of undergraduate students: (1) those who expect as graduates to study medicine, law, theology or other subjects of higher professional learning; (2) those who look forward to devoting their lives to scholarly investigation in one or another of the many fields of art, letters, or science; (3) those who before entering business or some other vocation desire to acquire within the limits of their interest and capacity as much as they can of the traditional culture of the civilized world in the fields of art, literature, history, social and natural science, and philosophy.

In fulfilling the second function of the college of arts and sciences, the giving of "service courses" to other undergraduate schools within the university, the scope of its work depends upon the organization of these other schools and especially upon the extent to which their size and resources allow or justify the duplicating of departments of instruction for their own students. At Rutgers these "service courses" are given to four other colleges. In the College of Engineering the instruction in mathematics, physics, chemistry, bacteriology, geology, economics and occasionally in other subjects is furnished by the College of Arts and Sciences. In the College of Agriculture similarly instruction is given in mathematics, physics, chemistry, botany, zoology, bacteriology, English and where elected, in other subjects such as economics and psychology. In the School of Education, excepting only courses specifically in educational theory and practice, the entire curriculum for the training of high school teachers, constituting eighty per cent of the four year program, is at present provided by the mother college. Finally in the College for Women, itself a college of arts and sciences, a part of the instruction is given through "service courses", though the relative amount has been steadily decreasing each year. During the past academic year this service has included courses or sections in classics, Spanish, Italian, German, mathematics, bacteriology, history, political science, economics, sociology, psychology, philosophy, and biblical literature.

In fulfilling its third function, the giving of vocational instruction, the College of Arts and Sciences offers training in

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sanitary science, chemistry, journalism, and business administration. As the University develops in the decades to come any one or all of these professional curricula may be organized into separate schools should either the conditions of efficiency or the numbers of students so require.

Finally, within the bounds set by its resources, the college is encouraging scholarly investigation on the part of its advanced students and of its faculty. In two fields this research is organized into bureaus each with its director and independent budget, a Bureau of Bacteriological and Biochemical Research supported at present by a grant from the firm of Johnson and Johnson, of New Brunswick, New Jersey, and a Bureau of Economic and Business Research supported from the general funds of the University. Both bureaus are engaged with important projects and have made marked progress in this research during the year. The latter is cooperating with the State Chamber of Commerce and it would be a happy outcome if the bureau should become the official research agency for the chamber. Elsewhere research has been carried on without specific grants and only through the energy and devotion of the investigators themselves. I am happy to add that the budget for the next fiscal year begins to support, by making small allowances, investigation in three other departments, physics, physiology, and zoology.

ITS DEPARTMENTS

To carry out the extensive work of instruction outlined above the College of Arts and Sciences is organized into nineteen departments varying in membership from one to thirteen professors, instructors, and assistants. These departments may be thought of conveniently as grouped into five divisions: (1) in the division of language, literature, and the fine arts we have the departments of English, journalism, classical languages, romance languages, German, music, and the history of art; (2) in the division of mathematical and physical science the departments of mathematics, physics, chemistry, and geology; (3) in the division of biological science the departments of botany, zoology, physiology, and bacteriology; (4) in the division of social science the departments of history

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and political science, and economics; and (5) in the division of philosophy and religion, the departments of philosophy and psychology, and biblical literature. Had the budget permitted, a new department would have been recommended to the trustees to be established this coming academic year in the division of social science, namely a department of sociology. At present our two courses in sociology are taught by the professor of biblical literature. In the next few years it is hoped that instruction in psychology may be separated from that in philosophy and a new department of anthropology and psychology be founded, which might be thought of as belonging to either the biological or the social science group forming as it would a bridge between the two groups.

ITS CURRICULA

In the carrying out of the educational program of the College of Arts and Sciences we have been guided by two well established generalizations. (1) Undergraduates differ markedly from one another in intelligence, ambition, industry, and preparation. (2) Offered a miscellaneous array of courses from which to elect with only a few requirements to guide their selection undergraduates will usually follow a four year program of study without unity, sequence, or goal. As a rule they seem guided by the popularity of the instructor or of his subject, casual campus advice, temporary interests, or the reputed easiness of the course.

The former generalization is but an example of what is true of any large homogeneous group of human beings. The majority cluster in their characteristics closely about the level of the average or typical member, properly called mediocrity or in academic phrase "the pass man"; whereas on both sides of the average stand two sub-groups whose numbers decrease the further they stand from mediocrity. These two sub-groups of undergraduates are respectively the men of high ability or so-called honor men, and the men who remain in college with difficulty and vary from those who are of doubtful college level of ability to those who are quite incapable of graduating. Our intelligence test given to entering freshmen, and for that matter every well constructed and objective examination, reveals a

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corresponding distribution in the scores made by any large random sampling of undergraduates. From this basic psychological fact we can predict that every large college has at least three groups of students who present each a different educational problem.

In the Rutgers College of Arts and Sciences we are endeavoring to face this fact squarely and to solve the resulting problems as our resources permit. First, we are by stages segregating the abler and more ambitious students into an Honor School where the curriculum, the methods of instruction, and the rate of progress can be adapted to the exceptional talent and character of the members. The Honor School is under the administrative charge of a faculty standing committee representing letters, natural science, social science, and the college administration. Last autumn this committee selected forty sophomores and in February thirty freshmen and requested the departments giving them instruction to segregate them wherever the students' schedules and the teaching load of the department permitted. Next September a further step will be taken by selecting a group of freshmen immediately upon their admission on the basis of their high school scholastic record and their scores made in our scholastic aptitude examination, and a group of juniors on the basis of their grades during the two first years of their college course. In our crowded laboratories segregation will not be possible in the elementary or initial courses in laboratory science, but it is hoped that in the non-laboratory courses and in advanced courses in science segregation may come rapidly though necessarily by stages depending upon the size of the enrollment and upon the avoiding of any increase in the average instruction cost per student. During the year now closing there has been an honor section in the sophomore courses entitled general economics, American government, and Spanish B. Next year there will be such sections in freshman English, mathematics, and we hope, in history, government, and economics.

Correspondingly, we are seeking ways of rendering a service to the second exceptional group, the men of low ability or scholastic ambition. These men have been admitted to col-

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lege in good faith both on our part and on theirs, and their success in life is a matter of concern to their parents and should be to the college. They are not Pariahs and therefore should not be dropped from college provided they conduct themselves as gentlemen and provided the service the college can render them justifies their remaining. My conviction is that the college should segregate these men and offer them a shortened curriculum adapted to their special needs but not leading to a degree. The ordinary college curriculum is not so adapted and they should not be required to struggle with what cannot really interest or profit them. The large majority of these students will probably enter business and a short course in business administration may be the correct solution. At any rate this is the experiment which we began to try during the closing second term. Thus, instead of dropping failing freshmen and sophomores at the end of the first term we offered twenty-three of them a one-term curriculum in business of distinctly vocational character. This curriculum differed radically from that of the ordinary college freshman and consisted of courses in economic history, accounting, money and credit, and marketing and salesmanship. I recommend that the faculty be permitted to lengthen this curriculum into a two-term program of study beginning both in September and in February as the enrollment justifies. In full operation the instruction cost would amount to six thousand dollars and an average enrollment of thirty students would make it self-supporting. To our enquiry among the twenty-three members in May, twelve expressed a desire to continue the course a second term.

In providing courses for the middle group, the large body of average undergraduates, as well as for the two groups of exceptional students, we have been endeavoring to counteract the planless election of courses and subjects referred to in the aforegiven second generalization. This we are doing by offering four-year curricula or programs of study and by explaining to the undergraduate that he receives his degree not by earning a certain total number of credits but by carrying out a consistent and carefully planned four-year program. Accordingly he is asked to have a definite goal as the object of his

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higher education and to make his decision what this goal shall be early, if not at the very beginning of his college course. This definiteness of goal does not force upon his program narrowness or rigidity but it does involve the thoughtful selecting of a broad highway along which he is to travel for four years and the responsibility of decision which may be properly required of a young man of his maturity. If later in his course he finds that he has made a mistake, his case will be studied fairly and sympathetically and he may be transferred to another curriculum, but probably with the lengthening of the road to be travelled.

By making these curricula numerous enough to meet the varying needs of students who differ so radically in their final choice of vocation and by allowing some freedom of election in each program we hope to meet the legitimate requirements and interests of every undergraduate. Each curriculum has either preparation for a certain vocation or the study of some important subject as its major purpose. The vocations for which these curricula are especially designed either to prepare or to give the undergraduate preliminary training are business in the broadest sense of that word, law, medicine, sanitation, theology, teaching, journalism, or chemistry; and the major subjects in which a thorough elementary training is provided are mathematics, physics, chemistry, botany, bacteriology, zoology, physiology, history, politics, economics, English, French, Spanish, German, Latin, and Greek. To fulfill these many purposes not more than ten curricula seem to be required, since the same curriculum may serve for two or more educational objectives and have courses and sometimes many courses in common with other curricula.

The principles underlying our program of curricula have been questioned. Some students of education maintain that in a large proportion of cases we cannot foresee the student's final vocation and that it does not make an appreciable difference what he studies, provided he gets the training involved in doing well a serious intellectual task. In short, the general training and not the curriculum matters, the curriculum being merely an instrument for mental gymnastics. This objection I believe to be a serious educational heresy. No doubt many

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lines of work have common habits of attitude, attention, persistence, methods of procedure and the like; but there is as truly an economy in education as there is in engineering, manufacturing, or transportation. In the first place, subject matter is important. Quite apart from any question of relative value as mental gymnastics, mathematics is more important than cross word puzzles and physics than chess, French is more important than Ethiopic, and history than mythology. Every man in the prime of life finds regrettable omissions in his education and wishes that he might select again the content of his college course; and he complains of this or that subject to which he once gave earnest study whose content has always since seemed utterly worthless or unusable. In the second place, some subjects of study are unmistakably prerequisite for others and especially for later professional study, such as chemistry and physics for physiology or for medicine; and it does make a difference if the student has omitted them from his curriculum. I have been told by trustworthy authority of business executives who have never thoroughly understood the accounting of their own companies because they never had an elementary training in accounting when in college, and of bankers whose judgment betrayed serious ignorance of general economics such as is taught our undergraduates. Finally, although we can make up our shortage in education later in life, the fact is we seldom do, and then only by struggling against inertia and interfering duties. Youth is the better time and foresight is always more economical than hindsight. For these three reasons at least we must recognize an important problem of economy to be solved in the selecting of the content of the curriculum though we admit frankly the difficulty of predicting rightly the student's final vocation and of discovering for him the most important subject matter for his elementary training. However, this difficulty is not insurmountable and therefore should be faced and as far as possible mastered.

In concluding the preceding statement regarding our curricula may I refer to a great change which those of us who knew the American college of twenty-five years ago especially notice. Since the World War the American business and indus-

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trial corporations have come to the college almost as to an employment bureau. They have discovered in the graduating classes of our colleges a group of men highly selected for intelligence, character, and energy and they have come to respect as never before the value of the training which these men have received and of the importance of their scholastic record as evidence of general talent. Moreover, the supply does not equal the demand, as an official of one of the largest corporations in New Jersey informs me. To this may I add the following report from the head of our department of economics:—"the increase in the demand for college trained men, even to me, is little short of amazing. One is justified in making the rather sweeping statement that no good student, having a business career in mind, need wait long after his graduation for finding a place. At least a dozen large corporations have sent representatives to us this year for the purpose of interviewing students". In contrast with this wealth of opportunity to enter business there is lack of opportunity to New Jersey youth to study medicine. May I quote from another departmental report:—"why should New Jersey, one of the richest states in the Union, contribute nothing toward medical education, the most expensive of all? It is my frank opinion that the deans of the medical schools in our neighboring States will continue to accept fewer and fewer of our New Jersey students as those from their own States increase in number and improve in quality. This is now the situation in western medical schools. Repeated efforts by our best qualified graduates to enter Wisconsin, Michigan, and other State-supported schools have met with failure. The day is already near when New Jersey boys will be unable to receive a medical education."

ITS STUDENT-ENROLLMENT

During the year now ending the student-enrollment in the College of Arts and Sciences, including those preparing for secondary school teaching, was over 900 and at its peak close to 1,000. In fact the growth of the college enrollment has averaged twenty-four percent. per year during the past three years. But a more accurate measure of our work can be given in terms of course-enrollments, for these include students

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registered also in "service courses." The course-enrollment this year in classes taught by the staff of the College of Arts and Sciences amounted to 6,829 of which enrollments 1,346 were in "service courses" given at the College for Women. This leaves a net course-enrollment of 5,480 in the colleges for men given by the staff of the College of Arts and Sciences. Of its student-body the large majority were preparing to enter law, medicine, and chiefly business and were registered in the corresponding curricula and in the curriculum with English as the major subject. These curricula will probably continue to be the ones most widely elected and most rapid in the growth of their enrollment. The size of their enrollment is not peculiar to Rutgers but indicates the chief demand today in America for the intelligent youth graduating from our colleges, for these young men will go where opportunity and reward bid highest for them.

Since the supply of highly talented young men is narrowly limited the consequences of this great demand by the aforementioned vocations has serious consequences for those other vocations which do not offer equal financial rewards. In no place perhaps is this shortage more keenly felt than in the colleges themselves. With a rapid growth in enrollment and therefore with an increasing demand for instructors to teach the students the college is finding, as any dean can bear witness, great difficulty in securing among the graduate students of American universities the type of man who should be a college teacher, who has the intelligence, scholarship, personality, character, maturity, and experience indispensable to this high calling. In other words, we are involved in a vicious circle. Business, industry, law, and medicine have attracted a greater percentage of young people toward the college and by the very same attraction have made it more difficult for the college to secure worthy instructors. Here is an unstable equilibrium whose instability must in time reach the critical point where either a college education becomes undesirable because of the inferiority of the instruction, or the inevitable cost of a desirable college education must be borne by those who benefit by it and not by those who give it. The beneficiaries are the students and the community. The private college has a way of

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escape, for it can arbitrarily limit its enrollment; but the State supported college is between the devil and the deep sea. If the latter college limits its enrollment, worthy and deserving citizens can rightly claim unfair treatment and a failure in the rendering of a public service; whereas if it appeals for a greater allowed expenditure per student in order to compete in the securing of able and desirable men as instructors, its administration is regarded as inefficient by those accustomed to expect decreasing costs per unit resulting from mass production. Unfortunately successful methods of mass production in the making of the mind still await their inventor. In the meantime increasing enrollment is forcing upon our colleges larger and larger instruction groups and inferior instructors.

ITS NEEDS

May I therefore urge as the first and greatest need of Rutgers the continued holding to instruction groups of efficient size and the exerting of every effort in our power to institute and to maintain a reasonable and effective salary scale for our faculty.

Our second need is buildings. I hesitate to repeat what has been so often said before and what is self-evident; but our need is desperate. Our buildings are inadequate for the efficient instruction of the number of students already enrolled, and what will they be two or three years hence with an increasing body of students? With the exception of the department of physics, which now happily is well housed in the admirable building erected by the State, not a single department in our College of Arts and Sciences has proper quarters for its present work. In our Chemistry Building we are instructing 304 freshmen in general inorganic chemistry and are at the limit where an increase will cause disorder and confusion, and might result even in serious accidents. Our only known recourse is to withhold chemistry, this important basic subject in our modern scientific and industrial world, from other students many of whom should include it in their curriculum. In organic chemistry we have not yet found a way by which it will be possible to give our underclassmen in the premedical and chemical curricula the indispensable instruction

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of their junior and senior years, and physical chemistry in spite of its importance is virtually without a laboratory. A similar condition obtains in our Biological Building, where we are already instructing more students than this antiquated and ill adapted building can in spite of numerous makeshifts be made rightly to permit. An equally serious shortage faces also our non-laboratory instruction. Crowded classes are held in rooms not planned or built for the purpose and such classes are the ones growing most rapidly. Efficient teaching in such circumstances approaches the impossible. The delay of three years in which the State Legislature has failed to allow the College of Arts and Sciences at least one new building a year is resulting in a heavy cost to those whom the commonwealth can least afford to disregard or to neglect, the young men of New Jersey on whom a few decades hence the public will depend most for its prosperity and welfare. To care properly for its present enrollment, even if each coming year were not adding a heavier responsibility to that of the preceding year, the College of Arts and Sciences needs already built and in use on its campus a new biological building, a new chemistry building, and a large non-laboratory lecture and recitation hall.

In the College of Arts and Sciences a loyal and able faculty is endeavoring to render faithful and efficient service to the young men entrusted to our charge and to the commonwealth, but the most earnest endeavors are futile if the indispensable material and financial means of modern education are lacking. In our curricula and in the soundness of our educational policies we have firm faith, and if we can secure the needed financial support the State of New Jersey will have a College of Arts and Sciences in whose service and prestige it can take just pride.

Respectfully submitted,

WALTER T. MARVIN,

Dean.

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COLLEGE OF ENGINEERING

To the President of Rutgers University:

During the past year the College of Engineering has put into effect the new curriculum adopted in the spring of 1927, made a study of the suitability of the cooperative plan of engineering education, maintained the three short unit courses, and installed the new 600,000 pound testing machine in the new Physics Building. The faculty members are continuing to perform their duties in a highly loyal and earnest manner in spite of manifest deficiencies in facilities and they have also maintained many professional contacts that are sure to react favorably on their educational activities. These matters are considered in detail below.

NEW CURRICULUM

The new curriculum which went into effect in September 1927 has now been under trial for one year and although this is a short time to judge fully of its effectiveness I believe it is proper to conclude that it has had a marked effect in reducing the number of transfers to other colleges of the University and has also reduced by an appreciable amount the number of freshmen who have been dropped from college. The introduction of a freshman course on the elements of engineering with the object of acquainting the freshmen with the work of the different departments and with the requirements for a successful engineering career has on the whole been successful. A few freshmen discovered early in the year that they were not qualified for the rigid requirements of engineering and quickly transferred. Fortunately, more received enough inspiration and guidance from this course to keep them steadfast in their first choice.

THE COOPERATIVE PLAN OF ENGINEERING EDUCATION

The cooperative plan of engineering education was first adopted at the University of Cincinnati where it was put into operation in 1906. Due to the peculiar advantages for this plan at Cincinnati and to the great interest that Dean Schneider took in it and to his great ability, it has been a pronounced success at that institution which has served as an example to all

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the institutions which have adopted it since. In 1926 there were sixteen institutions conducting their engineering curricula in part or completely on this plan, fourteen of which were located in large cities with a varied industrial life. Two other institutions, Harvard and Lafayette, had adopted the plan and eventually abandoned it before 1926. At the present time there are approximately 120 institutions offering engineering courses on the basis of the usual four-year course in residence.

In its survey of Rutgers University, the United States Bureau of Education recommended that consideration be given to the cooperative plan of engineering education for possible adoption in the College of Engineering of Rutgers University. This recommendation was discussed at length by the trustee committee on the College of Engineering at its meeting in the spring of 1927, with the result that a faculty committee, of which Professor R. C. H. Heck was chairman, was appointed and it made a study of the cooperative plan during 1927-28. The committee made a careful analysis of the very complete report on this subject published in May, 1927, by the Society for the Promotion of Engineering Education, Bulletin Number 12. The advantages and disadvantages of the cooperative plan and the conditions under which the plan can properly be adopted are very completely and impartially set forth in this report, which makes no definite conclusion but leaves a decision to the particular institution in accordance with its own circumstances.

It is impossible to discuss the S. P. E. E. Bulletin Number 12 or Professor Heck's committee report in detail. In effect the committee came to the conclusion that the disadvantages of the cooperative plan outweigh its advantages for Rutgers University. The committee pointed out that there is no land grant college using this plan, that the present size of the classes is too small to be further sub-divided for alternate shop and classroom exercises without additional financial expense, and that the limited opportunities for industrial cooperation in New Brunswick would require that a large part of the cooperation and industrial experience be obtained in Newark, Jersey City and Trenton, which would require a full-time man for the

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office of coordinator and would remove the students from much of the college life including athletics and probably from participation in military training. The following resolution was adopted by the committee and unanimously approved by the engineering faculty:

"The committee believes that the service of Rutgers to engineering education can better be performed through the regular four-year course in residence."

SHORT COURSES IN ENGINEERING

The practice of offering short courses in engineering was started in February 1926 when a Short Course in Highway Construction lasting three weeks was given to thirty-seven men, who came from the State Highway Department, from municipal and county engineering offices, and from private engineering practice.

This course appeared to be so successful that two additional short courses, making three in all, were given in the year 1926-27.

During the past year 1927-28 these three short courses in engineering were repeated. It had been hoped to increase the number of such short courses but the limitations of room, laboratories and instructing staff makes it inadvisable to attempt more under the present conditions.

The Short Course in Highway Construction was given in February 1928 with an enrollment of twenty-two men, under the direct charge and administration of Professor S. A. Stephenson, Jr., in cooperation with the State Highway Department. Major Wm. Sloan, chief engineer of the department, continued his valuable assistance and cooperation of previous years, assigning sixteen men from the department to attend the course. The course consisted of recitations, laboratory experiments on road materials, an optional course in elementary structural design, lectures by expert engineers from the New Jersey State Highway Department, from New York City and Westchester County, N. Y., from the National Automobile Chamber of Commerce, from the Asphalt Association, and from the Portland Cement Association. In addition there were three all-day inspection trips; one under the auspices of the

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Bureau of Highways, Manhattan, N. Y., the second to the trunk line highway construction leading from the Holland Vehicular Tunnel to Newark, and the third to the new Lehigh Valley R. R. tunnel between West Portal and Pattenburg, N. J. More than half the men enrolled in this course have had a complete or partial college course and all have had a full four years' high school training. Several have taken the course two years in succession. The average age of all the men in the three years has been thirty years, with an average practical experience of eight years.

The second annual Short Course for Sewage Plant Operators was given at the college from January 16 to January 27, 1928, under the joint cooperation of the New Jersey Sewage Works Association, Mr. P. N. Daniels, president, the New Jersey State Department of Health, Mr. Clyde Potts, president, with Mr. H. P. Croft and staff actively assisting, and the College of Engineering.

Inasmuch as some of those who attended the first year wished to attend again and take advanced studies, the course was expanded this year into two sections, such that Course I was elementary, consisting of twelve lectures and recitations and thirteen laboratory exercises, while Course II was advanced, consisting of seven lectures and fourteen laboratory exercises.

Professor H. N. Lendall was in general charge of the administration of these courses and gave the regular lectures. Professor P. A. van der Meulen conducted the laboratory exercises for Course I and Professor Willem Rudolfs was in charge of the laboratory exercises for Course II. In addition there were nine special lectures given by the staff of the State Department of Health, correlated to the other classroom and laboratory work for which acknowledgment should be made to Mr. H. P. Croft and his staff. Inspection trips were made to the Plainfield Disposal Plant and to the Trenton Water Filtration and Sewage Disposal Plants.

Fifteen men were in attendance, seven in Course I and eight in Course II. With one exception all in attendance came from New Jersey. Mr. R. C. Sweeney came from the Ohio State

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Department of Health, partly as an observer as that department wishes to establish similar short courses in Ohio.

Although the number of men attending these courses for sewage plant operators is small and is not likely to be greatly increased, yet I believe the results have been highly successful and gratifying. This is evidenced by newspaper notices and numerous inquiries from individuals and departments of health in other States.

Professor Lendall is professionally well qualified by teaching and engineering contacts to administer these courses and deal with their engineering features. In addition they afford workers in this field an opportunity to get in touch with the well known work of Professor Rudolfs in the chemistry and bacteriology of sewage disposal. Altogether, I believe the experiment of giving these courses has been justified and that they should be continued.

The second annual Short Course for Electrical Metermen was given from April 2 to April 6, 1928, by the College of Engineering in cooperation with the meter committee of the National Electric Light Association and the New Jersey Board of Public Utility Commissioners.

The course was under the immediate supervision and administration of Professor Paul S. Creager, assisted by the other members of the department of electrical engineering and by three men from the Public Service Electric and Gas Companies of the State.

Cooperation on the part of the Public Service Electric and Gas Companies and of the manufacturing interests was so universal that it is impossible to mention all the names of those who aided us. We are, however, particularly indebted to Mr. W. S. Davis, meter and wiring engineer of the Public Service Electric and Gas Company, for his invaluable assistance in planning the course, in procuring special speakers, and in acting as toastmaster at the "Get Acquainted Dinner". Mr. Davis was for many years a member of the national meter committeee of the National Electric Light Association and his assistance and advice were of the greatest possible value.

A total of fifty men took the course, which is a twenty per cent. increase over last year. With our present equipment and

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available instructors this is just about the limit of our capacity, in fact it would be impossible to conduct the course without the loan of valuable apparatus from the General Electric Company of New York, the Westinghouse Electric and Manufacturing Company of New York, and the Weston Electrical Instrument Company of Newark, whose representatives cordially cooperated in every possible way.

The large number of men registering in the course required that it be divided into elementary and advanced sections, which further complicated the problem, as sufficient rooms and instructors were not available.

Two suggestions were offered that the course be divided even further, into elementary, intermediate and advanced sections and that the course be held earlier in the year. Both are impracticable at present, for three sections would require more facilities than are available and it would be impossible to conduct a course for so many men except during a vacation period, when both instructors and rooms are free from the usual requirements of the regular college exercises.

Commendation is due to the departments conducting the various short courses, as the instructors have been subjected to very heavy schedules while such courses were being arranged and carried out and, as has invariably been the case hitherto, in no case this year has any member of the engineering faculty received any extra compensation from the University for his part in conducting such courses.

PROFESSIONAL ENGINEERING CONTACTS OF FACULTY

Practically all of the engineering faculty have enjoyed the advantages of close personal contact with important engineering and industrial projects during the year 1927-1928.

It is unnecessary to say that such contacts are of vital importance to the institution and to the teachers therein, providing they are not allowed to interfere with the regular schedules of teaching. Such contacts often afford a professional experience of greater value than routine engineering positions and keep the teachers in touch with the latest engineering practice, give them a proper perspective of the relation between theory and practice, and add a capacity for teaching

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and for inspiring students that can scarcely be obtained otherwise.

Professor H. N. Lendall has become associated with a prominent New York engineer and has been retained as consulting engineer by the City of Long Branch to make a valuation survey of the Long Branch Sewer Company and to outline plans for disposal plants for the Municipal and Long Branch Sewer Company systems. He has also been retained as consulting engineer and expert in important legal cases in Mercer County involving hydraulic engineering problems.

Professor A. R. Johnson has been employed by the Hughes-Foulkrod Co. of Philadelphia and by the McClintic Marshall Construction Co. as a structural engineer.

Professor S. A. Stephenson, Jr., has made a large number of commercial tests on building materials.

Professor F. E. Mehrhof has been employed by the Japanese Beetle Extermination Laboratory at Riverton, N. J., in designing mechanical apparatus for experimental work.

Professor H. L. Mason spent the summer of 1927 with the Western Electric Company at Kearny, studying their personnel methods in preparation for the new course in industrial engineering.

Mr. C. W. Cunningham has been employed on important bridge and hydraulic problems.

Professor P. S. Creager has spent his summers in the employ of the Public Service Electric and Gas Company of Newark where he has made many valuable contacts which have been of the utmost value in administering the Short Course for Electrical Metermen. He has also been appointed the official representative of Rutgers at the University of Pittsburgh, during July and August, 1928, an enterprise planned and administered by the Society for the Promotion of Engineering Education to improve engineering teaching.

Professor R. C. H. Heck is well known as a writer of important text books.

Dean Rockwell has been retained as a consulting engineer by several of the subsidiary companies of the U. S. Steel Corporation and by the City of Perth Amboy.

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The examinations for licenses to practice professional engineering and land surveying continue to be given under the direction of the dean and with the cooperation of various members of the engineering faculty.

PROPOSED EVENING COURSES

One method of expanding the activities of the engineering college is possible by utilizing its building and faculty for giving short two-year courses in fundamental engineering subjects during the evening. Such courses have been planned by the University Extension Division in cooperation with the faculty of the engineering college which it is expected will be put into operation in the fall of 1928. These courses do not lead to a degree but are likely to prove of great value to young men who have entered upon work in the industries without suitable educational preparation.

FACULTY CHANGES

At the beginning of the new academic year in September, 1927, the faculty of Rutgers University was shocked to hear of the sudden and tragic death of Professor F. F. Thompson, head of the department of electrical engineering. Professor Thompson was a graduate of Princeton University and came to Rutgers College in 1903, serving continuously for twenty-four years. He was a member of Phi Beta Kappa, Sigma Xi, and of the Institute of Electrical Engineers and enjoyed a large acquaintance among the prominent electrical engineers of the country. He was a close student of educational problems and was always helpful in maintaining sound fundamental training for engineering students.

This sudden vacancy in the headship of the electrical engineering department created a difficult situation which could not quickly be solved. It was therefore decided to arrange for a temporary appointment for the year 1027-1928 in order to have sufficient time to canvass the field for a suitable successor.

Professor William H. Freedman was therefore appointed acting professor of electrical engineering for the year 1927-1928. He is a graduate of Columbia University, took graduate

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work there under Professor Pupin, served in Columbia as an instructor, and later became head of the department of applied electricity at Pratt Institute and professor of electrical engineering at the University of Vermont. He stepped into a difficult situation at Rutgers University, filled it with ability and devotion and helped materially in maintaining the departmental work. Professor Fred H. Pumphrey has now been appointed professor of electrical engineering. He is a man of promise with an excellent record in teaching at the University of Iowa and in practical experience, and comes here with very excellent credentials as to personality and ability.

The new curricula, beginning September, 1927, established a new course in industrial engineering, which for the present is to be administered by the department of mechanical engineering. Professor Harold D. Hatfield, dean of the School of Applied Science, Howard University, has been appointed professor of industrial engineering in Rutgers University. With a varied experience in practice, teaching and administration, Professor Hatfield promises to become a valued member of the engineering faculty.

Professor Albert R. Johnson has served the college faithfully and well for twenty years. He has been promoted to become professor of structural design.

Mr. Henry Lea Mason has been promoted to be assistant professor of mechanical engineering.

IMMEDIATE NEEDS FOR THE ENGINEERING COLLEGE

Rutgers University is located on the edge of the most densely populated and most highly developed industrial section of the country. Although there are a large number of institutions of excellent reputation located in this district which offer engineering courses, a recent industrial survey shows that the metropolitan district annually imports a large number of young engineers from institutions in other parts of the country and that the number of engineering graduates from institutions in this district does not supply the demand. Rutgers is admirably located to supply some of the additional graduate engineers needed, and industry is seeking them from Rutgers, as shown by the fact that the annual number of

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requests for graduates coming to the dean's office continues to average from three to four times the number of available senior students. At the risk of repetition it should be emphatically stated that the College of Engineering has practically reached the limit of its capacity for undergraduate and short unit courses. If it is to assume the place its situation and importance naturally entitles it to, plans should be adopted for immediate expansion of its facilities. If this is not possible, provision should be made for the department of mathematics to carry on its work elsewhere, and release the space which it now occupies for a reference library, for office room and an additional drafting room. This increase of space would, however, be only palliative. It would not in any way cure the shortage of space for additional laboratory equipment or help the recently established experiment station which must depend on the present small and inadequate laboratories used for undergraduate and short course instruction.

As a temporary measure it would be of great help if the open space between the present one-story laboratory wings could be roofed over, the end closed in and a cement floor added. This would provide some space for the experiment station and for additional equipment.

It is impossible to expect or to provide adequately for additional students unless some provision is made for increased room, and I earnestly recommend that this imperative need be given serious consideration during the coming year.

Respectfully submitted,

EDWARD H. ROCKWELL,
Dean, College of Engineering.

COLLEGE OF AGRICULTURE

To the President of Rutgers University:

Together with the other departments of the University, the College of Agriculture is at this time being made the subject of inquiry by many individuals and groups of individuals in the State. The organization, the functions, the achievements of the college are being better understood and appraised

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not alone as a part of the educational system of New Jersey, but of the United States as a whole. In view of this it may not be inappropriate to refer once again to this college and University as members of a group of State institutions of learning, institutions committed by their history and attainments to the support of definite educational policies. This reference, it is hoped, will serve to make more clear the reciprocal responsibilities of the college to the State, and of the State to the college.

When the Land Grant colleges and universities came into being the time was nearly ripe for the more intensive exploitation of the natural resources of the country. The rising tide of migration spread over the level plains and swept on toward the Rockies and beyond. More efficient types of agricultural machinery and implements multiplied the furrows and stimulated the mining and the wasting of plant food as the golden stream of wheat, corn and oats flowed into the channels of domestic and foreign trade. There was no thought then of conservation. Wagon roads and railroads reached out into the more remote regions, much of the prairie was made arable, cattle and sheep grew more numerous on the plains, the forest clad hills and valleys were laid bare and the wealth of the nation was used and wasted lavishly and thoughtlessly. The era of exploitation was fairly on. Leaching and erosion wrought havoc in the middle and far west as they had done in the older soils of the Atlantic coast. Extravagant cutting and frequent fires depleted our timber resources, and natural gas, coal and minerals of all sorts met a like fate. And the Land Grant colleges and universities, as the State institutions for the "Benefit of Agriculture and the Mechanic Arts," were expected to help in devising new methods and tools that would speed up the process of exploitation.

The more sober thought of a following generation turned to conservation, later to the repairing of some of the damage done, and later still to the upbuilding of our material resources. In this constructive undertaking our Land Grant institutions have played a conspicuous part. Federal and State legislation defined and amplified their powers, swelled their income and indicated some of the specific tasks that they were

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to do. Their field was to be, not learning for its own sake, but rather learning for utility and as a means toward a better social order. The promotion of agriculture and the mechanic arts was understood to mean the promotion of the interests of the farm, the factory and the market place. But it has meant more. It has embraced in its scope the interests of the farm home and is coming to include the interests also of the city home. With fundamental research as its basis the Land Grant institution is pointing the way toward better soils, better plants, better animals, better tools and better organization of production, processing and merchandising. It is dealing with human, as well as with animal nutrition, with home sanitation, with recreation and with the various factors that affect our economic and social organization.

Since this is the report of the College of Agriculture, rather than of the State University as a whole, the following pages will deal with the organization, activities, plans and needs of the college. An attempt will be made to show how resident teaching, extension teaching and research are being coordinated in keeping with national needs and policies. It will be shown that the recognition of the larger problems need not interfere with the carrying out of educational and research policies of more limited scope and of immediate interest to the people of the State. In this connection it should be pointed out that teaching, whether it be resident or non-resident, must look to research for facts and inspiration. The latter may be ample justification for outlining the research activities of the college as preliminary to a discussion of the status and progress of its resident and extension teaching.

In a recent report on the activities of the Experiment Station the dean of the college called attention to certain conditions and economic trends that are of vital concern to the agricultural industry of New Jersey. The population drift from country to city, the shrinkage in the area of cultivated land, the increased costs of production, the diminished supply of agricultural labor, specialization in production, the wider use of labor saving devices, improved types of plants and animals and their protection against disease organisms and parasites are all indicative of far reaching adjustments in the

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agriculture of the State. Parallel with these changes there has been notable progress in the study of production costs, of grading, standardization, distribution, financing, cooperative buying and selling and of other important economic factors. Obviously, then, we are confronted with changing conditions and practices that of necessity must impose on the college a heavy responsibility in the planning and carrying out of its program of research and instruction. This program will be briefly reviewed in the following paragraphs.

RESEARCH OBJECTIVES

Soils are the foundation of successful farming. For this reason it is essential that inventories be made of our soil resources. The dean is gratified to be able to report that within the fiscal year just ended the soil survey of New Jersey was completed. The work of soil classification and mapping was carried on for a number of years as a cooperative undertaking of the college and station, of the State Department of Conservation and Development and of the United States Department of Agriculture. We now know the extent and distribution of the soil types, their chemical composition and their crop adaptations. The department of soil chemistry and biology is carrying on numerous projects. These have to do with the more intimate chemical nature of the mineral and organic constituents of soils; with the movement of plant food; with the action and effectiveness of commercial fertilizers and with the part played by bacteria and other microorganisms in making available to crops the plant food resources of the soil and atmosphere. Much of this research is fundamental in character and is helping to enrich our body of knowledge on soils, soil fertility and plant physiology. At the same time it is making itself felt in increased yields per acre in New Jersey and elsewhere. A more lengthy statement would be out of place in this report. It may be sufficient to note that soil deficiencies are being corrected, that commercial fertilizers are being used more economically and effectively, and that yields per acre are rising. For instance, the production of potatoes has improved within the past five years to a point where New Jersey is second only to Maine in yield per acre.

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Better plants, like better soils, are another of our major objectives. It is the function of crops to transform simple salts and gases into animal and human food. In this transformation different species and varieties of plants vary widely as to their efficiency. For this reason agricultural research must aim to create by selection and breeding superior types of plants, such as would be more efficient in assimilating plant food, in using solar energy and in resisting the attacks of pathogenic organisms. As is shown by the reports of the Experiment Station, notable progress is being made also in this field. Among the forage crops grown in New Jersey, alfalfa is undoubtedly most important. Accordingly, it is being made the subject of thoroughgoing study. In 1927 more than 1,000 selections of different strains of alfalfa were made by our agronomy department. These included the best of the domestic and foreign varieties, among the latter thirty lots of seed from the alfalfa breeding station at Tashkent in Russian Turkestan. Similar studies are being made of various clovers, hay and pasture grasses, corn, wheat, rye, oats, barley and soybeans. Increases of 20% to 50% in yield are being obtained from most of the selected strains and varieties. Superior types of potatoes and tomatoes, of sweet potatoes, sweet corn, melons, cauliflower, beets and carrots, celery and egg plants are being sought and found. The peach breeding work of the New Jersey station is recognized as the finest of its kind. The new types and varieties developed represent a large economic gain and are bringing justly deserved praise to the horticultural division of our college and station. Here, again, the limitations of space forbid a more lengthy discussion. Let it suffice to say that with berries and grapes, with apples and nectarines, with carnations and dahlias, indeed, with most plants of economic importance in New Jersey, the research is going forward with positive and gratifying results.

Insects, bacteria and fungi exact a heavy toll from our agricultural industry. Plant lice are the most ubiquitous of our insect enemies. They are found on the foliage of most plants and on the roots of many. Coddling moth, curculio, oriental peach moth, peach tree borer and a number of other insects are, together with the plant lice, a source of seriou:

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loss to our fruit growers. Field crops, vegetables, berries and ornamental crops are similarly afflicted. The larvae and adults of beetles, moths, bugs and other insects are in their sum total a terrible scourge and a heavy tax on our national wealth. Hence, in planning our research program adequate provision must be made for the study of economic insects, of plant diseases and of methods for their control. Thus crop protection has come to occupy an important place among the research projects of the college and station.

The outcome of these investigations can receive only brief mention. Among the accomplishments of the past year there should be noted, particularly, the more effective control of coddling moth in the Glassboro area. In a total of about 1500 acres of bearing trees there were produced 50% of clean fruit in 1925. In 1927 this was increased to 82.1%. Lack of space forbids the mention of other investigations and demonstrations having to do with the control of economic insects. Similarly, a fuller discussion must be omitted of the important results obtained in the control of diseases of fruit, sweet potatoes, egg plants, peas, potatoes, and of ornamental plants. Suffice it to say that research and demonstration have been the means of establishing more adequate control of insects, parasites and plant diseases and of increasing to the extent of millions of dollars the income of our farmers, horticulturists and nurserymen.

Better animals, like better plants, must be a part of our agricultural program. A large number of research projects are devoted to this subject. Important investigations on the improvement by breeding of dairy animals, swine and poultry are in progress. Within the past year one of the pure bred Holsteins in the college herd established a new world's record for milk production. Other enviable records have been established both by Holsteins and Jerseys in the college herd. In the State as a whole production standards are rising because of the development of more efficient animals and the elimination of inferior stock. Within the past six years the average production per cow has increased from 4800 lbs. to 5600 lbs. of milk, and the average production per hen from 143 to 173 eggs. What this may mean in actual gross and net income is

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not difficult to comprehend. But for the full understanding of the progress that has been made and is still being made, we must know something about the investigations on the nutrition of animals, the control of diseases and parasites and on the influence of heredity and environment on the quantity and quality of animal products.

Other research projects no less significant than those already described must receive the briefest mention. It would be a truism to say that machines, tools, implements and labor saving devices of all sorts have played a prominent role in making American agriculture what it is today. To the internal combustion engine alone we owe something scarcely short of revolutionary changes in agricultural production. The evolution of tillage and harvesting machinery has been due in greater measure to research in manufacturer's laboratories rather than to that in our colleges and experiment stations. Nevertheless, even in this field, so different from that of the biological sciences, the experiment stations have played a prominent part. At our own station funds have not been available for placing agricultural engineering research on a par with that of other departments. Despite this, studies are being conducted on the construction and efficiency of fertilizer distributing machinery, on the draft of tractor plows and on the duty of cultivating machinery. A survey has been made of sprinkling irrigation as related to vegetable growing in New Jersey.

In the department of dairy husbandry there is research in progress on the irradiation of ice cream as a factor in the control of rickets; on the significance of colloids in the manufacture of ice cream; on the viscolizing of buttermilk; on the minimum milk requirement for raising dairy calves; on the relation of fertilizer treatment to the carrying capacity of pastures and on the effect of temperature and humidity on milk production. In the division of horticulture there are numerous research projects in pomology, vegetable gardening and ornamental horticulture, aside from those already mentioned as dealing with breeding and selection and the control of injurious insects and plant diseases. Mention may be made, in passing, to investigations on the synthesis of plant sub-

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stances in certain vegetable crops; on the pruning of fruit trees; on spray materials, dusts and methods of applying them; on fertilizer requirements of vegetable crops and on the influence of soil, fertilizer and environment factors on the production of cut flowers and of ornamental plants.

The department of poultry husbandry has an extensive research program. Aside from experimental work on breeding and disease control, there are projects dealing with feeding, hatching, brooding and housing. The research in the field of poultry pathology is particularly notable in the results already obtained. There is a well equipped poultry pathology laboratory at New Brunswick and another at Vineland. Cooperation with the Rockefeller Institute is in progress on the etiology of certain diseases of poultry. Egg laying contests in Cumberland and Bergen counties are making available a mass of information of both scientific and practical value. Indeed, our poultry research program has brought much wealth to New Jersey, as well as to other states. More detailed information concerning this research and likewise concerning that in other departments will be found in the annual reports of the Experiment Station.

In the field of human nutrition we are beginning to secure interesting and valuable contributions from our department of agricultural biochemistry. The newer knowledge of vitamines, of organic and inorganic food constituents and of ultra violet rays is being utilized for further inquiry into the mechanism of nutrition and tissue building. There is reason to look forward to important scientific findings particularly since the research program of the department affects a field of science wide enough to interest our urban, as well as our rural population. A similar comment may be made about the research program of our department of water supplies and sewage research. Though of recent origin, the work of this department has already attracted the attention of scientists and economists in the United States and in foreign countries. There is a growing interest in stream pollution with domestic and trade wastes. As the density of our population increases, as we concentrate our industrial activities in certain localities, our physicians, sanitarians, engineers and economists are con-

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fronted by problems of increasing complexity. They know that without pure drinking water, effective sanitation and a low death rate are well nigh impossible to attain. Hence, our research activities on the biology of sewage disposal and on the treatment of trade wastes are being followed with much interest. The results already obtained by us are of very significant sanitary and economic importance.

No less important from the economic point of view are our investigations and other activities on the control of mosquito breeding. Indeed, the contributions of our entomology department in this field are of world wide interest. The methods employed in this control include the construction of tide gates and dikes, the digging of ditches, the use of larvicides and drainage by pumping where gravity flow cannot be depended upon. New machinery for the digging and cleaning of ditches has been devised. A study has been made of larvicides and of the conditions that influence their effectiveness. The life histories of different species of salt marsh and fresh water mosquitoes have been investigated, as have also the environmental conditions that affect the breeding and spread of the insects. County mosquito commissions have been organized and affiliated into a State Mosquito Extermination Association. To the Experiment Station belongs a large share of the credit for the initiation of mosquito control activities and for the results attained. It is difficult to appraise in terms of money the vast economic gains to the State which have developed as urban and suburban territory, formerly plagued by mosquitoes, was practically cleared of the pest.

Aside from research and other activities related to mosquito control, stream pollution, sewage disposal and human nutrition, all of these matters of general rather than of strictly agricultural interest; the college and station have inquired also into problems of a distinctly economic character. The department of agricultural economics has been investigating the marketing and distribution of a number of important agricultural commodities. Production costs, farm organization, farm management and farm taxation were also made the subject of studies that should directly interest the urban as well as the rural population of the State. All told, we have

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good reason for assuming that the investigations now in progress will help to bring about more efficient and more economical production, better marketing methods and a better regulated flow of agricultural products to the points of consumption.

EXTENSION TEACHING

Brief and incomplete as has been the review of the investigational activities of the college and station it should help in showing the essential nature of research as a basis for resident and extension teaching. In the case of the latter, particularly, research is made the foundation on which farm progress must rest sooner or later. This relation has been clearly recognized in Federal and State legislation and in the organization of agricultural extension teaching on a nation-wide scale. Intimate contacts exist in New Jersey as elsewhere between the college and station and the county boards of agriculture. Extension specialists, county agents, home demonstration agents and club agents are a part of the educational machinery of extension teaching. There is a growing demand for service from individuals and from farm organizations. Instruction is being given by means of field demonstrations, addresses at farmers' meetings, educational exhibits, bulletins, circulars and personal letters. Local leaders are being developed for the spreading of new ideas and practices. That this service is meeting with keen appreciation is manifested by the generous financial support which it is receiving. The State Legislature and the nineteen counties in which farm bureaus have been established increased their appropriations for the year just ended to the extent of $15,770. The last Congress of the United States increased the appropriation for cooperative extension work and the funds are to become available in the forthcoming fiscal year. As a result of the increase in Federal funds to the extent of $20,000 per annum, the home demonstration and the boys' and girls' club activities will be substantially strengthened.

A cooperative arrangement has been entered into with the Monmouth County Organization for Social Service. Because of this arrangement a specialist in parental education

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will be added to our staff. For the time being financial support for the project is being received from the Laura Spelman Rockefeller Foundation. The proposed educational service should help parents to solve some of their problems of child rearing. It is gratifying to note, further, the constantly growing cooperation between farmers' organizations and the members of the agricultural extension staff. The cooperative relations with all organizations and institutions representing agriculture are being more effectively articulated from year to year and the friendly relationships strengthened. The increased demand for service and the larger number of people reached involve the holding of thousands of meetings and the conducting of a large number of demonstrations in all types of agriculture and home making. It becomes necessary, under the circumstances, to call on the members of the resident teaching and research staffs for help in carrying on the work in the field. Such help is being given cheerfully and effectively. The administration of our extension service is keenly appreciative of the help thus received and of the added strength gained thereby in the carrying out of the non-resident teaching program. There are still certain gaps to be filled in the extension organization. In agricultural engineering, in agricultural economics and in floriculture there is a demand for service that cannot be met with the present personnel. It is hoped that provision will be made in the near future for strengthening the organization and activities in these fields.

RESIDENT TEACHING

Four Year Courses

There is apparently an upward trend in enrollment in the four year courses. There were registered, in the fall of 1927, a total of ninety-six undergraduates. This represents an increase of 17% over the enrollment of the preceding year. There were registered, in addition, thirty-two graduate students. They came from seventeen States and three foreign countries. Fifty-five freshmen were enrolled this year, the largest class in the history of the college. The freshman group includes a larger proportion of men of high ability and excel-

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lent promise than have most of the entering classes in recent years.

Courses of Study

During the year the committee on courses of study in the college presented its report on revision of the courses of study. In preparing its report, the committee devoted much time to the study of general trends in agricultural college training and to securing from leaders in agricultural education criticisms and suggestions concerning the several recommendations that the committee had in mind. In the main, the report comprised the following recommendations: the continuance of the group elective system beginning in the junior year, with the exception of floriculture and landscape gardening which differentiate slightly in the sophomore year; reduction of the total credit hours for graduation from 152 to a minimum of 140; retention of the schedule of academic subjects in force for the past nine years; decrease in the number of required hours in applied agriculture and the substitution, in part, of courses in sciences like plant physiology, biochemistry, etc.; introduction of a group elective for students whose major objective is preparation for research. The report with its accompanying curriculum was adopted by the faculties of the college and of the University. The revised curriculum has been outlined in the University catalog.

Reference should be made here to the increasing demand from students for a type of training that will fit them for service in business enterprises in one way or another associated with agriculture. The facilities for such training are already available. Hence a course of study for the junior and senior years, with economics as a major and psychology and agriculture as suggested minors, could be instituted with practically no additional expense. It is believed that such a course would attract students within the University, as well as others who now go to other institutions.

Group Electives

The students in the four year courses were divided on May 15 into the following groups:

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	Freshman and Special	*Sophomores*	*Juniors*	*Seniors*	*Total*
General Agriculture	....	1	1	....	2
Dairy Farming	....	4	1	4	9
Dairy Manufactures	....	1	2	....	3
Poultry	....	5	....	4	9
Economic Entomology	....	1	....	....	1
Preparation for Research	....	2	1	2	5
Landscape Gardening	....	1	4	....	5
Floriculture	....	1	1	2	4
Fruit Growing	....	....	1	1	2
Vegetable Gardening	....	....	....	....	....
	*56	16	11	13	96

*Freshmen do not have elective option.

The table indicates plainly the smallness of the various groups. However, the situation is not as bad as it may seem, for in several cases alternation of courses to combine junior and senior groups, and likewise assignment of problems, leave members of the faculty free for other activities without lessening the effectiveness of their teaching.

Student Life

Despite the fact that the students of the college live in dormitories and fraternity houses with students enrolled in other colleges and that much of their time is spent away from the campus of the College of Agriculture they have maintained a good esprit-de-corps. Alpha Zeta, the honorary agricultural fraternity, has had a good year and the Agricultural Club has functioned fairly well. Consideration is now being given to plans for the better organization of the social activities of the graduate, as well as of the undergraduate students in the college.

Herbert Scholarships

The ten Herbert Scholarships, established by the late Richard W. Herbert, were made available for the first time in September, 1927. Each of these provides an annual income of $100.00. In accordance with the instructions received from the managing committee of the College of Agriculture, two scholarships were assigned to each of the four classes. The

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two remaining may be awarded to members of any of the classes. The scholarships are a boon to needy but deserving students who will gratefully remember their founder.

Short Courses

The several Short Courses in Agriculture enrolled during the year a total of 371 persons. In the twelve weeks courses the enrollment and origin of the students were as follows:

ENROLLMENT IN TWELVE WEEKS COURSES

General Agriculture	5
Dairy Farming	8
Dairy Manufactures	5
Fruit Growing	11
Vegetable Gardening	10
Poultry Husbandry	26
	65

SOURCE OF ENROLLMENT

New Jersey (16 counties)	61
New York	3
Pennsylvania	1
	65

The above shows a slight decrease in enrollment. It is probable that this decrease is due to two factors; greater specialization in farming, and the lessened interest in agriculture on the part of young people in our towns and cities. The first of these factors will account for the shrinkage in the number of students in the general course. The second will indicate that the post-war back-to-the-land movement has run its course and that we may be at the beginning of another cycle.

In some respects the record of the students in the twelve weeks courses was not as good as that of last year. On the other hand, the twenty-six students in the poultry course made an exceptionally fine showing. They incubated 2,500 eggs costing $300.00 and secured, in December, a hatch average over 75% of fertile eggs. They brooded the chicks to broiler age and from the proceeds of the sales of broilers returned nearly $60.00 more than the eggs cost, aside from leaving several hundred pullets as an offset to feed costs. In addition to this they built a suburban unit laying house that is a credit

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to them and to their instructors. Both the incubation and construction work was merely the practical application of instruction received in the classroom and laboratory.

The Shorter Courses

The following one and two weeks courses were given within the academic year:

SHORTER COURSES

Poultry Inspectors	1 week	9
Dairy Products Control	2 weeks	3
Milk Testing	1 week	8
Seed Testing	1 week	13
Tractor Operating	1 week	8
Flower and Vegetable Gardening	1 week	43
		84

The course in dairy products control will not be given next year. The course for poultry inspectors was given as a part of the poultry accreditation work, in cooperation with the State Department of Agriculture. It will not be given again for several years to come.

Community Short Courses

Three community short courses were held. Their enrollments were as follows:

Poultry Management—Toms River	32
Poultry Husbandry—Caldwell	20
Flower Gardening—Paterson	170
	222

These schools came in response to local demand. They fully justified the time and effort given to them and are indicative of the possibilities that lie in this field. Pending the adoption of a more definite policy and the securing of more adequate financial support we should refrain from giving much publicity to the results secured with the community schools. When the time comes, enthusiastic cooperation will not be wanting on the part of the State Grange and of other farm organizations.

Association Meetings and Conferences

The facilities of the college are used, each year, for numerous meetings and conferences. The Grange, various

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State agricultural societies, country boards of agriculture and committees representing different groups of farmers are in the habit of meeting at the College Farm. The annual Field Day of the college and station attracts thousands of visitors. The occasion is not merely one of recreation, but also of utilizing the educational advantages of the institution. Reports from the college and station departments show that the volume of inquiries has grown to the point where it is no small task to meet them. During the past three years attention has been directed to securing permanent equipment for the field day programs. Last year booths and permanent signs were constructed. This year a public address system for amplifying speeches and music have been added. With this equipment the expense of future field days will be greatly reduced and the work of preparation considerably decreased.

The subject of meetings and conferences should not be dismissed without reference to the annual meeting at the college of the State Veterinary Medical Association. The program of the meeting, held late in January, laid special stress on problems related to hog cholera and to contagious abortion in cattle. Men of national reputation were called in to discuss, before the eighty veterinarians in attendance, the different points of view concerning these diseases and their control. Similar mention may be made of the annual meetings at the college of the State Feed Dealers Association and of the addresses and discussions intended to promote the interests of manufacturers, dealers and purchasers of commercial feeding stuffs. Through these and other conferences the college is maintaining contacts with men who influence in no inconsiderable way the progress of agriculture in New Jersey.

Finally, brief reference should be made to radio broadcasting as one of the educational activities of the college and station. At the present time radio broadcasting by members of the staff is quite limited in scope. There is weekly broadcasting for a period of fifteen minutes, over WPG at Atlantic City. A like arrangement exists with WODA at Paterson. Papers prepared by members of the staff are sent to the county agents in Atlantic and Passaic counties, who read them before the microphone. This is not entirely satisfactory. The

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contact is too short, the time is often not suitable, the paper lose some of their effectiveness in that the writers who are often well known in the State do not present their own material. There is not sufficient opportunity to check up responses, there is no chance to broadcast material such as music and, finally, the people of the State are not learning through the radio about the extent of the educational resources of the institution. The matter is one of direct concern to the entire University. In its several colleges there is a wealth of information that might be utilized for radio broadcasting. It seems proper to suggest, therefore, that consideration be given to the possible organizing of a University radio broadcasting program.

PUBLICATIONS

A brief review of its activities, submitted by the department of publications of the college and station, reveals the wide scope of its service. Among these activities special mention may be made of the following:

1. The conducting and directing of all newspaper publicity from the College of Agriculture, Experiment Station, and extension service.
2. The editing of all bulletins, circulars, and miscellaneous publications pertaining to agriculture.
3. The editing of *New Jersey Agriculture.*
4. The editing of *Soil Science.*
5. The directing of the agricultural radio service and editing of talks to be broadcasted.
6. The supervising of the publication of scientific Journal Series papers.
7. The managing of advertising for Field Day and other important affairs of the agricultural institutions.
8. The writing of special articles requested by various periodicals in the United States.
9. The printing of letterheads, forms, and similar matters used by the college.
10. The distributing of bulletins, circulars, and other printed material to residents of New Jersey.
11. The furnishing, on request, of illustrative materials

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and informational matter to special writers, editors, and others.

12. The supervising of the New Jersey county extension newspaper service.

During the year 208 different stories were sent to 229 different newspapers in New Jersey and to more than a score of papers published outside the State. This material was also sent to county agricultural agents, through whom contacts are maintained by weekly contributions to seventy-six papers, to home demonstration agents who have contacts with forty papers, and to club agents who have contacts with twenty papers. The total weekly circulation of these papers amounts to more than 350,000.

A total of seventy-six different publications ranging from 4 to 350 pages were edited by the department during the year. The aggregate number of pages printed amounted to 9,500,000. Attempts were made to increase still further the service to the urban population, and notable success was achieved, especially with a bulletin on birds, 7,000 copies of which were distributed shortly after printing was completed. To poultrymen of the State, 144,000 copies of *Hints to Poultrymen* were distributed.

New Jersey Agriculture, the only agricultural magazine published in the State, increased its circulation from 15,500 at the beginning of the year to 18,000 at the end. The informational articles contributed by the college faculty have been well received both in and outside the State, frequent requests coming from various prominent journals for permission to reprint the material.

The twenty-fifth volume of *Soil Science* was completed at the end of the fiscal year, 1927-28. Contributors during the year included many of the foremost soil scientists of the world. In all, 1,000 pages were edited for this journal by the department. A special number including a record of the First International Congress of Soil Science held at Washington in June, 1927, was published. During the year contributions were received from scientists in twenty-seven States and twelve foreign countries, making the magazine preeminently the leader in its field.

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Papers contributed by members of the college and station staffs to scientific journals are reprinted and included in the Journal Series. The managing and recording of this service are in charge of the department of publications.

The department maintains a mailing list of 18,000 names, to which bulletins and other printed matter are distributed upon publication. In addition to this the department received thousands of requests for different copies of our publications during the year. The demand for our bulletins on flowers was particularly heavy, indicating that our newspaper articles regarding our bulletins are reaching an increasingly large number of persons living in cities and towns.

Among the magazines that requested illustrative material from the department during the year were: *The Farm Journal, Better Crops, Jewish Farmer, American Agriculturist, Agricultural Leaders' Digest, Farm Economy,* (printed in New Zealand). In addition, photographic material was furnished to R. L. West, Assistant Commissioner of Education in New Jersey, for his Geography Supplement to be used in the State, and to numerous agricultural agents in this and other States for use in their local publications.

All of New Jersey's nineteen county agricultural agents have continued to conduct regular columns in their weekly and daily newspapers, as have also most of the home demonstration agents and club agents. Through an addition to the department staff to be made about July 1, 1928, a new impetus will be given to these and other newspaper contacts in the State.

LAND AND BUILDINGS

The land operated by the College of Agriculture is popularly known as the College Farm. It comprises 700 acres owned in part by the State of New Jersey, the Trustees of Rutgers College, James Neilson, and the Charter Realty Company. It is used in part for a campus, for experimental plots, and for the production of forage, pasture and other feed for the College Farm animals. The areas devoted to the several uses are as follows:

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Horticultural Experiments and Instruction	100.00	acres
Poultry Experiments and Instruction	26.00	"
Animal Husbandry Experiments and Instruction	22.00	"
Agronomy Experiments	12.00	"
Soil Fertility Experiments	9.50	"
Plant Pathology Experiments	1.00	"
Crops for Dairy and Horses	190.00	"
Pasture for Dairy	63.00	"
Woodlots and Waste Land	230.00	"
Campus, Buildings, Roads, etc.	47.35	"
Total	700.85	"

Some of the areas which have been recently acquired had been badly neglected. The improvement program started in 1926-1927 was continued in 1927-1928. Many dead trees were removed from the woodlots. Hedge-rows and several abandoned orchards were removed and several buildings demolished on the Gebhardt Farm No. 1 thereby adding eight acres to the tillable land of the farm.

A new chain link fence (Anchor brand) was constructed around the Poultry Farm. A portion of Elkin's Lane which passes through one of the woodlots and which was impassable in wet weather was rebuilt with a stone foundation. A driveway was removed and considerable grading done at the Cook Farm House which added one acre to the cultivated land and greatly improved the appearance of the farmstead.

On the campus the work of seeding the lawns continued steadily. In the summer of 1927 approximately three acres of the central section of the campus and one acre east of the Dairy and Animal Husbandry Building were graded and seeded to lawn. Two acres of the central section were graded and seeded in the spring of 1928. The bank on the south side of the Main Drive was graded in the spring of 1928 but could not be completed in time for spring seeding. Planting on the campus consisted of groups of evergreens about the Poultry Building and a collection of different species of spruces on the central part of the campus. In addition to these, plantings were made about the Dairy Farm House and the Cook Farm House. A cinder walk was laid from the plant physiology laboratory to the agricultural engineering laboratory. A

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drive was constructed around the agricultural engineering laboratory. The macadam sections of the Main Drive and West Drive were resurfaced with oil and crushed stone.

The agricultural engineering office was moved to a new location beside the laboratory of that department in the summer of 1927, and in 1928 an addition was built on to provide for the needs of this growing department. A five car garage was built on the rear of this building.

A painting program which provided for painting many of the wooden structures added greatly to the appearance of the College Farm. The buildings painted include the Morrissey Farm House, Gebhardt No. 1 house and barns, Cook Farm House, plant physiology laboratory, Agronomy Field House, agricultural engineering office and laboratory. Minor roofing repairs were made on the Agronomy Field House, Extension Building, and Director's House, and a new asphalt roof was laid on the brick portion of the plant physiology laboratory. The Gebhardt Farm House No. 2 was remodeled into a two-family house, an additional bathroom was installed, and a steam heating plant constructed for the entire building.

As the old wells on the Cook Farm had become contaminated it was necessary to dig a new well. A Gould's automatic pumping system was installed in the house at the same time. An additional bath room was installed in the old dairy farm house. Two windows were cut in the Wolpert Farm House, and the bathroom walled off. Many minor repairs were made, among which were the following: new ceilings were put in the Director's House and the old dairy farm house; the electric wiring was overhauled and a new kitchen range installed in the Cook Farm House; the water system on the Wolpert Farm was overhauled; portions of the interior of the Wolpert, Gebhardt No. 2, old Dairy and Director's House were redecorated. All told, the physical plant of the college and station has been maintained and substantially improved.

Respectfully submitted,

JACOB G. LIPMAN,

Dean.

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SCHOOL OF EDUCATION

To the President of Rutgers University:

The School of Education offers resident instruction for the preparation of classroom teachers in secondary schools and for school administrators. It provides a program of professional training for teachers in service, field service which deals with vocational guidance, and the training of teachers of agriculture employed in New Jersey high schools and vocational schools. The Summer Session offers three types of instruction: first, courses to satisfy requirements for teachers' certificates; second, college credit courses primarily for teachers who are in service and who are spending their summers pursuing work toward a college degree; and third, graduate instruction in education.

The following is a report of the School of Education covering its activities for the period of July 1, 1927, to June 30, 1928.

THE SUMMER SESSION

The Summer Session of 1927 was administered by Dr. Charles H. Elliott, who was dean of the School of Education until September 1, 1927.

The program was prepared primarily for teachers in service, but also offered opportunities for undergraduate university students. It also met the needs of graduate students and special groups interested in music, art, manual arts and public health. There were enrolled a total of 1345 students; 465 men and 880 women. The following analysis indicates the services of the Summer Session rendered in the various classes:

ANALYSIS OF ENROLLMENT—1927 SUMMER SESSION

	Men	*Women*
Candidates for Limited Elementary Certificate—		
First Year Students	3	38
Other L. E. C. Students	3	150
Candidates for Permanent Elementary Certificate	6	106
Candidates for Secondary Certificate	31	36
Candidates for Supervisor's Certificate	5	7
Candidates for Special Certificates—		
Drawing and Art	....	32
Manual Arts	60	1

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	Men	*Women*
Printing	12	....
Physical Education	3	6
Music	3	35
Public Health	18	6
Sub-Normals	1	9
Penmanship	....	2
Candidates for Graduate Credit—		
Rutgers	5	6
Other Colleges	10	10
Candidates for College Credit—		
Rutgers University	139	126
Other Colleges	99	211
B. S. in Education	8	27
Candidates for Entrance Credit—		
Rutgers University	18	5
Other Colleges	21	8
Enrolled for No Credit	20	59
	464	879

Withdrawals, 21.

A careful study of the figures shows that approximately fifty per cent of the students registered in the various courses were taking work for college credit.

The faculty was composed of fifty-seven men and thirty-two women. Twenty-three were members of the regular staff of Rutgers University while the remainder were recruited from faculties of other colleges and universities, from the State Department of Public Instruction and from public school systems. One hundred eighty courses were offered in twenty-eight departments.

The Summer Session maintained a Demonstration School which was attended by 247 children. In this school, work of elementary and junior high school grades was presented by especially well prepared, successful teachers. The school was used freely by the students in the courses in education to observe the newer methods of teaching. It also served as a laboratory for the students enrolled in the courses in educational measurements.

The following table shows the distribution of the Summer Session enrollment by counties for last summer. It indicates

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that the Summer Session is rendering a service that is Statewide.

County	*Enrollment*
Atlantic	15
Bergen	72
Burlington	19
Camden	17
Cape May	3
Cumberland	21
Essex	143
Gloucester	5
Hudson	80
Hunterdon	50
Mercer	84
Middlesex	337
Monmouth	87
Morris	41
Ocean	16
Passaic	43
Salem	4
Somerset	82
Sussex	7
Union	149
Warren	20
Total	1295
Out of the State	50
Total	1345

The Summer Session is becoming more and more an extended part of the work of the academic year. The standards of scholarship are high and the earnestness of purpose of most of the students is marked. The Summer Session comprises all colleges and all departments and seeks to make its curricula broad and comprehensive. Close cooperation is maintained with the State Department of Education in order to meet the needs of those teachers who seek courses required for State certificates. To meet the demands of the State Department for certification purposes, special courses have been organized in the fields of art, music, physical education, public health and manual arts. Courses designed for the training of teachers of atypical children and for school supervisors have also been organized.

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Many of the teachers of the State have already satisfied requirements for certificates and are now looking forward to continuing work in their major fields with the idea of securing a B.S. degree in education.

It is our recommendation that provision be made to offer a general curriculum for teachers in service that will enable many of them to complete their work for a B.S. degree in education, majoring in art, music, physical education, manual arts, or in any other of the special subject fields.

The Summer Session again cooperated with the New Jersey State Department of Public Health by offering courses for the training of public health officers. The work of this department showed a material improvement over that of the previous summer both in the number of students enrolled and in the quality of the work done.

The total enrollment of the Summer Session has maintained a steady growth during the past five years as is shown by the following table:

Year	*Enrollment*	*Increase*
1923	839	
1924	754	—85
1925	991	237
1926	1148	157
1927	1345	197

These figures used as a basis for predicting the probable growth of the Summer Session show that the registration should be approximately 1,800 by the summer of 1930.

The annual Schoolmen's Conference was held on July 22 and was well attended by teachers, supervising principals and superintendents of the State. This conference was planned and conducted in cooperation with the State Department of Public Instruction. The purpose of the conference was to discuss State education policies and to hear reports on present practices. It also afforded an opportunity for the schoolmen of the State who were seeking teachers to call at our office and personally interview prospective candidates who were pursuing courses with us during the Summer Session.

The first Convocation in connection with the work of the Summer Session was held on August 4, 1927, at which time the

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following degrees and certificates were granted: Litt.B.; A.B.; B.S.; B.S. in Education; Public Health Certificate, and Public School Art Certificate.

RESIDENT INSTRUCTION

Resident instruction for the past year may be classified under three headings as follows:

I. INSTRUCTION FOR MEN WHO WERE PREPARING TO BE TEACHERS IN SECONDARY SCHOOLS AND WHO PURSUED ONE OF THE REGULAR CURRICULA IN EDUCATION FOR THE PURPOSE OF QUALIFYING FOR THE STATE SECONDARY CERTIFICATE.

In former years a student who desired to become a teacher was permitted to elect a major in the subject he intended to teach, take only three courses in education and thus meet the requirements for the Limited Secondary Certificate upon graduation from college. During the past year, however, more students have enrolled in the School of Education with education as a major. Most of the men receiving degrees in 1928 had completed eighteen or more hours of education, thereby qualifying to receive the Permanent Secondary Certificate as soon as they have satisfied the three years of teaching experience.

II. INSTRUCTION IN EDUCATION FOR MEN WHO WERE PREPARING TO TEACH AGRICULTURE.

Undergraduate Instruction: Work in agricultural education for undergraduates was continued as heretofore with three-hour courses each term for both juniors and seniors from the College of Agriculture. The junior course is designed to fit the students for leadership in the various fields open to graduates of the agricultural college and includes instruction in general educational principles and educational psychology. The senior course deals more specifically with the work of the teacher of vocational agriculture and includes such topics as the development of high school agricultural curricula, the making of courses of study, the farm survey, supervised practical work for high school pupils, reference material, and cooperative relationships among rural community workers.

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The New Brunswick High School agriculture department was used for observation and practice teaching. Observation was given during the junior year and practice teaching during the senior year. The senior students assumed the responsibility, under the supervision of an assistant in agricultural education on the university staff, for the training of the high school boys for the several livestock and crop judging teams that entered the State-wide interscholastic judging contest. It is interesting to note in this connection that one of these teams won the State championship this year. Another feature was the preparation, by the senior trainees, of a group of the New Brunswick high school boys for the State milk tester's examination with the result that all the boys passed both the written examination and the practice test and are now eligible as State milk testers.

Graduate Instruction: The work with graduates included both resident and extension groups. The resident group was given a six-point course in statistics. This group consisted of certain employed teachers of the State, who are registered at the University for graduate instruction.

The extension group was given a one-point course as a seminar in agricultural education, and a two-point course in advanced educational psychology. These courses were given at various centers in the State. Those receiving this instruction are employed teachers of agriculture. Forty-five different meetings were held, varying in length from three to six hours.

III. Instruction for Men and Women Who Were Teachers in Service.

Courses were offered on the campus on late afternoons during the week and on Saturdays. As an experiment, arrangements were made in connection with the Saturday work so that a teacher might enroll for two courses in the forenoon, remain for lunch and pursue a third course in the afternoon. During the first semester a group of twenty-two teachers elected to remain for the afternoon work and during the second semester nearly sixty teachers were enrolled. Because of the success of this experiment Saturday classes will be similarly organized during the coming year.

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A year ago there were fewer than one hundred students who had matriculated for the B.S. degree in education. Today there are 313 students who have submitted their credentials desiring to matriculate with us for resident instruction. Practically all of these have completed some of their work toward the degree.

At the regular Commencement of the University three students received the B.S. degree in education and two students received the master of science degree, having completed their work under the direction of the School of Education. All five of these students satisfied the requirements for their degrees in the Summer Session, in extension work, and in resident courses in the late afternoons or on Saturdays. Considering the number of students who have matriculated with us in the past year, the number of graduates should increase materially in the next few years. The following table shows the number of classes, the number of students and the course enrollment for our resident instruction:

Number of Classes	*Ind. Enrollments*	*Course Enrollments*
33	397	662

Vocational guidance service was continued along the same lines as during the previous year. The demand for the bulletin, "Information for Prospective College Students," was so great that it was necessary to have a reprint, and many of the high schools requested copies not only for their seniors but for their entire student body.

Approximately the same number of teachers enrolled in resident and extension courses in guidance as during the preceding year. It was not possible for us to spend as much time visiting public schools and talking to the high school seniors as was done during the preceding year. However, a larger number of organizations such as the Kiwanis Club, the Y. M. C. A., the Y. W. C. A., the Rotary Club, and the Parent Teachers Association have asked for information regarding vocational guidance. We have had an opportunity to present the general principles of guidance to these organizations at their various meetings, and in most instances the meetings have been well attended and the programs well received. The following table

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will give an idea of the extent of the vocational guidance activities during the past year:

Number of bulletins distributed to high school students	4200
Number of high school students present at guidance discussions	4800
Number of persons present at Parent Teachers Association and Teachers meetings	500
Number present at civic club meetings	400

TEACHER TRAINING EXTENSION SERVICE

The teacher training extension of Rutgers University was originally developed for the purpose of meeting State certificate requirements. Courses were offered for this purpose at the University for the first time in 1913. Since that time the work has grown and developed gradually until now it constitutes an important phase of the work of the School of Education. During the year 1927-1928 the School of Education followed the same general plan of offering courses as it followed in 1926-1927.

The courses fall into three general groups: First, courses in education; second, courses in other college subjects; and third, courses for the training of industrial arts teachers and continuation school teachers. The following table shows the number of extension classes, the number of course enrollments, and also the number of extension centers:

Center	*No. of Classes*	*No. of Course Enrollments*
Atlantic City	1	29
Caldwell	1	17
Cranford	2	57
East Orange	2	47
Elizabeth	1	28
Glassboro	1	24
Jersey City	7	165
Kearny	1	30
Hackensack	1	70
Long Branch	1	20
Matawan	2	29
Metuchen	1	23
Milltown	1	21
Montclair	1	27
Morristown	1	18

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Center	*No. of Classes*	*No. of Course Enrollments*
Mount Holly	1	30
Neptune	1	23
New Market	1	19
Newark	6	153
New Brunswick	33	662
New York	1	20
Ocean City	1	22
Paterson	1	46
Penns Grove	2	40
Perth Amboy	5	156
Red Bank	1	44
South River	2	31
South Jersey	1	26
Trenton	3	83
Union County	1	23
West Hoboken	1	22
Wilmington	1	18
Vineland	1	20

Total, 33 centers; 87 classes; 2,043 enrollments.

There has been a marked increase in the interest in extension work during the past year. In order to meet the increasing demand for extension service we recommend that as a general policy the School of Education should add at least one additional staff member each year for the next five years. In so far as possible we are using the regular faculty of Rutgers University for our extension work. We are also using the members of the Summer Session faculty who are teaching near enough to the different extension centers so that they can offer instruction in extension classes on late afternoons or Saturdays. This arrangement is necessary to protect the students' interests since many institutions will not accept extension credit unless the instructor is a member of the faculty of the institution under whose direction the work is done. For this reason it will be necessary to add to the present education staff if the work of extension increases as rapidly in the next five years as it has in the past year.

STATE HIGH SCHOOL CONFERENCE

The annual State High School Conference was held on May 4 and 5. This Conference is a cooperative undertaking on

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the part of the various high school teachers associations, the State Department of Public Instruction and the University. The general theme of this year's program was selected with the idea of bringing about a closer cooperation between the junior and senior high schools. Among the speakers on the different programs of the Conference were the following: Dr. Bancroft Beatley, Harvard University; Dr. T. H. Briggs, Columbia University; Dr. Frank D. Boynton, Superintendent of Schools, Ithaca, New York; Dr. Charles H. Elliott, Commissioner of Education for New Jersey; Dr. George F. Zook, President of the University of Akron, Akron, Ohio; Madame Ruth Muzzy Conniston, Middlebury College; Hon. Payson Smith, State Commissioner of Education, Massachusetts; Dr. George Strayer, Columbia University, and others of prominence.

The Conference afforded an excellent opportunity for developing a closer cooperation between the University and the public schools of the State. One of the important features in connection with the Conference was the holding of the first annual music contest of the State. This was held in New Brunswick at the same time with the Schoolmen's Conference. The University cooperated in every way possible to make this contest a success. Over sixty members of high school orchestras were guests of the University on Friday night.

Approximately 1,600 persons attended this Conference; among this number 1,350 were delegates from various schools.

I wish to take this occasion to express my appreciation to all members of the staff for their earnest effort and loyal cooperation during the past year. I also wish to express my appreciation to the president for the confidence and support that he has extended me in all respects.

Respectfully submitted,

C. E. PARTCH,
Dean of the School of Education.
Director of the Summer Session.

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NEW JERSEY COLLEGE FOR WOMEN

To the President of Rutgers University:

I submit herewith the annual report on the progress and condition of the New Jersey College for Women for the academic year ending June 30, 1928, the tenth since the establishment of the college.

In conformity with the policy of the board of managers for the past several years, the spring and summer of 1927 were spent in making additions and alterations to the physical plant in order properly to care for the increased student body of the coming year—for 1927-1928 estimated to be in the neighborhood of 1,000 students. Twelve additional houses were erected on Gibbons Campus similar to those already built, making a total for that campus of twenty-two houses with a student accommodation of 400 and apartments for the dean of women and three of her assistants. A recreation hall or club house known as the Cabin was built for the students of Gibbons Campus similar to the Lodge on Douglass Campus. All the buildings were completed and furnished for the opening of the fall term, the grounds were improved by the addition of a hockey field, a wood tennis court, and the planting of shrubbery about the houses. The increased student accommodation on Gibbons Campus made possible the conversion of Lorneil Hall into a much needed Faculty House.

Fortunately, it was unnecessary to build an addition to Cooper Hall as in the year previous. With a few changes, a dining room for the employees on the second floor, enlargement of the bake shop, installation of an additional cold storage box and purchase of certain equipment, the space available was large enough to permit the seating of 1,000 persons at one time. By careful planning in the lay-out of the kitchen, convenient and expeditious service was possible to all the adjoining dining rooms. Cooper Hall is a frame building far from handsome in appearance. Its fire risk is great. The cost of the various additions and alterations made necessary each year by an ever-increasing student body already totals a very considerable sum. The building has served an urgent need but, at best, it is a temporary structure. In the not distant future

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provision must be made for the erection of a permanent Commons, of fireproof construction and of dignified appearance in keeping with the other buildings of the campus.

Botany Building, the third of the academic buildings made possible by State appropriation, which had been in course of construction during the year, was completed and furnished during the summer in readiness for classes in September. The completion of this building made possible the transference to it of classes held previously in College Hall and the use of the latter building almost exclusively for administrative purposes. Classrooms A and B, affectionately remembered by students of pioneer days as the center of the social as well as the academic life of the college, were converted into offices for the director of admissions and the registrar. On the second floor two additional classrooms became offices for the dean of women and her secretary.

A large room in the basement of Science Building was cleverly transformed into a charming study for home students, with open fireplace and comfortable furnishings. As the new room, named the Bee Hive, had adjacent to it a locker room and a rest room and was at the same time conveniently near the cafeteria of the home economics department, the change from the crowded quarters of College Hall was welcomed enthusiastically by the 150 students commuting daily to the college.

During the summer of 1927 also, additional pipes were added to the organ, principally in the orchestral unit, and an amplifier was installed by means of which music or addresses from within the chapel might be broadcast upon the campus.

The buildings were erected and all equipment installed under the direct supervision of Mr. Henderson, superintendent of properties. It is well to pause and note in this connection that all of the construction work for the past ten years has been carried on for the board of managers under the direct supervision of Mr. Henderson—Federation Hall, the Chapel, the Dramatic Arts Building, the dormitories, the academic buildings, the club houses, the Music Building, the Infirmary, and, in the early days, the reconstruction of the old barn into

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a useful and not unattractive Physics Building and the making of a gymnasium from packing boxes. It is safe to say that his knowledge as a construction engineer not only has saved the college thousands of dollars but has made possible the very rapid construction which in its turn has brought about from the very beginning excellent living and study conditions for the students.

Registration on September 19 and 20, 1927, showed the students enrolled as follows:

Seniors	Class of 1928	172
Juniors	Class of 1929	198
Sophomores	Class of 1930	299
Freshmen	Class of 1931	356
		1025

Of this number 857 were residents in the college dormitories, 168 were home students from New Brunswick and vicinity; 922 were registered in the liberal courses, 103 in the home economics courses. These figures represent students matriculated in full four-year courses leading to the degree of bachelor of arts, bachelor of letters, or bachelor of science. The new students admitted were selected with great care, being but a part of the total number of applicants. The intelligence tests given to freshmen during the first week of the college year showed gratifying results.

In its earlier years the College for Women offered a modest program of cultural courses in the liberal arts with majors first in a few subjects then in several, professional training for prospective teachers of liberal subjects and a teacher training course in home economics. With the rapid growth and the very urgent demands of the students who, with few exceptions, looked forward to providing their own livelihood, the College for Women found it necessary to strengthen its cultural courses and to include a certain amount of professional training in new fields. Music, both theoretical and practical and including public school music, has been highly developed. The department of art has enlarged its scope by offering, in conjunction with its historical courses, courses in practical art for the prospective teacher and for students who wish to enter the

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field of industrial art. Four-year programs of study for students who expect to enter business or industrial positions have been developed in the biological sciences, in chemistry, and in economics. During the past year three new curricula were offered for the first time, the professional course in physical education, the course in library service, and the general course in home economics. Each of these new courses had a very real reason for its institution. Modern high schools and many of the newer grammar schools have gymnasiums. Community and health centers abound. Leaders well informed in personal and community hygiene and with a thorough knowledge of gymnastics and games are needed in our modern life. The spread of knowledge among all classes of our people has given rise to the need for trained librarians. It is estimated that women spend eighty per cent. of the money of the world. Courses in economics and in home economics have as one of their aims the laying of a foundation for a wiser expenditure of the world's wealth.

The faculty was strengthened during the year by the addition of several new members of excellent training and experience, some of whom are mentioned herewith. Miss Emily Hickman, for years head of the department of history in Wells College, joined the staff of the College for Women as professor of history. Professor John Andrew Rice came from the chairmanship of the department of classics of the University of Nebraska to head the department here. So also Miss Shirley Smith came from the headship of the department of classics at Rockford College to become professor of classics at the College for Women. Miss Mabel Cummings, who for six years guided the professional course in physical education at Wellesley College, instituted similar work here. Assistant Professor Miriam West came from the University of Wisconsin to join the staff of the department of economics, and Associate Professor Cyril Nelson from Johns Hopkins University to join the staff of the department of mathematics. In establishing the library school our librarian, Mrs. English, was so fortunate as to have as her associates Miss Alice Higgins and Miss Polly Fenton, both of whom gave to the new venture the benefit of their years of successful library experience. The faculty as a whole numbered

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ninety-five professors and instructors, exclusive of assistants. Of this number sixty-one gave their entire time to the College for Women. Of the remainder a certain number were specialists engaged on part-time, and others were university professors devoting the major part of their efforts to the men's colleges—in teaching service the thirty-four engaged on part-time gave the equivalent of twelve full-time instructors.

Student life has been well organized and well supervised from the beginning. For nine years women members of the faculty who possessed, in addition to their teaching ability, keen understanding of and sympathy with the youth of today, served as directors of the extra-curricular life of the resident students. Under their wise guidance, and in hearty cooperation with the dean of the college, a splendid morale was built up in the student body. The regulations of the Cooperative Government Association were formulated and by them the students lived, taking exceptional care of college property and conducting all their activities in a refined, wholesome manner. With the enlargement of the college campus and the increased number of buildings, the large registration of students and the increase in their activities, it seemed advisable a year ago to secure a dean of women who could give her entire time to student affairs. We were so fortunate as to secure for this important post Miss Leah Boddie, A.B., North Carolina College for Women, A.M., Duke University. During the current year the faculty directors were replaced by five new members of the staff who gave their entire time to the life of the students outside of class; four were in charge of the resident students and one had supervision of the home students. It is the desire of Miss Boddie and her assistants to give the same individual care and wise counsel to the students of the large college of the future which has been one of the outstanding characteristics of the College for Women during its first ten years.

Certain important building operations have been carried on through the year. The very beautiful Music Studio Building, funds for the erection of which were given in large part by the State Federation of Women's Clubs, has been in course of

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construction since March. The building was practically completed in June. It will be furnished during the summer and opened to classes in September. It contains, beside sound-proof practice rooms for the students, sound-proof studios for the professors, a music library, lecture rooms, and a recital hall seating 400. The building will be heated by steam and ventilated by washed air. The Mary Kingsland Macy Willets Infirmary is still in course of construction but will be completed for the opening of college. This splendid fire-proof building is the generous gift of Mrs. Kate Macy Ladd of Far Hills. The infirmary has been planned especially to fit the needs of college life. It is situated on the new campus secured for us through the generosity of our board member, Mr. Edwin C. Jameson. The new campus will be known as the Mary Gardner Jameson Campus. On this new ground beside the Infirmary three brick dormitories are in course of construction. When completed they will accommodate 150 students.

In addition to Jameson Campus the college has acquired by purchase approximately thirty acres of land lying to the south of Gibbons Campus. This purchase was made in order to protect our present holdings from possible encroachments of trade owing to the new bridge across the Raritan River and the new roads which are being constructed in the neighborhood by the State Highway Commission.

With the additional buildings and increased campus, the normal increase in the student body and the faculty necessary for its instruction, the College for Women very greatly needs an increase in its funds for general maintenance for the year 1928-1929. The college was unfortunate in not securing for the first time since its founding an increase in its State appropriation to care for this healthy and altogether admirable growth. The college was unsuccessful also in its request for an appropriation by the State for the erection of a building for hygiene and physical education. For two years the Governor has recommended such appropriation but, owing to a lack of State funds, his recommendations have not been approved by the Appropriations Committee or the Legislature. I cannot too earnestly call to your attention and to the atten-

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tion of every citizen interested in these ambitious young women the very great need which exists at the present time for such a building upon our campus. A sound mind in a sound body is as true a philosophy today as in the days of the ancient Greeks.

A committee of the faculty worked faithfully through the year on plans for establishing Honors Courses at the College for Women. Their final plans, ratified by the faculty as a whole in June, will be put in operation in September. This is a great step forward and means much to the intellectual life of the college.

On May 10 the College for Women celebrated its Tenth Anniversary. Delegates of forty colleges were present at the exercises as well as representatives of the Legislature, the women's clubs, the State teachers' organizations, and individual friends of the college. The exercises were held at eleven o'clock in Voorhees Chapel preceded by an academic procession across the campus. The principal speaker of the morning was Virginia Crocheron Gildersleeve, dean of Barnard College. Luncheon was served to the guests of the college in Cooper Hall. In the afternoon the students gave an exhibition of massed drill on Antilles Field. They had been trained in Czecho-Slovakian gymnastics through the year by a member of the faculty, a native Czech, Miss Zdislava Prochazkova, who had been engaged to give the students of this institution the benefit of the famous training of her mother-country. Twelve hundred guests were present at the Anniversary. The Czecho-Slovakian Republic sent an official representative in the person of Dr. Peregrin Fisa, the secretary of the Legation at Washington.

On Saturday, May 12, the students presented the Czecho-Slovakian Drill for the second time on the occasion of the annual Mothers' Day Celebration. Thirty-five hundred spectators enjoyed the exhibition. At its close the students announced the creation of the Mabel S. Douglass Fellowship Fund. This recognition by the student body touched me deeply, as did also a testimonial dinner tendered in my honor by the faculty. I am deeply appreciative of the cooperation of the

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student body which has been given me gladly through the ten years, of the unfailing loyalty of my faculty, of the sympathetic support of the board of managers and of the trustees.

On June 2 the exercises of the seventh Commencement were held under a marquee on Antilles Field. One hundred sixty-six seniors received their degrees, the class being about equal in number to that graduating from the men's colleges which latter totalled one hundred sixty-one. Mrs. Lillian Moller Gilbreth, engineer and author, was the speaker. Her address on "The Technique of Achieving Success" was of exceptional interest and exceedingly well given. An honorary degree, master of philanthropy, was conferred upon Mrs. Juliet Clannon Cushing in recognition of her work as the organizer of the Consumers' League and sponsor of laws affecting women and children.

The Commencement on June 2, 1928, brought to a close the first decade in the life of the New Jersey College for Women. In the ten years the student body has increased from fifty-four in number to 1,025, the faculty from sixteen to ninety-five. The most outstanding gift during the period has been the Elizabeth Rodman Voorhees bequest of something over one-and-a-half million dollars. Ten years ago the college opened its doors in a rented building with no tangible assets. The value of its lands, buildings and equipment, including the maintenance fund of Voorhees Chapel, is now over five and one-half million dollars. Deep appreciation is accorded the State for its generous support, and the various departments for their cooperation. Gratitude is due the State Federation of Women's Clubs for its scholarships to students and for the gifts of Federation Hall and the Music Building, to Mr. Neilson and Mr. Jameson for their gifts of land, to Mr. Loree for generous gifts including the development of Antilles Field, to Mr. Frelinghuysen for his staunch support, to Mrs. Ladd for the very splendid Infirmary, to Mrs. Eagleton and other friends for their scholarship funds, to all who have given in large or small part that the college might grow in service to its State.

The student body has been earnest and cooperative. The faculty has been unselfish in its devotion and undisturbed by

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petty rivalries. Those in humbler positions in the care of the grounds and buildings have remained through the years and have contributed a very real part to the success of the college. I am especially mindful of the excellent management of the Dining Hall and of the Infirmary. The bursar has exercised great prudence in the expenditure of funds. There has been a central purchasing office. Equipment and furnishings have been carefully chosen and well cared for. The library of the College for Women has grown steadily. There are at the present time 35,000 volumes on its shelves. Seven classes have been graduated. Exclusive of those who received their diplomas in June of this year there are 441 graduates. Of this number it is interesting to note that 191 are teachers, forty-four have entered the business professions, ten are engaged in social service, eight in journalism, seven in library service, six in laboratory work, sixteen are taking graduate work or professional training, ninety-eight have married, and sixty-one are engaged in miscellaneous occupations too varied to enumerate. Sixty-six children have been born to those who have married. Unquestionably the college means much to its graduates and much to its State. We look forward with clear eyes, steady courage and humility to a second decade of still greater achievement, of higher academic accomplishments, of more worthy service. We plead for understanding of our ideals and ambitions and of the honest work we are anxious to do within and without the college walls.

Respectfully submitted,

MABEL S. DOUGLASS,
Dean.

NEW JERSEY COLLEGE OF PHARMACY

To the President of Rutgers University:

The year just completed has been most gratifying and has marked another decided advance in pharmaceutical education in New Jersey. Many expressions of satisfaction were heard on the part of retail pharmacists when the New Jersey College

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of Pharmacy was incorporated into Rutgers University a year ago last January. After eighteen months of University administration, this feeling has given way to one of deep appreciation for the contribution which it now seems assured that the State University of New Jersey is to make to pharmaceutical education.

ADDITIONS TO STAFF

During the past year Professor George C. Schicks, formerly dean of the College of Pharmacy at the University of Valparaiso, has been added to our staff as professor of materia medica. While at Valparaiso Dean Schicks built up a strong College of Pharmacy which was admitted to the Association of American Colleges of Pharmacy. Professor Schicks' broad background of experience both in college and practical work should make it possible for him to render excellent service to the college. He has been appointed assistant dean beginning July 1.

Another new member of the staff is Professor Lyman D. Fonda, who has been appointed assistant professor of pharmacy and has charge of the work in dispensing pharmacy. Professor Fonda is a graduate of Purdue University, having carried out his graduate work at the University of Florida. He has greatly strengthened our course in dispensing pharmacy. The students are taught to compound prescriptions intelligently, being ever on the alert for incompatibilities or errors which may creep in.

Beginning July 1, Mr. Cyrus L. Cox will assume duties in the pharmacy department as associate professor of pharmacy. Professor Cox is a man of thorough training, with years of successful experience in teaching, in industrial work and in practical drug store service. His addition to the staff will strengthen the pharmacy department very considerably.

The office staff has also been augmented during the past year. Miss Grace I. Harper, a graduate of the University of Pittsburgh, assumed the duties of registrar on January 1. Miss Margaret Babbage has also recently been appointed secretary to the dean.

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DEPARTMENT OF RESEARCH

Dr. Lloyd K. Riggs, director of research, has turned in a very encouraging report for his department. The college is very thankful to Mr. Robert W. Johnson for the establishment of the first research fellowship at the New Jersey College of Pharmacy. This fellowship has six months yet to run. One publication has resulted, while a second one is in preparation.

Merck & Company greatly aided our research program by the establishment of a second research fund. This is a more recent project and is hardly yet under way. We are particularly grateful to Mr. R. E. Gruber, vice-president of Merck & Company, for the help and encouragement which this vision along this line has furnished.

The latest research grant comes from the Kraft-Phenix Cheese Company. An ample sum has been set aside for the investigation of the food value of milk and related products. One of the first problems to be investigated will be the nutritional value of the whey of milk. This will involve both chemical research and animal experimentation. The problem is an interesting one which is being approached with enthusiasm. Interesting and useful results are being looked for.

FAIRCHILD SCHOLARSHIP EXAMINATION

Once again the college has been successful in the annual Fairchild Scholarship Examination. The Fairchild Scholarship was made possible by the late Mr. Samuel W. Fairchild of New York City. An annual award of three hundred dollars is made to the sophomore student of a college belonging to the American Association of Colleges of Pharmacy who stands first in a competitive examination conducted by a joint committee of the American Pharmaceutical Association, the National Association of Boards of Pharmacy, and the American Association of Colleges of Pharmacy.

The New Jersey College of Pharmacy was successful in 1924, 1926 and again in 1927. We are indeed very proud of this scholastic accomplishment and point with great pride to the fact that our institution is the only college of pharmacy which has succeeded in winning this coveted award more than

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once. This constitutes a record which will probably stand for all time. The successful candidate in June 1927 was Mr. Martin Sams of Newark, New Jersey.

OUR PROGRAM CONSERVATIVE

The student body at the New Jersey College of Pharmacy in September, 1927, numbered 399. It is probable that 450 will be enrolled this coming September. While it is our desire to render the greatest possible service to the State, we feel that this service cannot be rendered simply by turning out increasing numbers of pharmacists. The program of pharmaceutical education in New Jersey has always been and should continue to be very conservative. A serious endeavor has been made to ascertain the needs of pharmacy in the State. We aim to meet these demands and to see to it that our output of pharmacists is not in excess of those needed. Thus, we find in New Jersey but one college of pharmacy, while New York has five, each one of which is much larger than ours. Pennsylvania has four colleges of pharmacy, while a State of the size and population of Indiana also has five. It is not at all our desire to develop an extravagant system of pharmaceutical education. Up to the present time, however, we have been unable to meet the demands which are placed upon us.

ANNUAL COMMENCEMENT

On Wednesday evening, June 6, the New Jersey College of Pharmacy graduated sixty-seven young men and women at its first Commencement held under State University administration. This number represents the successful candidates from a class which started 167 in their freshman year. The college deplores this high percentage of failures among its students and every effort is being made to reduce it as much as is consistent with good scholarship. We consider it imperative, however, to maintain the high scholastic standards which the State University has a right to expect of us.

UNIVERSITY RENDERING REAL SERVICE

In no branch of education is the University rendering a greater or more needed service than in pharmacy. The State

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of New Jersey is indeed to be complimented for having assumed the responsibility of training men and women to enter a profession which is so vitally connected with the health and general welfare of its citizens as is pharmacy.

Respectfully submitted,

ERNEST LITTLE,
Dean.

DEPARTMENT OF CERAMICS

To the President of Rutgers University:

The activities of the department of ceramics for the fiscal year were devoted to research, testing work and instruction in ceramics, as follows:

RESEARCH

An investigation of the physical properties of whiteware bodies used in the manufacture of electrical porcelain was undertaken and completed. The investigation included a study of the relations of pressure vs. fineness of grain vs. moisture content on the physical structures of bodies of this kind. The investigation was carried out in cooperation with several companies manufacturing this class of wares. A preliminary report was submitted at the annual meeting of the New Jersey Clay Workers Association in December, 1927, and a final report will shortly be published by the department. The investigation was conducted by George H. Brown and Edward C. Henry.

An investigation of the effect of the presence of titanium oxide (rutile) on the color and other physical properties of whiteware bodies was completed. A report of this investigation was submitted at the annual meeting of the New Jersey Clay Workers Association, December, 1927, and published in *The Ceramic Age,* February, 1928, by George H. Brown.

A study of the physical properties of clay casting slips used in the production of whiteware pottery bodies was completed. A comprehensive report of this study was published in

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the July, 1928, issue of the *Journal of the American Ceramic Society*, under the title "The Requisite Consistency for a Casting Slip," by Walter L. Shearer.

An investigation with a view to the commercial development of the deposits of green sand marls in the State of New Jersey was outlined and gotten under way, in cooperation with the Non-Metallic Minerals Section of the U. S. Bureau of Mines. This investigation is in progress.

TESTING

Numerous tests were made during the year on samples of clay from various parts of the State, with a view to their utilization in the production of ceramic wares.

A considerable number of routine tests were made for manufacturers in the State in connection with problems arising in the production of their wares. These tests included fusion point determinations on refractories, crazing tests on wall tile, measurements of coefficients of expansion, chemical analyses of raw and finished materials, etc. Nominal fees were charged for these tests.

Assistance was given to several new companies in the State. Suggestions were made as to plant lay-out, etc., and preliminary tests conducted at the department laboratories with a view to the perfection of their processes.

The arrangement with the U. S. Bureau of Mines, involving the use of laboratories and equipment of the department of ceramics by the Non-Metallic Minerals Station of the Bureau, was continued during the year and renewed for the next fiscal year.

INSTRUCTION

The enrollment for the four year course in ceramics included five seniors, four juniors and six sophomores. The five graduates of this year's class were placed in responsible positions in the industry.

During the year a series of lectures was given by the department, in cooperation with the American Gas Association, in connection with the course in fuels. This series of

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lectures was open to the public and a number of men from the industry enrolled for the course.

The department maintained close relationship with the New Jersey Clay Workers Association during the year. The department assisted the association in conducting a special two-day Institute in Trenton during the month of October. The sessions were devoted to discussions of ceramic fuels and kilns. The annual meeting of the association was held at Rutgers University in December, and the summer meeting in Asbury Park in June.

The association appointed George H. Brown, director of the department of ceramics, as official representative of the association on the American Ceramic Society tour of Europe. The tour included visits to the more important ceramic plants and clay mines of Europe. A leave of absence was granted Professor Brown by the University in order that he might participate in the tour.

Regular meetings of the Rutgers Student Branch of the American Ceramic Society were held at the Ceramics Building and some interesting programs were arranged.

The staff of the department of ceramics for the fiscal year was as follows:

G. H. Brown, Director and Professor of Ceramics,
W. L. Shearer, Assistant Professor of Ceramics,
Malcolm B. Catlin, Instructor and Research Assistant,
Edward C. Henry, Instructor and Research Assistant,
R. G. Mills, Instructor and Research Assistant,
Robert Goldsmith, Research Assistant,
Margaret G. Hartmann, Clerk-Stenographer.

Respectfully submitted,

G. H. Brown,
Director.

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BUREAU OF MINES EXPERIMENT STATION

To the President of Rutgers University:

The Bureau of Mines Experiment Station has heretofore been engaged in both economic and technical analyses of problems connected with the mining and utilization of nonmetallic minerals. During the latter part of this year arrangements have been made to transfer the bulk of the economic work to the central offices in Washington, D. C., thus giving the station an opportunity to concentrate its efforts on the technology of the mining and utilization of nonmetallic minerals. An additional laboratory is being equipped, and the personnel of the station is being changed so as to conform to this new program.

The following is an outline of the station's work during the past year:

Waste Elimination in Slate Quarrying. Introduction of the wire saw as a means for making the primary cuts in slate quarries has been of great benefit to the slate operators. The first tests with this equipment under the direction of the Nonmetallic Minerals Station of the bureau indicated that the wire would greatly reduce the waste, since there was no shattering of the slate, and that the cost of operation would be less than half that of the channeling machine formerly used. The rate of cutting in the first tests averaged about 12.8 sq. ft. per hour, but during the last year this new method has been perfected so that at present it is possible to cut an average of 20 to 25 sq. ft. per hour, and in soft veined slate a maximum of 38 sq. ft. per hour has been attained. The success of the wire saw is shown even more by the fact that in April, 1928, there were in active use eleven pairs of standards and nine driving outfits operated by eight slate producing companies, while three more pairs of standards and one more driving outfit were on order. Great saving is being attained in time, money and raw material by this new method.

The success of the wire saw in slate has aroused considerable interest among quarrymen in other types of rock. Inquiries have been received from granite, sandstone, limestone and marble operators concerning the possibility of utilizing this equipment.

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Survey of Mica Industry. Increasing interest in mica, particularly for radio and electrical equipment, led the bureau to make a survey of the industry, studying problems both of production and utilization. The information obtained in this survey is being compiled for publication as a Bureau of Mines Bulletin.

Metallurgical Limestone. The Nonmetallic Minerals Station is conducting a comprehensive study of both production and utilization of fluxing and other furnace stone. A paper, entitled "Utilization Problems of Metallurgical Limestone and Dolomite," was presented before the February meeting of the A. I. M. E. This paper and the discussion which followed has aided in settling many disputed points regarding the necessary requirements for metallurgical limestone, and the information obtained will be of assistance in the preparation of a final bulletin on this subject.

Anhydrite as a Cement Retarder. A large number of the gypsum deposits are associated either intimately with anhydrite or contain veins which are contaminated with anhydrite to such an extent as to make the mineral unsuitable for use in the manufacture of calcined gypsum products. Both the disposal of this mixed material and the conservation of the high-grade gypsum are problems which have attracted a great deal of attention, and the Nonmetallic Minerals Station has been requested to conduct further tests to determine the desirability of utilizing anhydrite or mixtures of anhydrite and gypsum as a retarder for Portland cement. An earlier report on this subject, Serial 2705, gave a comparison between the action of anhydrite and gypsum, but since the physical properties of natural anhydrite vary to a considerable extent the bureau was urged to conduct further work to determine whether the type of anhydrite or its degree of fineness might not have considerable effect on its action as a retarder. The results which have been obtained so far indicate that the type of anhydrite is of little importance but its fineness is of considerable importance as regards its effect upon the plasticity of the cement. One fundamental question which has arisen in connection with this problem is "Why does calcium sulphate act as a retarder for Portland cement clinker?", and as a result of some pre-

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liminary work on this subject indications have been noted which seem to be of sufficient importance to justify further investigation.

Potash. The potash resources of the United States are more than sufficient to supply any future demands of this country for that particular mineral. The potash minerals in this country are more insoluble than some of those found in the European countries, but since there is a strong desire to make this country independent of foreign sources for their supply of potash the Nonmetallic Minerals Station of the bureau has undertaken the problem of developing a process for extracting potash from domestic minerals, which will compare favorably on an economic basis with the imported material.

The work so far has centered primarily around two large deposits, namely, the potash bearing minerals of Texas and New Mexico, and the greensands of New Jersey.

The cores which have been obtained from the Texas and New Mexico deposits indicate that the greater quantity of the potash is present in the form of polyhalite. A bibliography is nearly completed, which covers the literature dealing with the methods of mining and recovery of the European salts and this should contain references which will be of great value to those interested in the development of the potash resources of Texas and New Mexico. A study is being made of the economic factors which must be considered in the successful development of any process for the production of soluble potash from the polyhalite in these deposits, and it is planned to conduct an extensive laboratory study at the Nonmetallic Minerals Station to determine the best method of treating this mineral to produce soluble potash in a marketable form.

It has been conservatively estimated that at the present rate of consumption there is sufficient quantity of potash in greensands of New Jersey to supply the United States for 1,000 years, and the favorable location of this material makes it highly desirable that some method be developed for its utilization. A bibliography has been prepared which covers all the various methods which have been utilized in extracting potash from greensand, and an economic study of some of the more favorable processes is being made to determine whether

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there is a possibility that any of the proposed methods can be made commercially successful. Laboratory investigations of the details of the Shreve-Carlton and of the acid extraction processes will be made. It is also planned to devote some time to the fundamental chemistry of potash bearing silicates.

During the past year the station's personnel consisted of:

Dr. Oliver Bowles, Supervising Engineer*,
Mr. J. R. Thoenen, Mining Engineer,
Dr. J. F. T. Berliner, Associate Chemist,
Mr. E. E. Berger, Assistant Chemist,
Mr. W. M. Myers, Consulting Mineral Technologist,
Mr. R. N. Shreve, Consulting Chemist,
Dr. O. F. Neitzke, Associate Chemical Engineer,
Miss V. Crockatt, Clerk,
Mr. Fred Spille, Laboratory Assistant.

*On May 1, 1928, Dr. O. Bowles was transferred to the central office of the Bureau of Mines to take charge of the economic work on nonmetallic minerals. Dr. H. H. Storch was appointed supervising engineer of the station at New Brunswick.

Respectfully submitted,

H. H. STORCH,
Supervising Engineer.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

To the President of Rutgers University:

1. *Discontinuance of Distinguished Colleges.* The War Department this year announced the discontinuance of the practice of designating certain colleges as distinguished institutions. This has met with general approval, particularly among those institutions which, like Rutgers, have a high morale but inadequate facilities for military training.

2. *Enrollment.* Enrollment in the Rutgers Unit, Reserve Officers Training Corps, at the end of the academic year, was 613 in the basic, and fifty-eight in the advanced course, a total increase of sixty-five over the preceding year.

3. *Organization.* Early in the year the organization of the unit was found inadequate to care for the increased registration. It was therefore enlarged from one battalion of four

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companies to one regiment of two battalions of three companies each. Increasing the number and diminishing the size of units permits of better supervision and instruction and offers increased opportunities for training in leadership.

4. *Conduct of Training.* Training has been conducted throughout the year in accordance with War Department instructions and University regulations. Methods followed have been those of previous years, the policy being to study those methods carefully before undertaking changes. Training in leadership being most valuable to the individual student, every effort has been made to provide such training in the basic as well as in the advanced course.

5. *Student Attitude Towards R. O. T. C.* The attitude of the student body toward military training is very favorable, no opposition whatever being evidenced during the year. Of the fifty-eight upper classmen registered in the advanced course, nearly every one is prominent in one or more student activities, and the number includes many of the most prominent students in the University. As an evidence of the growing popularity of the R. O. T. C., it may be stated that seventy-two sophomores have signed applications for enrollment in the advanced course next fall. The largest number heretofore was thirty-seven in 1927.

6. *Increased Limit of Enrollment.* Since each student enrolled in the advanced course costs the United States more than $200.00, a limit has been set by the War Department to such enrollment, which for Rutgers was fixed at thirty juniors and thirty seniors. Due to the large number desiring to enroll next year, application was made for authority to accept sixty of next year's junior class, and this authority has been obtained.

7. *Exhibition Drill Day.* The work of the year culminated with Exhibition Drill Day on May 18. The University was honored on that day by the presence of a number of distinguished guests, including Governor A. Harry Moore, of New Jersey, Major General Hanson E. Ely, Commanding the 2nd Corps Area, and Richard Hartshorne, Esq., President of the New Jersey Society, Sons of the American Revolution. The exercises planned for the day included demonstration of calisthenics, drill, the various Infantry weapons, and an attack

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demonstration with guns, pyrotechnics and smoke. The Commanding Officer, Mitchel Field, had arranged to send a flight of aeroplanes to add zest to this exercise. Unfortunately, rain interfered with the program as planned, but a modified program, including a review of the regiment by the Governor and General Ely in the rain, and exercises in the gymnasium, was successfully substituted.

8. *Plans for 1928-29.* As a result of observation of the work of the present year, plans are under way for improvements in the course. These plans include enlargement of the regiment by two companies, more recognition of the previous training of the sophomore class in military drill, and improvement of theoretical instruction by more extensive use of applicatory methods.

9. *Necessity for New Armory.* The Ballantine Gymnasium was constructed in 1893, when Rutgers was a small college, and was outgrown years ago. The situation today is distressing in the extreme. It is necessary to train six companies at one time, with floor space sufficient for but one. There are but thirty drill periods in the academic year, and as the majority of these periods come during inclement winter weather it is practically impossible to obtain first class results. Classrooms are utterly inadequate. Thirty-five classes per week were conducted, the only available classroom being the main gymnasium floor and a small room on the second floor. Storage facilities are poor. Arm racks now cover the entire wall space in the gymnasium, and contain only about 600 rifles. The problem of caring for and issuing the necessary additional rifles next year is almost insuperable. The small bore rifle gallery in the Martin barn is entirely inadequate. In addition to meeting the needs of the military department, an adequate armory would provide suitable facilities for physical training. It would also provide an auditorium of sufficient capacity for the largest gatherings, where the annual commencement exercises could be held on the campus with comfort and dignity.

It is earnestly recommended that this problem be given serious consideration, and that an armory containing an auditorium fully adequate for the needs of the University be given priority on list of buildings required.

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10. *Band.* Under the efficient leadership of Mr. Charles W. Cook, graduate of the Army Music School, the band has shown marked improvement. The University band and the R. O. T. C. band have been consolidated, a new constitution adopted under which the band becomes less of a political, and more of a musical organization, and prospects for next year are very bright.

One unsolved problem in band efficiency is the lack of inducement to upper classmen who have been trained with the band and are willing to continue. Since they receive no university credits and no compensation it is impossible to compel their attendance at rehearsals, yet they are essential if we are to have a first class band. It is believed that if the University should offer a payment of $15 to each upper classman who regularly attends rehearsals and who plays at commencement, the problem would be solved. This practice is followed by many colleges, the amount paid varying from $15 to $35.

11. *Property Custodian.* Property of the United States to the value of approximately $72,000 is carried by the University. Complying with War Department regulations, the comptroller of the University has been designated as property custodian. He is assisted in the duties of this office by a supply officer designated by the P. M. S. & T. from among his assistants. Under this system, all government property is stored and used strictly in accordance with regulations and without loss to the University.

12. *Cooperation.* The hearty support given the military department by the president, trustees, faculty, and administrative officers of the University is fully appreciated.

The work done by officers and non-commissioned officers of the United States Army on duty in the department has been satisfactory in every respect.

It is considered that good results have been accomplished during the year, and that the prospects for improvement next year are excellent.

Respectfully submitted,

RALPH MCCOY,
Colonel 37th Infantry,
P. M. S. & T.

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DEPARTMENT OF PHYSICAL TRAINING

To the President of Rutgers University:

The increased enrollment of the undergraduate body has put a severe strain on the present available equipment of the department of physical training. The stimulated interest of the students in team games stresses the need for a larger gymnasium and more extensive outdoor playing fields. The increase in entrants for team games has been 25% in the past year.

Team game tournaments were conducted as follows:

	No. Teams	*No. Contestants*	*No. Hours Weekly*
Soccer	21	210	315
Basketball	30	240	360
Indoor Baseball	21	189	567
Outdoor Baseball	28	308	924
Handball	12	48	60
Tennis	17	58	174

Individual tournaments were conducted as follows:

	No. Entries
Fall Tennis	64
Wrestling	35
Boxing	22

Wrestling, boxing and fencing classes were conducted daily and attracted approximately fifty students in each activity. The fencing classes were made possible through the courtesy of the New Brunswick Theological Seminary, which proffered the use of Suydam Hall.

Instruction in swimming for beginners, in advanced swimming and in life saving maintained the usual high standard in results. The college requirement that freshmen pass the swimming test was satisfactorily completed by the class of 1931 with but six exceptions.

Individual instruction, supplanting the class instruction for correction of body carriage and obesity and improvement of foot conditions has been employed very successfully during the past year.

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Courses in Physical Training 1, 2 and Physical Training 3, 4 enrolled a total of 111 students; one junior, forty-three sophomores and sixty-seven freshmen. The work covered included theory of coaching and officiating in football, basketball and baseball; and soccer, track and field, swimming, and lacrosse.

It is recommended that, in order to preserve and improve the student's health and efficiency during his college course and to give instruction in those bodily activities that go to complete the training of a well educated man, a course in physical training be prescribed for students in all courses in their freshman and sophomore years consisting of two one-hour periods a week, counting one credit. Instruction in sports should be given according to the season in which the activities are usually conducted, but students who are receiving instruction in sports supervised by the Council on Athletics should be excused from these scheduled hours.

Use of the Ballantine Gymnasium was granted to the State Interscholastic Athletic Association for conducting the State championship tournament in basketball; to the Association of Real Estate Boards for its annual Real Estate Institute; to the New Jersey Girl Scouts; to New Brunswick High School, and to St. Peter's High School. Use of the gymnasium was also granted for the New Jersey Newspaper Institute, for the State Teachers Convention, and for many university functions.

Respectfully submitted,

JAMES H. REILLY,
Physical Director.

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UNIVERSITY LIBRARY

To the President of Rutgers University:

I respectfully submit to you the report of the University Library for the year 1927-28.

There were added to the library during the year 8,871 volumes, making the total number of catalogued books 152,096. The sources of these books were as follows:

New Jersey State Appropriation	1843
P. Vanderbilt Spader Fund	184
Robert H. Pruyn Fund	249
New Jersey State Appropriation for Ornamental Horticulture	24
Purnell Fund	1
Byron D. Halsted Fund	12
Benjamin Stephens Gift	21
New Jersey State Appropriation for Experiment Station	180
Summer Session, 1927	5
Silas Cook Fund	33
Sarah Cook Fund	66
George H. Cook Fund	15
Taylor Fund	15
History Class Library	90
Class of 1928 Gift	1
Class of 1930 Gift	2
Class of 1931 Gift	147
General Funds	17
New Jersey College for Women—gifts and purchases	4250
Gifts	1716
	8871

Many items of great value and usefulness were presented by alumni and friends of the University, and I wish to express my appreciation of their generous gifts. Among those whose gifts were of especial value were the following: G. V. N. Baldwin, Esq., '86; Frank Bergen, LL.D.; Philander Betts, 3rd, Ph.D., '91; Miss A. B. Cannon; Estate of Mr. and Mrs. Charles J. Carpender; J. H. Coryell, Esq.; Miss Louise Fischer; A. S. Graham, Esq.; Ambrose Hardenbergh, Esq.; L. F. Loree, LL.D. '77; J. W. Mettler, Esq., '99; James Neilson, Esq., '66; E. C. Pearson, Esq., '68; G. F. Ross, Esq.; Miss Catharine H. Schneeweiss; F. H. Stobaeus, Esq., '08; D. D. Sutphen, Esq., '83; H. W. Waldron, Esq., '93; J. P. Wall, Esq.

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Following the practice of the library for many years, the purchases of books and periodicals were made on recommendation of members of the faculty or on advice of specialists in the fields covered by the material purchased.

By following this method of recommendation the library has built up an excellent collection of material of permanent value. It is necessary to purchase some books useful for a limited period only, but we avoid such purchases as far as possible.

The first reason for the existence of a college or university library is to aid in the instruction of students, both undergraduate and graduate. This fact is always borne in mind when books are selected for purchase.

The second reason, which is really a part of the first, is to enable teachers to keep abreast of their subjects. A teacher can no more do without the special material in his field than can the physician, the lawyer, the engineer, or the business man and financier in their fields.

The third reason, which applies particularly to the State University, is to supply books, periodicals and transactions, and other necessary material for special investigations to solve problems which concern the welfare of the people of the State. There are being conducted at the University at the present time many investigations of great importance to the State, such as problems of public education, industrial problems, economics of agriculture, engineering, the history and government of the State, taxation, investigations concerning the oyster industry, public health, disposal of sewage, water supply, mosquito control, special study of beneficial and injurious insects, problems of plant and animal diseases, problems in nutrition, problems concerning improvement in plants and animals, and methods of farming.

Some of the more important purchases of the year were: Mathematische Zeitschrift, 24 volumes; Journal de Botanique, 22 volumes; Revue Generale de Botanique, 1899-1924; Royal Society of London, Proceedings, 23 volumes; Botanische Gesellschaft, Berichte, 17 volumes; Archives de Zoologie Experimentale, 6 volumes; Public Libraries, Vol. 1-31; Paulys

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Realencyklopaedie der Klassischen Altertumswissenschaft, 19 volumes; Quarterly Journal of Microscopical Science, 27 volumes; Seitz, Schmetterlinge; Zeitschrift fur Physikalischen und Chemischen Unterricht, 11 volumes; American Book Prices Current, 5 volumes.

With the growth of the University the use of the library and the demands made upon it have steadily increased. Constant demand is made for material during every library hour of the year. The reading rooms and study cubicles are filled with readers several times each day during the regular and summer sessions.

The rules of the library are most liberal, and the desire of the library staff has been to give the greatest service possible, and to encourage the use of the library by the undergraduates. The library was opened from 2 to 6 o'clock each Sunday afternoon during the university year, and beginning with the next fall term, the daily evening hours will be extended to 11 P. M. The daily library period for a number of years has been from 8 A. M. to 10 P. M., but with the growth of the University and the extension of reference and special assigned work it is felt that a longer daily library period is needed. If found necessary the daily session will be extended to midnight.

Some progress has been made in arranging the great mass of unbound material for which, previous to the construction of the addition to the library building, there had been no shelf room, and during the year, besides the routine work of the various departments, the catalogue department in addition to cataloging 8871 new books, recatalogued 4438 older volumes. With the addition of three new assistants as provided by the budget for 1928-29, we are hoping that much progress can be made during the coming year.

The Governor and Legislature of the State very generously increased the State appropriation for the purchase of books and for binding from $10,000 in 1927-28 to $15,000 in 1928-29. This action of the State is most gratifying, not only because the larger fund will make it possible to provide some of the most needed books and periodicals but also because it indicates that the officers of the State have full appreciation of

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the value of the work of the library and the necessity of providing it with material for the work of the University.

I have stated many times during the past years that the greatest needs of the library in order to provide for the very rapid growth of the institution were a much larger staff and much larger book funds. I would like to quote several paragraphs from "The Survey of Rutgers University" which has been published since my last report:

"A fundamental principle now held with virtual unanimity is that an adequately developed and efficient library is essential for the proper functioning of a college or university. The library serves both the students and the faculty, and often also a large outside constituency. A University library must provide special facilities for study and research by individual students, and encourage the utmost freedom and fluidity in the use of books, not merely in the library building but also in other parts of the University wherever printed matter may be needed. A specialized, expert, and highly trained personnel is required by a university library since it must provide materials for undergraduate and graduate study and aid for the research work of the faculty. The State University of New Jersey is at present a State University in process of development, and its library is confronted by the problems which arise in institutions having both undergraduate and advanced clienteles."

"The staff is inadequate to keep the current work of the library up to date, not to mention clearing up back work which has accumulated, such as cataloguing and classifying the unorganized material owned by the library. The growth of the University makes constantly increasing demands upon the library."

"As the State University of New Jersey develops, it will be natural also for a graduate school of the University to develop, and this growth will lay an added responsibility on the library. Provision for advanced study has already been made by installing cubicles in the new University Library stacks, where students may work in convenient proximity to the books in their respective subjects. Additional books and more expensive reference sets will have to be provided as the graduate work develops."

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The following table will give interesting comparative figures:

Statistics of University Libraries
1926-27

	Vols. in Library	*Book Funds*	*Salaries*	*Total*
Dartmouth	235,000	$34,500.00	$39,600.00	$74,100.00
Kansas	191,907	24,500.00	28,730.00	53,230.00
Nebraska	209,048	40,000.00	41,000.00	81,000.00
North Carolina	180,032	37,428.73	41,587.10	79,015.83
Oregon	167,335	32,907.13	41,987.40	74,894.53
Rochester	163,700	47,998.78	41,384.07	89,382.85
Princeton	594,195	63,302.69	90,928.84	154,231.53
Rutgers (1928-29)	152,096	16,675.00	30,700.00	47,375.00

The following table shows the growth of the University and of the Rutgers Library during the last ten years, and the budget for the year 1928-29:

	1917-18	*1922-23*	*1927-28*	*1928-29*
Faculty and officers	191	289	398	
Undergraduate students	513	1137	2234	
Graduate students	10	33	59	
Summer Session	495	785	1345	
Short Courses	93	125	320	
Extension Courses		307	5952	
Number of books	93,700	115,960	152,096	
Library staff	5	6	12	14
Book funds and binding	$5,577	$6,675	$11,675	$16,675
Current expenses	621	1,910	2,300	2,400
Salaries	10,500	16,300	22,800	30,700

It will be seen from the above that the institution in 1918 was a comparatively small college and that in 1928 it has become one of the larger universities. The library in 1918 was among the largest of college libraries. In 1928 as a University library it has not the staff nor a collection of books large enough to do the work it is called upon to do.

This is not at all surprising, for the development of a library necessitates large funds, and the very rapid growth of the institution and the demand by all departments for increased funds for buildings, salaries and equipment has made it impossible for the needed library funds to be fully provided.

In spite of the difficulties caused by the rapid growth of the University, the library has progressed steadily, the staff

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has been increased, the building has been enlarged, and increased book funds have been provided. The future is full of promise. Through the continued cordial support of the president and members of the board of trustees and of the State of New Jersey, and of the many friends of the University, there surely will be provided the means necessary to give the University a library sufficient for its needs. There is a splendid foundation upon which to build.

My recommendations are as follows:

1. A larger working staff as rapidly as it can be provided.
2. A much larger annual appropriation for the purchase of books and periodicals, and for binding.
3. In order to provide for the more immediate needs, special funds of $5000 each for the following departments—Latin, Greek, French, Italian, Spanish, German, Art, English, History, Economics, Political Science, Mathematics, Physics, $10,000 for Natural Science, $2500 for special items.
4. Immediate planning for the future enlargement of the library building. An addition containing twelve or more library floors could be built on the ground between the library building and the gymnasium. Such an addition would have a capacity of 500,000 or more volumes, and I believe could be built in architectural harmony with the older building. Enlarged reading room space could be had by rearrangement of the original building. Such an addition which would provide both increased reading room and book space could be built for a much smaller amount than a new building. The present building, on account of the constant growth of the student body and faculty and on account of the probable faster growth of the book collection, will become crowded within a very few years. As it will probably take much time to secure both funds and plans, I have thought it well to bring this matter to your attention in this report.

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I wish to ask the alumni when disposing of their own collections to bear in mind the needs of the library. There are always in private libraries valuable books, maps, pamphlets, manuscripts, documents, prints, bookplates, which should be preserved. We are making every endeavor to increase our collections of such special material, and we shall appreciate the gift of any items that may be sent to us.

In closing, I wish to express my grateful appreciation of your kindly and cordial support and cooperation in all matters concerning the library.

Respectfully submitted,

GEORGE A. OSBORN,
Librarian.

DEAN OF MEN

To the President of Rutgers University:

The past academic year has brought to the office of dean of men the usual problems to be found in a situation such as is created by a group of twelve hundred active young men living in the intimate contacts of a college campus. It is gratifying to report that the students have held to our common ideals in such manner and degree as to make any occasional blunder an incident of emphasis on the real purpose of college life.

The control of student conduct has been based upon the assumption that the student comes to college for a definite purpose. Current criticism to the contrary, the fact stands that the college student is definitely a student. In many instances this is true in a lesser degree than could be desired, but the man on our campus is a man who seeks knowledge. We deal with him as such a man and he responds to that treatment. Apropos to this relationship of the administration and the student body, it is my firm conviction that rules and regulations should be as few as efficiency will permit and that our policy should be to develop the spirit of responsibility in an atmosphere of freedom held with honor. It is useless, not to say destructive, to the very purpose of higher education, to

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hedge in student life with narrow and impotent laws that engender resentment and encourage evasion.

One of the values of the office of dean of men is that of service rendered with the purpose of contributing to the efficiency of the University as an organization to the end that it may function with the least possible friction and the utmost harmony. In a situation such as prevails on a college campus, there are inevitable perplexities and complications that require constant attention. The past year has had its normal share and it is a pleasure to report that, through the interested cooperation of the faculty and student body, most of our problems have been readily solved. The leadership in the student body has been excellent. Especial mention should be made of the wholesome influence of the *Targum* in its editorial policy. The cooperation of the Student Council and the Interfraternity Council has been most commendable.

Some considerable progress has been made in meeting the changing conditions of the growing University with respect to student interests and welfare. Among these the following are worthy of special mention.

For a period of years the men's colleges have maintained a dining commons at which members of the freshman class were required to take their meals. This has never worked satisfactorily and during the last two years the freshman class had increased to such an extent as to make facilities wholly inadequate. The decision of the trustees to convert the dining room into a cafeteria will correct an outstanding evil and render a needed service to the entire institution.

The financial affairs of undergraduate activities had become so confused and irregular as to require attention. A committee known as the Student Business Activities Committee has been created by concurrent action of the University Council and the student body. The membership of the committee is composed of three representatives of the administration and three members of the senior class. This committee has control over all business concessions desired by students and audits all the accounts of the various student organizations.

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A further improvement is found in the revision of the constitutional provisions of student organizations. Copies of the constitution and by-laws of the several student organizations are filed in the office of the dean of men to insure continuity from year to year.

It is not a little gratifying to report that fraternities are seriously considering the abuses involved in the period of so called informal initiation. Several fraternities have already established a definite ruling limiting the initiation to two days and confining all initiation activities within the chapter houses. The Interfraternity Council has gone on record as favoring the adoption of this regulation in all chapter houses. The cooperation of the alumni in bringing about this reform is greatly appreciated.

Conditions in the dormitories are more satisfactory, largely due to the oversight and influence of a house mother, which office was created for the first time this year. The cooperation of the house committees in the several dormitories has been a decided factor in maintaining order and proper living conditions.

The scholarships under control of this office have been granted with a fair degree of success. It is difficult, if not impossible, to make these grants without mistakes. These scholarships are now issued with the understanding that they may be retained only on condition that the holder of the scholarship maintains a satisfactory scholastic standing and worthy standard of conduct.

The loan funds have been in constant demand. From the beginning of the academic year to the date of this report seventy-three students have been assisted with loans, the total amount loaned being $5984.00. Most of the notes covering these loans have been made for one year. Students are encouraged to take these loans for a short term with the privilege of renewal in the event of their inability to meet the obligation. This is done in the belief that the sense of responsibility is kept alive more surely than if the loan were carried over a period of four or five years.

From the standpoint of student welfare there are two outstanding needs. The first of these is found in our lack of

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facilities for physical exercise. College Field and the five tennis courts on Seminary Place constitute our only provision for outdoor activities for the men not entitled to the use of Neilson Field. This means that at least one thousand students are limited to outdoor athletic privileges adequate for two hundred. The need for healthy outdoor exercise is too well recognized to permit us to ignore some further provision for increasing the opportunities for outdoor sports.

The second is our lack of a central meeting place for the student body, such as is found in the student union buildings or commons of many other universities. Our student activities, such as the Student Council, Y. M. C. A., student publications, etc., are poorly housed and many of them are compelled to meet in classrooms or administrative offices as they are able to secure the privilege. The non-fraternity men both resident and non-resident are without a social center. Men living in the dormitories are unable to entertain their parents or friends except in their own dormitory rooms. A large proportion of our students are commuters who eat their lunches in the gymnasium or classrooms as best they may. We must make some provision for these needs.

The dean of men finds his greatest satisfaction in the daily opportunities for guiding young men through difficult situations. Students are constantly involved in difficulties common to youth and no day passes without interviews and conferences concerning personal problems. Advice in these personal perplexities as to student life, future vocation, or immediate complications, is to serve both the student and the parent, and constitutes a privilege and opportunity freighted with gratifying and worthwhile results.

Respectfully,

FRASER METZGER,
Dean of Men.

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THE CHAPLAIN

To the President of Rutgers University:

The office of university chaplain has passed the experimental stage. At Rutgers Dr. Stanley White set the work in motion last year on a high plane, using to most excellent advantage the exceptional facilities which are provided. When he became so seriously ill that he could no longer carry the responsibilities his successor found plans made and foundations ready for fine things.

During the year twenty-six clergymen of exceptional preaching ability have spoken at the non-sectarian Sunday morning services in Kirkpatrick Chapel. They were available also for services at the New Jersey College for Women. These speakers, drawn from many denominations, were selected by the president upon recommendation of representatives of the student body, the dean of the New Jersey College for Women, the dean of men and the chaplain.

It became necessary to arrange the week day chapel services in two sections in order to accommodate the student body. Upper classmen met at noon on Mondays, Wednesdays and Fridays, freshmen on Tuesdays and Thursdays. On Wednesdays the Student Council was responsible for the chapel exercise and, following a brief devotional period, occupied the time with a profitable assembly for the consideration of student problems. When special occasions arose for looking to divine providence, the Chaplain sought in daily chapel to use such to ward off the danger of perfunctoriness in the service. There was no concern in the devotional services for theological discussion, but rather a deep desire to help wide-awake young men to an appreciation of the place of religion in daily life.

The Young Men's Christian Association functioned wholly under volunteer leadership. The organization was well officered and through its cabinets exercised a helpful influence on the campus. The plan of having a freshman cabinet was tried for the first time and proved successful. Meetings of the separate cabinets were held frequently. The Hand Book was prepared and distributed, Parents' Day was sponsored, special consideration was given the freshman class at the opening of

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the fall term, employment service was rendered and deputation work was carried on systematically. Arrangements were made for several speakers of prominence to visit the University and address groups of students. An advisory board composed of members of the faculty, alumni, the dean of men and the chaplain cooperated with the officers of the association.

There are many forms of ministry to students of so private a nature that they cannot be expressed in the chaplain's report, yet they constitute the larger part of his work and provide the real joy of his service. Students who were ill, those who had moral and spiritual problems and those who were perplexed in other ways have been met by the chaplain on a friendly, confidential basis with the finest results.

Spiritual forces are held in greatest respect amongst the men of Rutgers. They are tolerant of the views of those with whom they do not see eye to eye. Students recognize that the traditions of the University, with its high standards of scholarship, are all for decency, high-mindedness, honorable and gentlemanly conduct, and that these are the concomitants of religion "pure and undefiled." They have not hesitated to talk frankly with the chaplain concerning the present program of services and have offered constructive suggestions.

Respectfully submitted,

JOHN T. AXTON,
Chaplain.

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THE REGISTRAR

To the President of Rutgers University:

I have the honor to transmit to you the report of the registrar for the academic year 1927-1928.

The undergraduate enrollment shows an increase over the preceding year of 185 students in the colleges for men, or 18.0%, and 149 students in the New Jersey College for Women, or 17.1%; an increase of 334 students in the entire institution, or 17.5%. The increase in the colleges for men is largely in the College of Arts and Sciences, although the College of Engineering shows a gain of 10%, and the College of Agriculture 17%.

The enrollment figures of undergraduates for the year are as follows:

	Class of 1928	*Class of 1929*	*Class of 1930*	*Class of 1931*	*Total*	
College of Arts and Sciences						
General Curriculum	106	171	205	280	762	
Curriculum in Chemistry	3	5	14	16	38	
Curriculum in Biology.....	9	11	21	60	101	
					——	901
College of Engineering						
Civil Engineering	10	14	24	....	48	
Electrical Engineering	7	11	11	....	29	
Mechanical Engineering..	6	3	9	....	18	
Mun. & San. Engineering	2	....	....	....	2	
Industrial Engineering....	....	....	6	....	6	
Engineering Freshmen....	....	....	....	76	76	
					——	179
Department of Ceramics.....	5	5	4	3	17	17
College of Agriculture.....	13	11	16	54	94	94
School of Education.....	5	7	10	....	22	22
N. J. College for Women....	172	198	299	356	1025	1025
Grand total of undergraduates.....						2238

Fifty-nine graduate students, representing seventeen States and four foreign countries, were in residence during

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the year. Nine special students were registered, two in the College of Agriculture and seven in the College of Arts and Sciences, and there were very special and obvious reasons for the enrollment of these students. There is quite a considerable demand for registration as special students, but the University is able to accommodate but a very limited number of such students because of the restricted space in our laboratories, and most requests come from those desiring laboratory courses.

GEOGRAPHICAL INDEX OF UNDERGRADUATES, COLLEGES FOR MEN

	1928	*1929*	*1930*	*1931*	*Total*
Connecticut	....	2	3	6	11
Delaware	1	....	....	....	1
Florida	....	1	....	....	1
Georgia	....	1	....	....	1
Illinois	....	....	1	....	1
Iowa	1	....	....	....	1
Kentucky	1	....	....	....	1
Maryland	1	1	2	....	4
Massachusetts	....	....	2	1	3
Michigan	....	....	....	1	1
New Jersey	131	187	262	379	959
New York	26	43	44	80	193
Ohio	1	....	1	1	3
Pennsylvania	2	3	5	16	26
Virginia	1	....	....	....	1
Wisconsin	....	....	....	1	1
Wyoming	....	....	....	1	1
Canada	....	....	....	1	1
England	....	....	....	1	1
South Africa	1	....	....	....	1
Sweden	....	....	....	1	1
	166	238	320	489	1213

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NEW JERSEY STUDENTS BY COUNTIES, COLLEGES FOR MEN

	1928	*1929*	*1930*	*1931*	*Total*
Atlantic	2	4	10	5	21
Bergen	18	11	18	27	74
Burlington	1	3	6	8	18
Camden	2	2	2	3	9
Cape May	1	1	2	5	9
Cumberland	....	1	3	3	7
Essex	22	50	66	72	210
Gloucester	2	2	....	2	6
Hudson	5	16	19	37	77
Hunterdon	1	....	5	2	8
Mercer	6	4	10	18	38
Middlesex	24	42	56	70	192
Monmouth	11	15	18	27	71
Morris	6	3	4	22	35
Ocean	1	2	1	3	7
Passaic	1	5	7	15	28
Salem	....	1	....	1	2
Somerset	5	6	6	14	31
Sussex	1	....	1	1	3
Union	20	19	25	44	108
Warren	2	....	3	....	5
	131	187	262	379	959

GEOGRAPHICAL INDEX OF STUDENTS, COLLEGE FOR WOMEN

	1928	*1929*	*1930*	*1931*	*Total*
Colorado	....	1	....	....	1
Connecticut	1	2	1	3	7
District of Columbia	....	....	2	....	2
Illinois	....	1	....	....	1
Maryland	....	1	....	1	2
Massachusetts	2	....	2	1	5
Michigan	1	....	....	....	1
New Hampshire	1	....	1	....	2
New Jersey	146	176	255	298	875
New York	13	16	35	41	105
North Carolina	1	....	....	....	1
Pennsylvania	6	1	3	9	19
Ohio	1	....	....	1	2
Porto Rico (Caguas)	....	....	....	1	1
Saskatchewan, Canada	....	....	....	1	1
	172	198	299	356	1025

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NEW JERSEY STUDENTS BY COUNTIES, N. J. COLLEGE FOR WOMEN

	1928	*1929*	*1930*	*1931*	*Total*
Atlantic	1	3	4	1	9
Bergen	12	16	40	47	115
Burlington	....	4	5	1	10
Camden	2	2	....	3	7
Cape May	....	....	2	2	4
Cumberland	2	4	2	2	10
Essex	42	34	56	63	195
Gloucester	1	....	1	2	4
Hudson	10	16	30	27	83
Hunterdon	2	3	1	....	6
Mercer	5	8	10	13	36
Middlesex	25	25	26	34	110
Monmouth	6	13	16	30	65
Morris	6	11	14	13	44
Ocean	....	2	4	5	11
Passaic	9	4	11	18	42
Salem	....	....	....	1	1
Somerset	6	6	2	8	22
Sussex	1	2	....	1	4
Union	15	21	31	24	91
Warren	1	2	....	3	6
	146	176	255	298	875

The grading system which was placed in effect at the beginning of the academic year 1926-1927, and which does not permit a student to continue in his course when he accumulates more than a certain number of hours of deficiencies or mere passing grades, has had a pronounced effect in the colleges for men, ninety-four students having been dropped from their classes during 1927-1928, as against fifty-four students during 1926-1927. Forty students were dropped at the end of the first semester, one senior, eight juniors, fourteen sophomores, and seventeen freshmen; and eight seniors, fifteen juniors, thirty sophomores, and fifteen freshmen were placed on scholastic probation for the second semester. Fifty-four students, one senior, three juniors, eighteen sophomores, and thirty-two freshmen, were dropped at the end of the second semester; and six juniors, twenty-one sophomores, and thirty-two freshmen were placed on scholastic probation for the first semester of the year 1928-1929. It was predicted that

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the percentage of students dropped would increase in the future as the new system was applied, and this has been shown in the number dropped during the past year. In his constant talks with students, however, the registrar feels that this grading system has stimulated effort to do a higher grade of work in all subjects. The student who in the past has cared to secure merely a passing grade in his subjects finds that he no longer has a place in the college world at Rutgers, and if he desires to complete his work for a degree, he learns that he must make an effort to do creditable work in his courses.

The matter of revising the grading system is at present under consideration by the university faculty. Many members of the faculty in their conversation with the registrar, feel that it would be desirable to return to percentage grades. The registrar feels very strongly, however, that it would be most desirable to give the group system a trial for at least two years more, and if any revision is desired, that a great many of the difficulties might be overcome by increasing the number of passing groups from four to five. The greatest difficulty seems to be in determining whether a student belongs in the third group or in the fourth group. There seems to be little question as to a student who should be rated in the first group or in the second group, and if three additional groups were provided instead of two, it would provide considerable additional leeway in rating.

Again this year, very few students have been obliged to leave the University for reasons other than scholastic, there having been very few cases of serious illness, and the dean of men having helped those in financial trouble so far as possible.

The following shows the scholarship ratings of fraternities, clubs, and student activities for the colleges for men for each semester and for the year:

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Ratings of Fraternities, Clubs and Student Activities at Rutgers University for the Year 1927-1928

Fraternities	*Average 1st term*	*Average 2nd term*	*Average for year*
Sigma Delta	2.564	2.361	2.459
Alpha Sigma Rho	2.592	2.419	2.509
Tritelion Lodge	2.577	2.526	2.552
Evergreen Club	2.602	2.594	2.598
Chi Phi	2.868	2.576	2.729
Phi Epsilon Pi	2.779	2.694	2.738
Theta Zeta	2.819	2.674	2.748
Phi Sigma Tau	2.822	2.688	2.758
Phi Gamma Delta	2.842	2.730	2.789
Kappa Sigma	2.829	2.858	2.844
Lambda Chi Alpha	2.987	2.716	2.862
Pi Kappa Alpha	2.896	2.852	2.874
Delta Kappa Epsilon	3.047	2.756	2.903
Phi Lambda Sigma	2.906	2.906	2.906
Delta Upsilon	2.972	2.852	2.913
Raritan Club	2.861	3.025	2.940
Ivy Club	2.949	2.956	2.952
Beta Theta Pi	3.111	2.913	3.011
Chi Psi	3.069	2.996	3.034
Zeta Psi	3.150	2.998	3.076
Delta Phi	3.016	3.307	3.157
Fraternity Average	2.877	2.789	2.834
Non-Fraternity Average	2.6296	2.475	2.553
Difference	.2474	.314	.281
Activities			
Chess	1.851	1.941	1.897
Queens Players	2.530	2.316	2.421
Rifle	2.683	2.390	2.597
Tennis	2.634	2.690	2.659
Swimming	2.651	2.731	2.681
Cross Country and Track	2.750	2.788	2.758
Basketball	2.793	2.979	2.848
Baseball	2.877	2.870	2.875
Lacrosse	2.839	3.009	2.887
Musical Clubs	2.997	2.911	2.954
Football	3.006	3.007	3.0066
Activities Average	2.805	2.816	2.808

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The full quota of 240 students holding State scholarships under the Act of 1890 was again filled, these scholarships covering tuition and course fees; thirty-nine held State scholarships under the Act of 1864, covering the tuition fee; one hundred held college scholarships, covering part of the tuition fee; ten members of the freshman class were assigned to Irving S. Upson Memorial scholarships, remitting all tuition and fees, these having been chosen from applicants for admission on the basis of personality, qualities of leadership, and school activities; the remainder, 824, paid full tuition and fees to the University.

Two hundred and seventy-five candidates competed for the State scholarships under the Act of 1890 in June, 1928, this number being approximately the same as for the preceding three years, and of these, 103 passed the examinations in all subjects, appointments to the scholarships being made on the basis of county residence and excellence in the examinations. This is the fourth year that the examinations have been given to provide for the subjects that are taken ordinarily in the last year in high school, and undoubtedly the best candidates are picked in this way as well as when more examinations were required and when the scholarships were only filled as a result of further examination in September.

The registrar has found it increasingly difficult to arrange class schedules because of the lack of classroom facilities, but matters were somewhat simplified at the beginning of the second semester when classrooms became available for use in the new Physics Building. During the first semester, through the courtesy of St. James' Methodist Episcopal Church, a number of classes were held in the Sunday School rooms of the church. With the logical increase of students, it becomes apparent that further use of our buildings and rooms must be made by scheduling more recitations during the afternoon hours than heretofore.

Only a small number of members of the incoming freshman class can be accommodated in the dormitories of the colleges for men during the year 1928-1929. The registrar lists the names of all persons having rooms in private homes avail-

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able, and has these rooms carefully investigated before listing them. A careful plan will be worked out next year whereby members of the class entering in 1929 will have a goodly share of the dormitory rooms. Additional dormitory space is probably the most urgent need of the colleges for men at this time.

Respectfully submitted,

LUTHER H. MARTIN,
Registrar.

UNIVERSITY EXTENSION DIVISION

To the President of Rutgers University:

During the past year the University Extension Division has continued its many forms of service to residents of the State and has increased its usefulness through the addition of many new lines of activity.

The change in name from Industrial Extension to University Extension, as authorized by the board of trustees last October, has done much to clear up misunderstandings concerning the scope of activities and has permitted the broadening of the program to include many new lines of general extension practice such as the operation of the Interscholastic Debating League, the offering of service in Parental Education, and the setting up of plans for a University Lecture Bureau. The field of the division now seems clear for the first time and this has resulted in the development of a more cordial spirit of cooperation between the division and other branches of the University.

To facilitate the work of the division, a series of six bureaus has been set up, each having responsibility for definite lines of activity. This became necessary when the division entered into a period of expansion last summer and has resulted in systematizing all procedures and in facilitating the assimilation of new projects. The body of this report has been prepared under the classification of these bureaus.

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BUREAU OF ARTS AND COMMERCE

This bureau represents one of the most important branches of the division and includes all extension classes of a liberal or commercial character. During the past year it operated forty classes in the field of liberal arts in twelve communities and gave instruction to 921 individuals. A wide diversity of subjects was offered, and included in the list were such interesting courses as appreciation of the drama, music appreciation, short story writing, philosophy, sociology, psychology, French, and English literature.

The bureau also operated forty-three classes in the field of commerce with 1698 individuals enrolled. Of the twelve courses offered, that in salesmanship and psychology proved most popular and drew 1003 students. These courses were offered in twelve communities throughout the State.

Of special interest were: (1) the seven classes conducted in the store of L. Bamberger and Co. of Newark for employees with 237 enrolled, (2) the five classes in arts for factory girls held in the plants where they were employed, (3) the fifteen classes in public speaking conducted for executives throughout the State, and (4) the two experimental classes in business economics for service clubs conducted at Elizabeth and Phillipsburg.

This bureau has established a large center in Newark and conducted forty classes there during the year with 1206 students. It also did very important work in Atlantic City, Camden, Trenton, New Brunswick, Elizabeth, Phillipsburg, the Oranges, Dover, Perth Amboy, Plainfield, and Carney's Point.

CHART 1 shows the distribution of all classes conducted by this bureau.

BUREAU OF ENGINEERING

This bureau organized and operated forty-nine industrial classes in fifteen communities of the State and reached 913 students, mostly employees in factories. Three activities of this bureau are of special interest and are commented on briefly in subsequent paragraphs.

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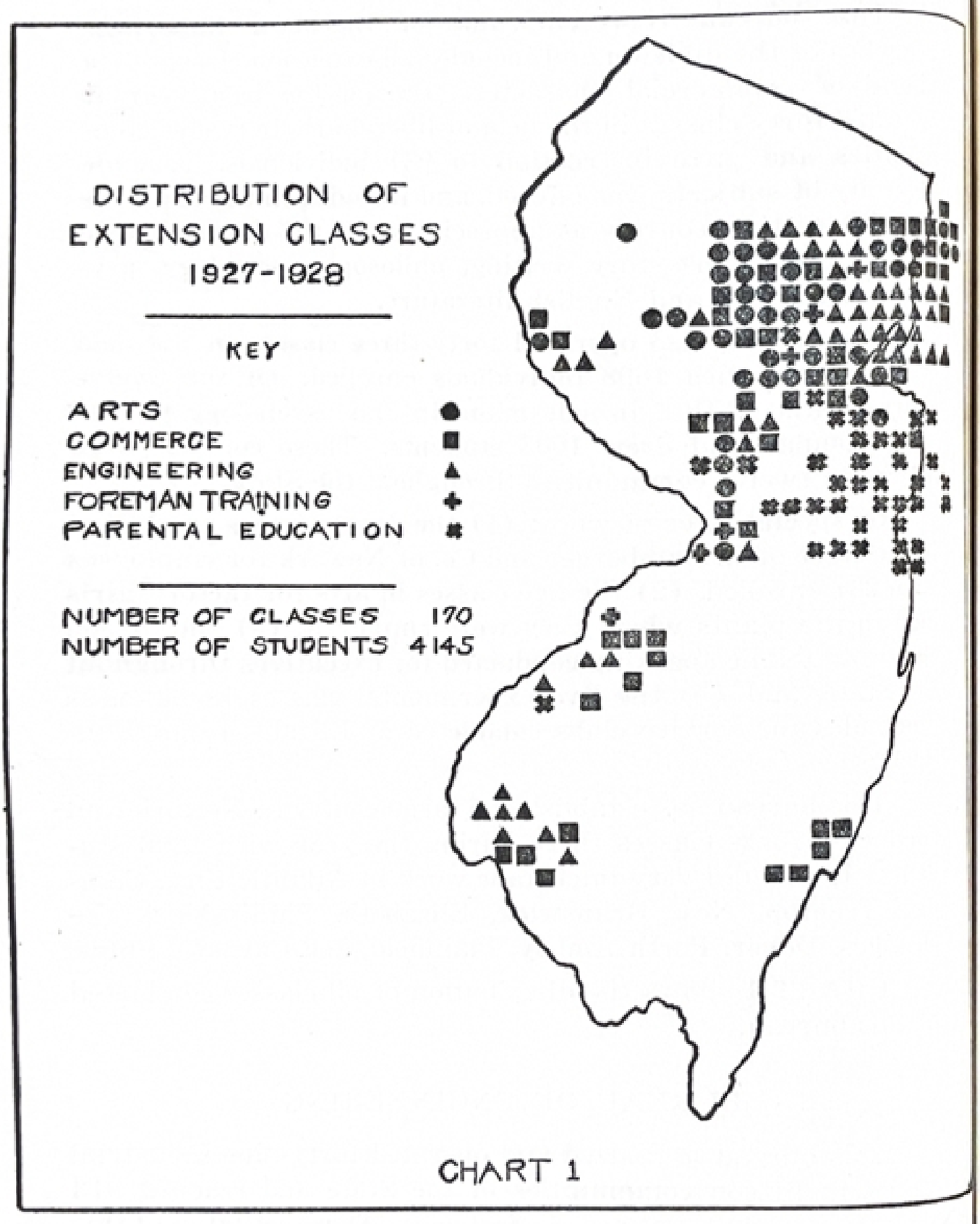


CHART 1

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The Bayonne Night School. This school offers a three-year night course in the elements of mechanical engineering and finished its second year of operation with one of the most remarkable records in the history of university extension. Although classes met four nights a week for a period of seven months, the final records showed a percentage of completions of 86 and a percentage of attendance of 91.3. A group of seven men, who entered with advanced standing two years ago, completed the requirements of the three-year course and were presented with University certificates at the commencement exercises. There were sixty-nine enrolled at the school during the year.

In addition, classes were continued in mechanical engineering and chemistry at Carney's Point with a combined enrollment of thirty-seven, and one class in highway engineering and one in calculus were conducted at Phillipsburg.

Industrial Management Classes. A two-year industrial management course was prepared last year and offered in six communities, namely, Trenton, New Brunswick, Elizabeth, Newark, Jersey City, and Bayonne. Eleven classes were started with a combined enrollment of 265, all being industrial executives. This was a new activity but gives promise of being one of the major projects during coming years. Many prominent industrial officials cooperated in the organization of the groups and in giving lectures on special subjects.

Foreman Training Classes. Fifteen groups in foreman training were completed and represent many of the leading industries of the State. This is a slight decrease from last year and is due to the fact that the division has now scattered its efforts over a great many things and no longer specializes in this field as in its earlier period of operation. A recent survey of firms using this service has been most gratifying and shows that they consider it one of the most valuable things coming out of the University.

CHART 1 also shows the distribution of classes in the bureau of engineering.

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BUREAU OF PARENTAL EDUCATION AND CHILD WELFARE

At the beginning of the academic year a well-organized project in this field, heretofore operated by a committee from Monmouth County through funds provided by the Laura Spelman Foundation, was taken over by the University and placed in the University Extension Division for administration. The director of the teaching program was given an academic appointment at the University in order to bring her work into the official scope of activity.

This project, limited at present to Monmouth County, is organized (1) to train lay-leaders in child study teaching and (2) to organize and teach groups of mothers through these lay-leaders. The content of the courses is largely in the field of child psychology.

As a result of this project, thirty-two classes were operated in twenty-two communities with 355 mothers enrolled for courses of ten meetings. Seven lay-leaders were active in meeting the classes. At the end of the year it was found that 240 had satisfactorily completed the courses, giving a creditable completion record of about 70 per cent.

On account of the possibility of duplication with the home economics work of the Agricultural Extension Service, the administration of this project is being transferred to them July 1, and hereafter that division will be responsible for its operation.

CHART 1 also shows the geographical location of these groups.

BUREAU OF CORRESPONDENCE INSTRUCTION

Great progress was made in the field of correspondence instruction and the number of individual students increased from 1328 for 1926-27 to 2438 for the present year, an increase of 84 per cent. This bureau continues to emphasize industrial courses and practically all of its students are employees of industrial establishments of New Jersey.

The bureau works in close cooperation with firms and generally takes its enrollments under an official plan with

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the company taking an active part. Many firms actually select the men for these correspondence courses while others approve the lists secured by representatives of the division. Both of these practices are encouraged by the correspondence study bureau, for it tends to start men studying along those lines which will prove of greatest value.

An interesting feature of the correspondence instruction is the offering of special conference meetings at all of those shops where a group is enrolled. A representative from the University meets with the students periodically and discusses the solution of problems. This tends to stimulate them to greater action and helps materially in keeping the student at his course. There were 225 shop conferences during the year, each with an average attendance of about twenty, giving 4500 individual contacts between instructors and correspondence students.

The correspondence study bureau has now placed its courses in over a hundred large firms of the State and this list is constantly growing. Through the cooperation of the various manufacturers' associations, trade unions and industrial organizations, it is expected that within a short time practically every plant will have among its employees men who are taking extension courses by correspondence.

CHART 2 shows the geographical location of the 2438 students.

BUREAU OF INTERSCHOLASTIC DEBATING

In October of the past year the board of trustees placed the administration of the Interscholastic Debating League in the University Extension Division. The division found that a time-worn constitution was still in effect and took steps to bring about an adoption of a new one in keeping with modern debating practice. This has now been accomplished.

Some interesting statistics are available from this bureau. There were 240 debates held in the State, 160 classed as preliminary and eighty as final. It is estimated that there was an average attendance of 300 at each of these, making a combined audience of 72,000. There were seventy-four schools

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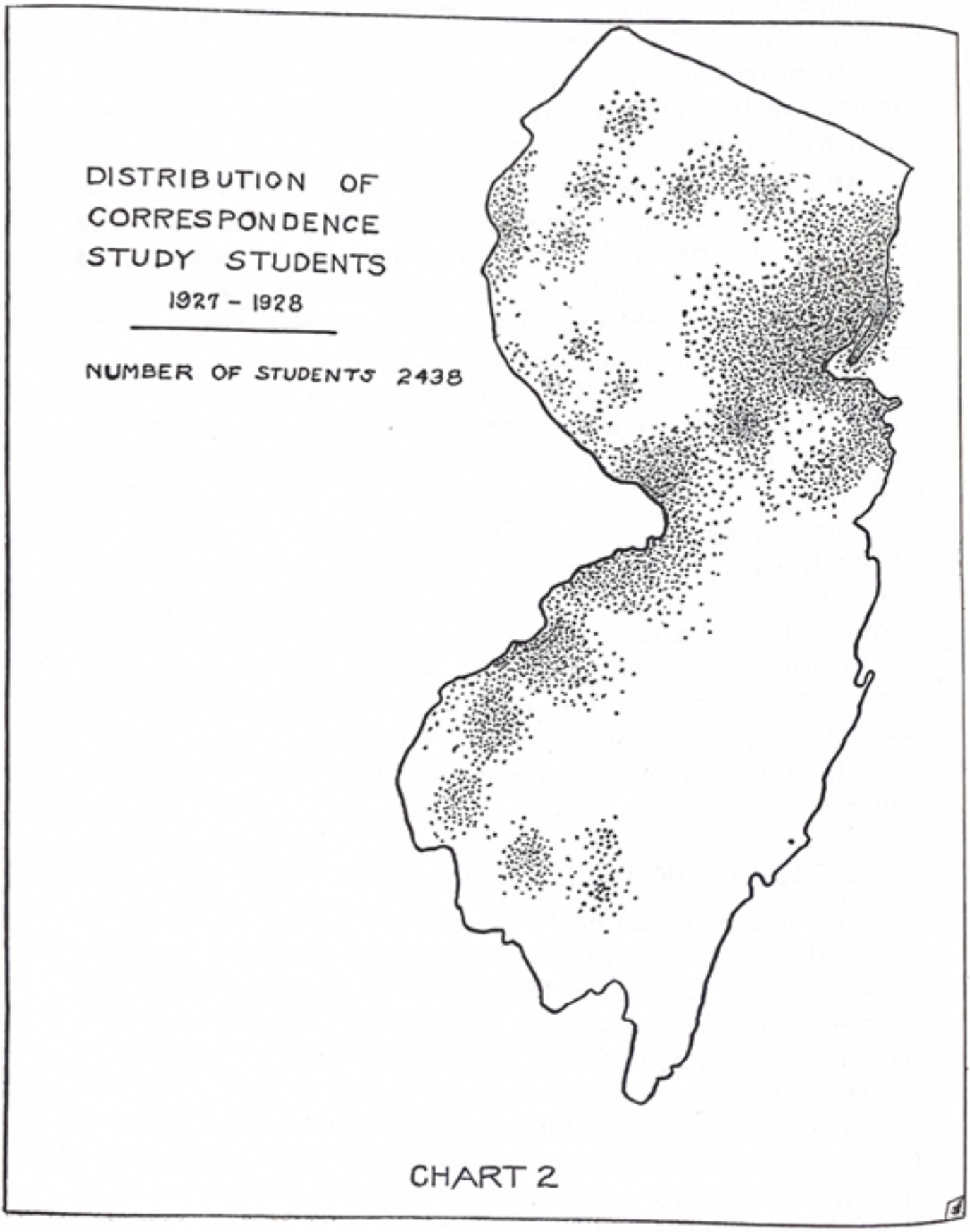


CHART 2

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taking part and thirty-six trophies awarded to sectional championship teams.

The fifteenth annual debating conference was held at the University in December with 468 in attendance. An appropriate program was carried out including addresses, a demonstration debate, and a business session. Every section of the State was represented.

Five issues of "The Debater", a publication for schools interested in debating, were distributed during the year. This paper contained news items of member schools, debate material and technique, bibliographies, and other matter intended to encourage good debating.

Beginning with the coming year all funds of the league, including membership fees from schools, will be handled by the University Extension Division and will pass through the office of the comptroller. This should result in much improvement in the business methods of the bureau.

CHART 3 shows the distribution of high schools participating in the Interscholastic Debating League.

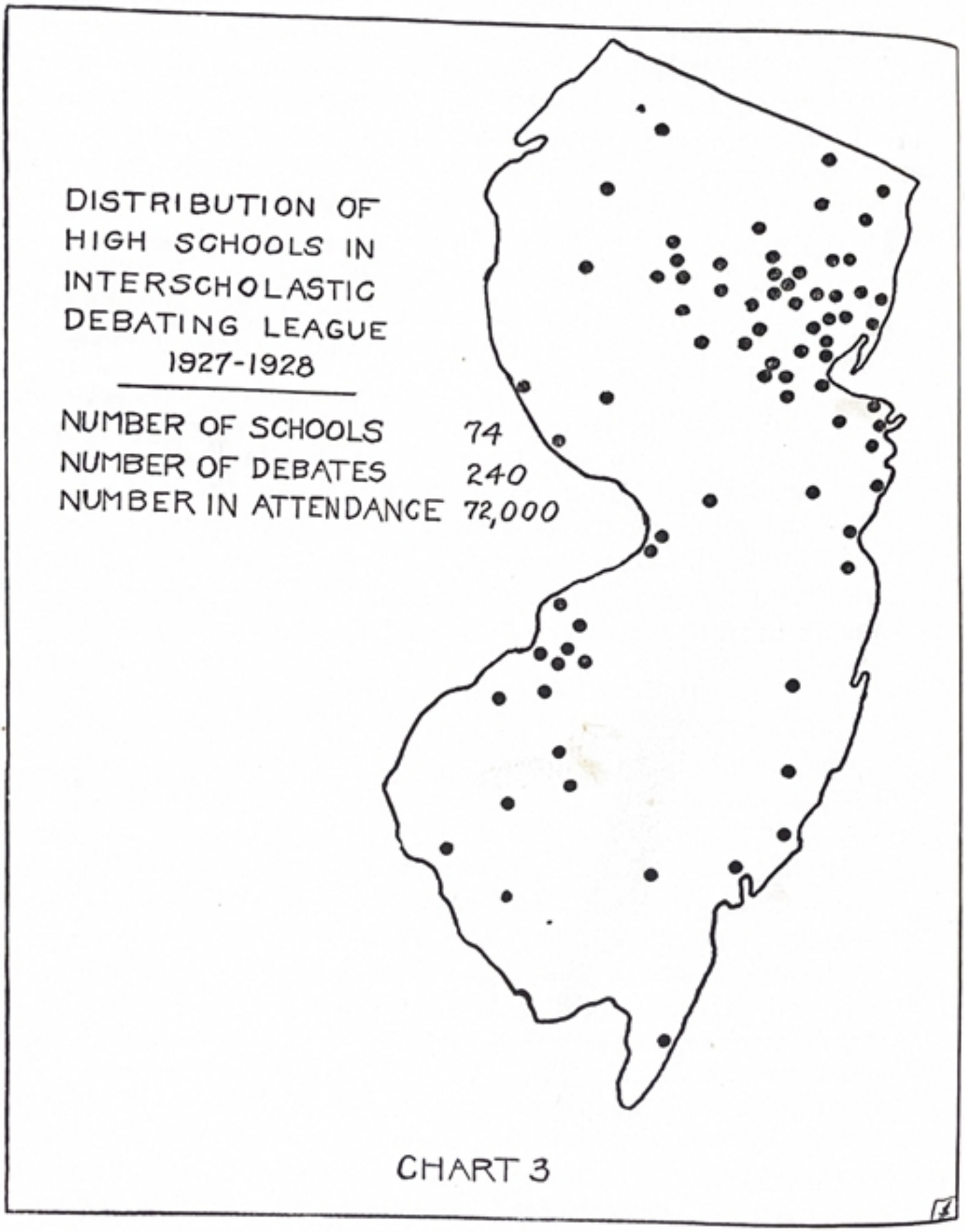
SPECIAL ACTIVITIES

Many activities of the division are of such a nature that they are operated by the director or by the division as a whole and are designated as special activities. Of special interest among these are the following:

Annual Industrial Conference. The second annual industrial extension conference was held for two days at the University in September with 204 registered. Representatives from industry and business came from all parts of New Jersey and surrounding States and took part in the program covering various aspects of the employee training problem. These conferences bring to firms first hand information on modern methods in industrial training and do much to stimulate the adoption of training programs throughout the State.

Annual Real Estate Institute. The second annual Real Estate Institute was held for three days at the University in December with ninety-six in attendance, an increase of nearly one hundred per cent. from the preceding year. Twenty-five

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DISTRIBUTION OF
HIGH SCHOOLS IN
INTERSCHOLASTIC
DEBATING LEAGUE
1927-1928
NUMBER OF SCHOOLS 74
NUMBER OF DEBATES 240
NUMBER IN ATTENDANCE 72,000
CHART 3

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hours of instruction was given in the field of real estate law, appraisals, and salesmanship. This institute is conducted in cooperation with the New Jersey Association of Real Estate Boards. As a result of the value and popularity of this plan, a series of sixteen local one-day institutes has been launched in various parts of the State and almost every board member, some twenty-five hundred in number, has taken part in one or more of them.

Seminar for Boy Scout Executives. The paid executives of the Boy Scouts, located in each county of the State, joined in an educational program with the University Extension Division and met once a month on the campus for instruction in psychology, in book reviews, and in the preparation of a thesis. Thirty-three took part, this being practically every paid executive in the State.

The University Extension Record. This is the title of a publication issued monthly to industrial and business executives and containing news items and information in the field of employee training. Thirty thousand copies were distributed during the year and resulted in the starting of several new projects.

GENERAL SERVICE

The division has rendered much service which cannot be catalogued under specific headings. It has given consulting service to numerous industries, stores, clubs, and various other organizations on matters in the field of training. It has recommended or supplied speakers for many occasions which frequently had no connection with education and was done as a matter of general service. Your director has acted upon a number of national committees interested in university extension. He is chairman of a national committee on Government Aid and Postal Regulations for University Extension, is a member of the national committee on Extension Standards, is a member of the national committee on Coordination of Interscholastic Debating Between States, a member of the committee on Workers' Education and the committee on National University Extension Tours. As a result of these, New Jersey has made a considerable contribution to extension progress in the United States.

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SUMMARY OF ENROLLMENTS AND STATISTICS

The following summary of classes, class students, correspondence students, communities served, and other similar information will give a general view of the scope of work in the division:

Number of classes conducted	170
Number of communities reached with classes	22
Number of class students	4,145
Number of correspondence students	2,438
Total number of students	6,583
Number of schools in debating league	74
Number of debates held	240
Number of people hearing debates	72,000
Number of addresses or lectures given by members of the staff	81
Estimated total attendance at such meetings	17,000
Number copies "University Extension Record" issued	30,000
Number copies of "Debater" issued	1,000
Number of pieces of first class mail handled by the division	61,000

FINANCIAL SUMMARY

The increase in both State and general appropriations allowed the division to increase its budget considerably. Several new additions were made to the staff and these, in turn, were instrumental in bringing into the division further revenue in fees, thereby increasing this item of income. The total fee income for the year was $72,906.78, which when added to the State appropriation of $15,000 and the general appropriation of $17,142.00 gave the division a working budget of $105,048.78. This fee income represents an increase of thirty per cent. over the preceding year.

Expenditures for the year totaled $102,061.66, a detailed statement of which is in the extension office. Thus, the income exceeded the expenditures by $2,987.12, which amount is available for next year. In addition to this there are some outstanding accounts collectable which will increase this balance.

CONCLUSION

In general, it may be said that the division has had a most successful year. It has attracted wide publicity through-

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out the State and, in some activities, throughout the nation. It is now recognized as one of the large and progressive divisions in the country.

Requests for many new activities have come in for next year and it appears that the staff will be over-burdened with what is already in sight. The time has come when all requests cannot be met and a selection must be made of those things which will render to the State the most useful service.

Finally may I assure you that much of the late success of the division is due to the cordial cooperation received from members of the resident faculty. More and more have they expressed an interest in this activity and many of them are doing everything possible to aid in the development and instruction of classes. Your director places this as one of the foremost factors in the growing usefulness of the division.

Respectfully submitted,

N. C. MILLER,
Director.

BUILDINGS AND GROUNDS

To the President of Rutgers University:

During the year 1927-1928 the necessary minor work in connection with the repair and maintenance of the buildings has been done as far as the appropriation would permit, but a much larger sum will be required in the future if the buildings are to be put into proper condition and so maintained. They have been neglected in many cases for so long that much work should be done on them soon to avoid greater expense if further delayed.

Much has been done in the nature of unforeseen or emergency work. The recommendations contained in the report on fire conditions of last year have been completed with the installation of metal covered window frames and sash and wired glass at the fire escapes in Winants and Van Nest Halls and the overhauling of all electric wiring and attachments. In Winants Hall extensive alterations were made in the south end to give enlarged accommodations for the University Extension

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Division. In Van Nest Hall a new staircase was built to replace the old and dangerous one. The roof construction of Queen's building was found to be in a very dangerous condition owing to the rotting of the truss timbers, due to leakage from the roof and gutters. This condition has been remedied and the roof made safe for a long term of years by installing four lines of steel beams the whole length of the building, resting on the brick walls, the whole roof construction being supported on these beams instead of on the old trusses. The posts of the bell tower, which were also badly rotted, have been strengthened, and the whole slate roof overlaid with a waterproof asphalt covering. Extensive repairs to the chapel organ, necessitated by leakage from the roof, have been made, the roof made tight, and new copper gutters put on. The reinforced concrete roof of the Engineering Building, which has been in bad condition for several years, was found on examination to be in a dangerous condition and extensive and expensive repairs had to be made just before the opening of classes in September. Leakage from drains in Ford Hall which had caused trouble for over a year was looked into and remedied as far as possible without closing the building for a considerable length of time.

Last summer and fall a great improvement was made in the running of telephone lines from the switchboard in Queen's building to many of the buildings. By the installation of underground conduits all lines to the gymnasium, library and all buildings on Bleecker Place are now served without the use of overhead wires. Various alterations have been made in connection with the reassignment of offices and classrooms. A two-story brick building near the repair shop was rented for the storage of material used especially for the Summer Session, a much needed improvement.

In January, the superintendent visited the Canfield Estate near Dover, recently acquired by legacy, made plans of the house and a map of the property and had necessary repairs made to the roof to keep the building safe during the winter. Further work is necessary to put the house in a good state of repair.

The new Physics Building on Bleecker Place has been completed and is now fully occupied. Work was started on the

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excavation June 2, 1926, and the first classes were held in the building January 30, 1928, although three or four months more were required to finish all the work. After the site for this building was decided upon, the next step was taken on May 11, 1925, by the location of test pits. Bids for the construction of the building were opened at the State Architect's office, March 24, 1926, and the contract awarded April 6 following. It is thus three years between the preliminary steps and final completion, which is altogether too long for a building of this size, some of the delays having been distinctly avoidable.

GROUNDS

More work has been done on the grounds than for several years previously and they are probably in better condition than ever before. The usual pruning of trees was omitted this year, the work of the past three years having put them in excellent condition. The grass plot in the center of Bleecker Place has been entirely harrowed, covered with top soil and seeded. The unsightly area behind the library and gymnasium has been laid out with walks and driveways, and seeded. The grounds around the Physics Building have been graded and seeded and concrete walks built. A much needed walk has been constructed across Neilson Campus from Bleecker Place to Ford Hall. The grounds in front of Hegeman Hall have been graded and seeded and work is now in progress on walks and a driveway there. An old brick building near here, formerly used as a cow stable, has been demolished and a small wooden structure moved from Ford Campus to College Field for use as a tool house.

Concrete sidewalks have been laid on three sides of College Field in accordance with an agreement made at the time Ray Street was discontinued through the field. Much planting of shrubs and vines has been done this spring around the buildings and at various places on the campus. Two new power lawnmowers have been purchased during the year.

On commencement day the bronze statue of William the Silent at the head of Bleecker Place was dedicated with appropriate ceremonies.

During the year the superintendent's office, with what

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help a limited appropriation for student draftsmen would permit, has completed record sets of plans of all the buildings at a uniform scale and a map of the property from Somerset Street to Seminary Place, showing as far as could be ascertained the location of all sewer, water, gas and electric lines and much other information of value which had never before been recorded. When the present superintendent assumed office on January 1, 1925, there were no plans of buildings available nor recorded locations of many essential features. Considerable assistance was given by this office in furnishing data for the survey made last year looking to the future development of the University.

RECOMMENDATIONS

The southeasterly gateway of Queen's Campus should be widened, being too narrow for present-day traffic. The iron gates have been broken by trucks three times within two years and the chief of the fire department has issued orders that no apparatus shall enter at this point, which might cause delay in case of fire. I understand that the class of 1883, the donors of this gateway, have offered to have it rebuilt, which should be done as soon as practicable.

The rear entrance doors of the chapel should be changed to swing outward, as has already been done with the front doors. This would be quite important in case of a fire or panic.

Estimates were obtained for general repairs and renovation of the Alumni House, which is in a deplorable condition, but it was decided not to carry out this work at present on account of the large cost. Just prior to commencement, however, the first story was put into good condition at the expense of the Rutgers Club of New Brunswick.

Another exit should be provided from the main hall of the gymnasium directly to the outside, as I have recommended before. It takes entirely too long now to empty the place of a large crowd, and as the egress conditions in the entrance lobby are inadequate, serious trouble might result in case of a fire or panic.

The plumbing system in Ford Hall is in a generally unsatisfactory condition, especially with regard to the fixtures,

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and extensive overhauling and repairs will be required before long. A great deal of exterior painting should be done, especially on the woodwork of the older buildings, a really economical measure to avoid greater expense later.

USE OF BUILDINGS BY OUTSIDE INTERESTS

The various buildings have been used during the year by several outside organizations with very satisfactory results to all concerned. From August 23 to 25, 1927, a convention of Grange members from five States was held with about 300 present. September 13 to 15 there was a convention under the management of the University Extension Division. October 3 and 4 the State Newspaper Institute was held here. December 27 to 30 the real estate operators of the State held a convention, and on March 5 the local real estate group met here. Most of these occasions involved the housing and feeding of those in attendance in addition to providing meeting places.

In making this, my last report, I wish to express my appreciation of the loyal assistance and support of all those connected with this department.

Respectfully submitted,

WINTHROP ALEXANDER,
Superintendent.

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DEPARTMENT OF PUBLIC INFORMATION

To the President of Rutgers University:

The main purpose of the department of public information has been to keep the people of New Jersey informed as to the activities, progress and service of the State University. No attempt has been made to spread propaganda of any kind, and our News Bureau has continued its policy of sending to the State press only stories of recognized news value.

The duties of the department have been five-fold, namely:

1. The conducting of a bureau of information.
2. The directing of a general news service.
3. The directing of an athletic news service.
4. The compiling and editing of University catalogues and circulars.
5. The editing of the *Rutgers Alumni Monthly,* and the *University Extension Record.*

BUREAU OF INFORMATION

The office of the department has acted as a general distribution center for information concerning the University. This service has consisted of the answering of scores of questionnaires from institutions and individuals, the sending out of printed matter, the preparation of articles ranging in length from 100 to 3,000 words, and the writing of more than 300 personal letters in reply to definite requests for information.

The department has prepared and distributed an alphabetical list of the members of the faculty and administrative officers, and a university directory; and has published monthly the *University Bulletin,* containing a list of campus meetings, athletic contests and other events.

The director of the department has been a member of the Committee on Student Business Activities, the Targum Council, and the Scarlet Letter Council. He has organized the Anthologist Council and has acted as faculty representative upon that body.

The department has kept on file all electroplates and photographs belonging to the University, and has arranged

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for their use in faculty bulletins, undergraduate publications and elsewhere.

GENERAL NEWS SERVICE

During the course of the year 176 news stories of the University have been sent to every daily paper in the State and to a selected list of 120 weeklies and semi-weeklies. In each case, a different story was prepared for the dailies and for the weeklies and semi-weeklies. In the case of the dailies, the news was "spot" news and was dispatched as soon as events actually occurred; for the other papers a different type of story was written, without date line, and designed to be of general interest even if not of immediate news value. This system of distribution has resulted in the publication of more Rutgers news than in previous years, and has been well received by the editors of both daily and weekly publications.

The subject matter of the stories has been concerned solely with matters of general interest to the people of the State; the progress of the University in a material and academic way, the service which the institution has rendered the State, and the opportunities which it offers to young men, young women and adult citizens.

It is significant that in the past year the newspapers have printed the Rutgers stories as submitted, and have also commented editorially upon their subject matter. Never before has the University been so much in the public eye as during the past twelve months, and never before have the newspapers commented so liberally upon the activities, plans and purposes of the State University.

In addition to the stories sent out by the News Bureau, the director of the department and his assistant have acted as Rutgers correspondents of all New York, Newark and Philadelphia papers, with two exceptions, and of the press associations using Rutgers news. During the year, 112 telegraphic stories were filed, and more than 1,000 typewritten stories were mailed to the metropolitan newspapers. Pleasant relations have been maintained with the Associated Press and the Standard News Association, through which organizations much Rutgers news has received national distribution.

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Pictures of events at the University have been distributed through the Associated Press, the Newspaper Enterprise Association, and Times World Wide Service. We have been especially fortunate in our relations with the *New York Times* which, in its rotogravure section, has printed 176 Rutgers pictures within the past two years.

Thirty-nine special articles, exclusive of athletic stories, have been written by the director, and 538 local news stories, describing the activities of individual undergraduates, have been sent to their home town or county papers.

This year a special service, known as the County News Service, was inaugurated, in which lists of students receiving appointments, honors, etc., were classified according to counties and sent to all newspapers of the State. In no case, so far as we know, did these local and county stories fail of publication.

Special informational campaigns were conducted in connection with conferences and conventions at the University, such as the Industrial Extension Conference, the New Jersey Newspaper Institute, and the Real Estate Institute; and representatives of the department personally "covered" all of these events for the newspapers.

The department has continued to cooperate with undergraduate newspaper correspondents, to supply them with news and release dates, and to aid them in every possible way in the preparation of their stories. The department has also supplied news items of official university nature to the *Targum* and to the *Campus News*.

An organized campaign of public information concerning the opportunities of the Summer Session was conducted throughout the spring and early summer. Similar campaigns were directed in connection with the short courses in engineering, and the short courses in agriculture. The assistant director of the department acted as Rutgers correspondent of the local daily and Sunday newspapers, and was enabled to keep the people of New Brunswick fully informed as to events on the campus such as lectures, concerts, debates, and athletic contests. He has also written a number of special stories of local

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significance and interest, ranging in length from 500 to 5,000 words.

This year, for the first time, the department was in position to be of direct service to the University Extension Division. From September 1927 to June 1928, thirty-three general news stories and 321 local stories of the work of the Extension Division were prepared and printed in the newspapers of the State. In addition, a number of special stories were written for magazines and trade journals of national circulation, bringing the activities of the division to the attention of thousands of persons interested in the extension field and in the subject of adult education.

A series of six articles written by President Thomas under the general caption "Facts About the State University" were printed during successive days in the *Trenton Evening Times, Camden Courier, New Brunswick Home News, Long Branch Record, Perth Amboy Evening News, Passaic Daily News, Paterson Call,* and *Asbury Park Press.*

Other special articles which may be deserving of mention here are a front page story in the *Newark Evening News* descriptive of the progress of the University during the first two years of President Thomas' administration, and a five-column story with pictures in the *Newark Sunday Call* on the tenth anniversary of the New Jersey College for Women.

A series of special stories of the tenth anniversary celebration of the college for women was prepared and sent to all papers of the State and arrangements made for the taking of pictures of the Sokol Demonstration, which was given in connection with the celebration. Six of the largest moving picture news associations, and fourteen of the national photographic service agencies sent photographers to the affair, resulting in a large amount of publicity, both in the newspapers and in the theatres throughout the country. All Commencement news of the New Jersey College for Women, and also of the New Jersey College of Pharmacy, both of which are parts of the State University, were handled by the department of public information.

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A summary of the non-athletic stories sent out during the past two years is appended herewith:

Activity	*Number of Stories* 1926-27	1927-28
Agriculture	12*	11*
Debating	15	16
Engineering	11	24
Faculty	18	17
General News	28	47
New Jersey College for Women	19	22
New Jersey College of Pharmacy	....	5
Local Stories	336	538
Administration Activities	17	22
Special	14	39
Summer Session	13	11
Undergraduates	59	72
University Extension		
General	30	33
Special	....	321
	572	1178
Telegraphic stories	107	112
Mimeographed stories	149	174
Total	828	1454

*Exclusive of stories sent out by the Department of Agriculture.

ATHLETIC NEWS SERVICE

The department of public information has been in close touch with the athletic association throughout the year and has directed all athletic publicity. The established policy of sending stories to metropolitan sports editors both by telegraph and mail has resulted in the printing of considerable Rutgers news and has kept the people of New Jersey, New York and Eastern Pennsylvania fully informed of the activities of Rutgers athletic teams.

The director of the department has had charge of all press box arrangements, of the issuing of press passes, the distribution of photographs, and the release of athletic stories.

A new service established this year was the sending to the home town and undergraduate publications of our opponents special stories about the Rutgers teams. Also, this year the

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department was able to prepare more than two hundred local stories of the activities of our athletes.

A summary of athletic news stories sent out is appended herewith:

Sport	*Number of Stories* 1926-27	1927-28
Baseball	42	67
Basketball	17	21
Cross Country	6	4
Football	84	106
General Athletics	73	92
Lacrosse	6	21
Swimming	14	29
Tennis	3	4
Track	10	15
Boxing	....	5
Wrestling	....	7
Telegraphic Stories	584	793
	839	1194

EDITORIAL WORK

The office of the department has during the past year become generally recognized as the central editorial office of the University. All pamphlets, circulars and other publications issued by the various colleges, with the exception of the New Jersey College for Women and the College of Agriculture, have been edited by the director, who has personally conferred with printers as to specifications, etc., and with department heads as to arrangement of subject matter, type, headings, and general layout. The director has been in constant touch with the University Extension Division and has aided in the preparation and editing of a large number of publications for the division.

The director compiled and edited the Rutgers University Catalogue, the Catalogue of the New Jersey College of Pharmacy, the Report of the President and other Officers of the University, and the Circular of Information. He also cooperated with the department of journalism in the printing of the booklet "Journalism as a Career", and with the School of

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Education in the publication of the Annual Catalogue of the Summer Session.

The director has been editor of the *Rutgers Alumni Monthly,* issued ten times a year, and of the *University Extension Record,* published nine times a year. The February issue of the *Alumni Monthly* was designated as "The State University Number", and contained special articles by President John M. Thomas, Dean Walter T. Marvin, George S. Silzer, former Governor of New Jersey, and others. It was designed to place before the alumni of the University and others certain definite information concerning the relations between Rutgers and the State, and was sent to all alumni residing in New Jersey and to a selected list of 3,000 citizens, in addition to the regular subscribers. The *Alumni Monthly* throughout the year has been a medium of expression of alumni opinion and has done much to maintain the interest of the graduates in the University and to keep them closely in touch with the progress of events in one of the most crucial years in our history.

Appended herewith is a brief report of the program of public information carried on by the College of Agriculture.

Respectfully submitted,

EARL REED SILVERS,
Director.

PUBLIC INFORMATION—AGRICULTURE

The work of the department of publications during the year has fallen into three main divisions; namely, the editing and publishing of informational bulletins, the conducting of a news service for the press of the State, the editing of two agricultural magazines, *New Jersey Agriculture* and *Soil Science.* In addition to this, the department has rendered a great deal of service to special writers and various agricultural magazines through furnishing photographs and informational material.

Other activities have been:

1. The editing of papers broadcast regularly over stations WPG and WODA.

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2. The managing of advertising for Field Day and other important affairs of the agricultural college and experiment station.

3. The printing of letterheads, forms, and similar matter.

4. The distributing of bulletins, circulars, and other printed material requested by residents of the State.

The news service has reached 229 different papers of the State during the year and more than a score of papers published in nearby States.

A total of 76 different publications ranging from four to 350 pages each were edited by the department during the year. The aggregate number of pages printed amounted to nearly ten million.

Circulation of *New Jersey Agriculture* grew from 15,500 at the beginning of the year to 18,000 at the end. Requests for permission to reprint material appearing in this magazine have come from points as far distant as New Zealand.

Scientists from twenty-seven States and twelve foreign countries contributed material to *Soil Science* during the year. In all, 1,000 pages were edited for this journal by the department.

Fifty-one papers were edited for the State radio service during the year. Responses from this service have been received from Canada to Florida and as far west as Indiana.

Illustrative material was sent to some of the foremost agricultural publications in the East, and in addition, much material was furnished to R. L. West, Assistant Commissioner of Education in New Jersey, for his Geography Supplement, which is to be used in the public schools of the State.

Respectfully submitted,

ROGER DE BAUN,
Editor.

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THE ASSOCIATION OF THE ALUMNI

To the President of Rutgers University:

The Association of the Alumni of Rutgers College, Inc., is one of the oldest in the United States, having a continuous existence since July 1833, holding meetings at each commencement, the 96th annual meeting being held on June 8, 1928. In the minutes of the July 16, 1833, meeting it is stated that the records of earlier meetings were "in the hands of a former secretary". On March 17, 1874, the association was incorporated by special act of the Legislature of New Jersey. In 1883 the trustees of the College granted to the alumni the privilege of nominating five trustees, each to serve five years.

The first annual dinner was held in 1850 and since then there probably has been a dinner for the alumni at each commencement. For a number of years past the dinner has been provided by the trustees.

According to the minutes, over forty of the portraits now in Kirkpatrick Chapel were obtained through the efforts of the association.

Early in the '90's the Alumni Endowment Fund was established. Since that time over $70,000.00 has been turned over to the University. This fund is quite separate from any special endowment drives or funds, to which alumni have also generously contributed large amounts. The Alumni Association was also instrumental in establishing endowment insurance as a class gift. More than $100,000.00 is being accumulated for Rutgers by the classes of 1914, 1922, 1923, 1924, 1925, and 1926.

The Alumni Association is a separate organization, supporting itself by dues collected from the former students of the men's colleges of the University. The association exists for two purposes, namely to be of benefit to Rutgers and to be of service to the alumni of Rutgers. The association serves these purposes by keeping complete records of all former students, compiling up-to-date information as to residence and business, marriage, children, death, and other matters, pub-

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lishing the *Rutgers Alumni Monthly* and taking active part in commencement undertakings as well as in various class and club organizations.

There are 4,037 known living Rutgers alumni, residing in 947 different cities or towns throughout the world. Fifty-seven of them live in foreign countries. Latest statistics show that although there are Rutgers men in 44 of the 48 States of the Union, none of our alumni live in Nevada, New Mexico, North Dakota, or Utah.

Rutgers men are engaged in thirty-three different vocations, 378 being merchants and salesmen, 283 lawyers, 273 engineers, 260 ministers, 180 farmers, 170 physicians, down to 3 in employment management.

Of these 4,037 living former Rutgers students, not quite 2,700 are graduates, about 1,100 holding A.B. degrees, about the same number B. Sc., and the rest Litt. B.

Some idea of the amount of detail necessary in servicing over 4,000 alumni may be gathered from the fact that there were exactly 1,085 changes of address from June 1, 1927, to May 31, 1928. That alone means that number of corrections to be made on our Kardex files, twice that number of new plates to be made in our geographic and class files, and numerous other changes in club, athletic and concert mailings. Our print shop turned out 564 separate jobs, most of them for the various classes, clubs and faculty. We do this at cost and there is no question but that our print shop is of much service to the groups mentioned.

Within the past year, forty-nine Rutgers men have passed on to "that undiscovered country from whose bourne no traveller returns". In each case, letters of sympathy were written to their respective families and all available data obtained for our records and files.

During the past year, the Alumni Association, in addition to its regular routine, has sponsored, financed and directed a campaign to better inform its former students and the people of New Jersey concerning the status of Rutgers University as the State University of New Jersey, its services, its needs, and

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the benefit to the State to be realized by its expansion. It was the largest single task the Alumni Association has ever undertaken.

Since Rutgers in the past two decades has become more and more a public institution, expanding her service in resident teaching, research and extension to meet the demands of the diverse interests of the State, it was felt, first, that it was a matter of public duty to inform the taxpayers of the use of public funds, and second, that to receive proper and adequate support for the University these same taxpayers should be better informed of the services Rutgers is rendering to the State. It is well known that no public enterprise can be assured of success without the backing of public interest.

At your suggestion, and with the aid of your signature, the Alumni Association was able to collect over $10,000.00 in back pledges to the endowment funds of 1916 and 1920. This sum has been turned over to the university treasurer at no cost to the University.

The two main reasons for our Alumni Association are to be of benefit to Rutgers and of service to our former students. I trust that this report will show that during this past year, as well as in former years, the Alumni Association has done much for Rutgers, that we are and have been of service to our alumni, and that a continuation along our present lines will be of value to both parties concerned.

Respectfully submitted,

ARTHUR C. BUSCH,
Alumni Secretary.

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FINANCIAL REPORT

For the Year Ending June 30, 1928

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FINANCIAL REPORT
1927-1928

To the Trustees of Rutgers University:

There is submitted herewith the financial report of the University for the year ending June 30, 1928.

CONTENTS OF THE REPORT

The report consists of the following principal sections:

1. Consolidated Balance Sheet and Statement of Income and Expense of the entire University, excluding the State Agricultural Experiment Station.

2. Balance Sheet and detailed Statement of Income and Expense of the University, with supporting schedules, excluding the College for Women and the College of Pharmacy.

3. Balance Sheet and Statement of Income and Expense of the College of Pharmacy.

SUMMARY

The accumulated deficit on June 30, 1927, for the Men's Colleges was $73,125.25, which, as the result of operations during 1927-28, was reduced to $14,704.87 as of June 30, 1928. These figures do not include a balance of $16,418.47 resulting from the operation of the three men's dormitories during the year 1927-28, nor a balance of $3,762.58 for the dining hall located in Winants Dormitory, which sums were set up as reserves and are being held for improvements to, and extension of, these facilities.

AUDITOR'S CERTIFICATE

The accounts of the University for 1927-28 (excluding those of the College for Women, which are audited by Mr. Philip F. Keebler) have been audited by Messrs. Barrow, Wade, Guthrie and Company. Their certificate follows.

Respectfully submitted,

A. S. JOHNSON,
Comptroller.

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AUDITORS' CERTIFICATE

We hereby certify that we have audited the cash receipts and disbursements of the Treasurer of Rutgers University for the year ended June 30, 1928.

Income receivable from securities, students, etc., was checked, the total thereof appearing in the Statement of Income (Schedule D).

Satisfactory evidence was produced for moneys disbursed and the balances in banks at June 30, 1928, were duly confirmed by the depository banks.

Evidence of ownership of the securities representing the investment of the endowment and building funds was confirmed to us by the depositories holding same.

We have compared the annexed summaries and relative schedules with the books of the University and certify that same are in agreement therewith and that the Balance Sheet correctly sets forth the financial position of the University at June 30, 1928.

The Balance Sheet and Income Account of the New Jersey College for Women included in the Consolidated Balance Sheet and Income Account have been taken from the Financial Report of that institution, but have not been audited by us.

(Signed) BARROW, WADE, GUTHRIE & COMPANY.

New York, September 17, 1928.

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BALANCE SHEET

(Including all Divisions except New Jersey Agricultural Experiment Station)

June 30, 1928

ASSETS

Endowment Assets		
Investments	$3,725,327.88	
Less: Invested in Plant (College for Women)	186,347.43	
		$3,538,980.45
Cash		8,502.41
U. S. Land Grant Fund (held by State of New Jersey)		116,000.00
Fund held by General Synod Reformed Church		5,000.00
		$3,668,482.86
Plant Assets		
Lands and Buildings		$7,139,988.46
Equipment and Books		912,397.18
Investment in Securities		386.25
		$8,052,771.89
Building and Loan Dues		92,709.88
Building Funds Investment	$124,075.19	
Building Funds Cash	105,587.14	
		229,662.33
		$8,375,144.10
Current Assets and Deficit		
Cash		$ 150,179.54
Accounts Receivable		12,139.90
Deferred Expenses		17,143.51
Inventories		29,131.73
		$ 208,594.68
Due from Endowment Funds	$ 6.93	
Due from Plant Account	49,750.22	
		49,757.15
		$ 258,351.83
Deficit		27,316.59
		$ 285,668.42
TOTAL		$12,329,295.38

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BALANCE SHEET

(Including all Divisions except New Jersey Agricultural Experiment Station)

June 30, 1928

LIABILITIES

Endowment Capital

General Funds		$1,647,646.37
Special Funds		1,627,550.72
Library Funds		38,101.13
Fellowship Funds		31,557.42
Prize Funds		25,700.00
Beneficiary Funds		147,069.87
Student Aid Funds		87,500.00
Annuity Funds		24,412.55
Preparatory School Funds		400.00
Accumulating Funds		103,885.30
Funds in Trust		121,000.00
		$3,854,823.36
Less: Invested in Plant		186,347.43
		$3,668,475.93
Over invested		6.93
		$3,668,482.86

Plant Capital

Investment in Plant		$6,955,521.67
Due to Current Cash		49,750.22
Mortgages Payable		
College Avenue Campus	$136,000.00	
College for Women Campus	837,500.00	
College of Pharmacy Campus	74,000.00	
		1,047,500.00
		$8,052,771.89
Building and Loan Dues		92,709.88
Building Funds unexpended	$206,812.33	
Gifts for purchase of Real Estate	22,850.00	
		229,662.33
		$8,375,144.10

Current Liabilities

Notes Payable	$ 50,000.00
Accounts Payable	8,638.71
Repair Department and Book Store	1,981.44
Student Accounts	16,652.20
Deferred Income	40,738.24
	$ 118,010.59
Balance Special Funds	147,476.78
Dormitory and Dining Hall Reserve	20,181.05
	$ 285,668.42
TOTAL	$12,329,295.38

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STATEMENT OF INCOME AND EXPENSES

(Including all Divisions except New Jersey Agricultural Experiment Station)

Fiscal Year 1927-1928

INCOME

Student Income:			
Tuition and Fees:			
Undergraduate Tuition and Fees Regular Year		$514,741.53	
Engineering Short Course Fees		647.00	
Agricultural Short Course Fees		1,462.47	
Debating Fees		1,785.00	
Transcript Fees		268.00	
Higher Degree Fees		447.00	
Summer School Fees (1927)		30,539.50	
Educational Extension Fees		20,448.90	
University Extension Fees		63,866.47	
Infirmary Fees		8,676.25	
Transportation of Engineering Students		60.00	
Fencing Fees		214.70	
Sub-Total Tuition and Fees		$643,156.82	
Dormitories and Dining Halls:			
Dormitories	$186,779.00		
Dining Halls	268,147.18		
Sub-Total — Dormitories and Dining Halls		454,926.18	
			$1,098,083.00
Endowment Income			181,924.19
Gifts (for current purposes)			38,924.06
Miscellaneous Income:			
Interest on Bank Balances, Call Loans, etc.		$11,969.57	
Real Estate		11,992.95	
Dramatic Art Building		143.98	
Banquets		6,919.88	
Copyrights		106.64	
Student Aid Loans returned		4,696.98	
Sundry		3,642.56	
			39,472.56
State Appropriation (for current purposes)			*780,874.39
Federal Appropriation			214,602.55
			$2,353,880.75

* State Appropriation—does not include $261,817.26 received during 1927-28 for Lands, Buildings, and Equipment.

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STATEMENT OF INCOME AND EXPENSES

(Including all Divisions except New Jersey Agricultural Experiment Station)

Fiscal Year 1927-1928

EXPENSES

University General		$ 186,288.88
University Library		39,925.52
Physical Plant—Operation and Maintenance:		
College Avenue Campus	$105,233.34	
College of Agriculture Campus	31,506.39	
College for Women Campus	71,004.96	
College of Pharmacy Campus	6,209.86	
		213,954.55
College of Arts and Sciences		259,395.89
College of Engineering		63,733.67
College of Agriculture		236,516.39
College for Women		313,551.50
College of Pharmacy		71,020.28
School of Education		35,236.26
Summer School (1927)		55,862.28
Ceramics Department		15,362.43
University Extension		93,250.47
Physical Education (Men's Department)		13,468.17
Military Science		4,283.77
Sub-Total		$1,601,850.06
Infirmary		13,404.07
Dormitories and Dining Halls:		
Dormitories	$224,066.49	
Dining Halls	226,190.08	
		450,256.57
Sub-Total		$2,065,510.70
Endowment Income Transferred to Principal	$ 3,592.51	
Special Funds Income—Unexpended Balances	72,174.45	
Men's Dormitory and Dining Hall Balances Reserved	20,181.05	
Preparatory School Income Paid Out	20.00	
		95,968.01
Sub-Total		$2,161,478.71
Balances for Year:		
General University:		
Invested in Lands and Buildings	$ 75,298.59	
College for Women:		
Invested in Lands, Buildings and Equipment	$ 50,769.42	
Building and Loan Dues	35,615.32	
Applied on Mortgages Payable	10,400.00	
Balance of Current Earnings	828.59	
	97,613.33	
College of Pharmacy:		
Invested in Lands and Buildings	$ 1,338.13	
Applied on Deficit	14,151.99	
Applied on Mortgage Payable	4,000.00	
	19,490.12	
		192,402.04
		$2,353,880.75

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BALANCE SHEET

(Excluding College for Women and College of Pharmacy)

ASSETS

SCHEDULE A

Endowment Assets

Investments (A-1)	$2,202,465.31
Held in trust by State of New Jersey	116,000.00
Held in trust by General Synod of Reformed Church	5,000.00
	$2,323,465.31

SCHEDULE B

Plant Assets

Lands and Buildings (B-1)	$3,549,206.35	
Equipment	400,346.95	
		$3,949,553.30
Cash	$ 6,406.31	
Investments (A-1)	119,075.19	
		125,481.50
		$4,075,034.80

SCHEDULE C

Current Assets and Deficit

Cash		$ 77,192.15
Accounts Receivable		12,139.90
Due from Endowment Funds		6.93
Inventories		29,131.73
		$118,470.71
Deferred Expenses		17,143.51
Deficit June 30, 1927	$73,125.25	
Deduct:		
Balance 1927-28 from Schedule D	$75,298.59	
Less Expenditure on Plant	16,878.21	
	58,420.38	
		14,704.87
		$ 150,319.09
TOTAL		$6,548,819.20

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BALANCE SHEET

(Excluding College for Women and College of Pharmacy)

LIABILITIES

SCHEDULE A

Endowment Capital		
General Funds (A-2)		$1,642,646.37
Special Funds (A-3)		144,727.45
Library Funds (A-4)		34,345.00
Fellowship Funds (A-5)		26,057.42
Prize Funds (A-6)		24,700.00
Beneficiary Funds (A-7)		147,069.87
Student Aid Funds (A-8)		72,500.00
Annuity Funds (A-9)		24,412.55
Preparatory School Funds (A-10)		400.00
Accumulating Funds (A-11)		55,599.14
		$2,172,457.80
Funds in Trust		121,000.00
TOTAL ENDOWMENT		$2,293,457.80
Due College for Women (a/c Voorhees Fund)		30,000.58
Over Invested		6.93
		$2,323,465.31

SCHEDULE B

Plant Capital		
Educational Plant Balance June 30, 1927		$3,611,489.41
Additions 1927-1928:		
State Appropriations (D-7)	$177,871.96	
From Building Funds (B-2)	7,313.72	
From Current Cash	16,878.21	
		202,063.89
PLANT INVESTMENT JUNE 30, 1928		$3,813,553.30
Mortgages on Real Estate		136,000.00
		$3,949,553.30
Unexpended Balances (as contra):		
Building Funds (B-2)	$102,631.50	
Gifts for Purchase of Real Estate	22,850.00	
		125,481.50
		$4,075,034.80

SCHEDULE C

Current Liabilities		
Notes Payable		$ 35,000.00
Accounts Payable		8,638.71
Repair Department and Book Store		1,981.44
		$ 45,620.15
Deferred Income		36,908.24
Unexpended Balances:		
Special Funds Income (A-16)		34,547.82
Smith-Lever Interest		1,088.13
School of Education		9,116.88
University Extension		2,856.82
Reserves:		
Dining Hall (D-21)	$ 3,762.58	
Dormitory (D-22)	16,418.47	
		20,181.05
		$ 150,319.09
TOTAL		$6,548,819.20

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STATEMENT OF INCOME AND EXPENSES

(Excluding College for Women and College of Pharmacy)

SCHEDULE D

INCOME

Student Income (D-1)	$ 447,859.50
Endowment Income (D-2)	115,585.10
Real Estate Income (D-3)	5,963.00
Miscellaneous Income (D-4)	10,575.65
Gifts for Current Purposes (D-5)	36,513.98
Federal Appropriations (D-6)	206,573.81
State Appropriations (D-7)	487,701.32
Student Aid Loans Returned (D-8)	4,696.98
TOTAL INCOME	$1,315,469.34

OPERATING EXPENSES

University General (D-9)		$ 88,798.29
Miscellaneous Expense (D-10)		48,607.71
Expenses Paid from Special Funds (D-11)		43,245.20
Physical Plant:		
College Ave. Campus (D-12)	$105,233.34	
College Farm (D-13)	31,506.39	
		136,739.73
College of Arts and Sciences (D-14)		259,395.89
College of Engineering (D-15)		63,733.67
College of Agriculture (D-16)		236,516.39
School of Education (D-17)		91,098.54
Separate Departments (D-18)		126,364.84
Library (D-19)		39,925.52
Dormitories (D-20)		25,388.78
Dining Hall (D-21)		39,205.54
TOTAL OPERATING EXPENSES		$1,199,020.10
Income Paid to Preparatory School (A-10)	$ 20.00	
Income Added to Principal (A-11)	1,827.11	
		1,847.11
		$1,200,867.21
Reserves:		
Dining Hall Balance (D-21)	$ 3,762.58	
Dormitory Balance (D-22)	16,418.47	
		20,181.05
Unexpended Balances of 1927-28 Income:		
Special Funds Income (A-16)	$ 7,148.79	
School of Education	9,116.88	
University Extension	2,856.82	
		19,122.49
TOTAL EXPENDITURES AND RESERVES		$1,240,170.75
Balance to Schedule C		75,298.59
		$1,315,469.34

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COLLEGE OF PHARMACY

BALANCE SHEET

June 30, 1928

ASSETS		LIABILITIES	
Plant Assets		*Plant Capital*	
Lands and Building (at cost)	$187,200.60	Educational Plant	$113,200.60
		Mortgage Payable	74,000.00
	$187,200.60		$187,200.60
Current Assets and Deficit		*Current Liabilities*	
Cash	$ 6,218.28	Note Payable	$ 15,000.00
Deficit	12,611.72	Deferred Income	3,830.00
	$ 18,830.00		$ 18,830.00
Total	$206,030.60		$206,030.60

STATEMENT INCOME AND EXPENSES

Fiscal Year 1927-1928

INCOME

Student Fees	$90,732.56
Summer Course 1927	5,150.00
Cafeteria	482.00
Interest	262.27
Sundry Income	93.43
	$96,720.26

EXPENSES

Salaries and Wages	$43,272.99	
Supplies, etc.	24,119.37	
Equipment	3,627.92	
Physical Plant—Operation and Maintenance	6,209.86	
		$77,230.14
Balance to Combined Statement of Income and Expenses		$19,490.12

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LIST OF SECURITIES BELONGING TO RUTGERS UNIVERSITY HELD BY NATIONAL BANK OF NEW JERSEY AS CUSTODIAN

June 30, 1928

Schedule A-1

Par Value	Railroad Bonds	Book Value	Market Value
$15,000.00	Alabama Great Southern Railroad Co., 1st Consolidated Mtge. Gold Bonds, 5%, due Dec. 1, 1943	$14,800.00	$15,750.00
10,000.00	Atchison, Topeka & Santa Fe Ry. Co., General Mtge. Gold Bonds, 4%, due 1995	10,000.00	11,400.00
3,000.00	Atchison, Topeka & Santa Fe Ry. Conv. Gold Bond, 4%, due 1955	2,802.50	2,730.00
9,000.00	Atlanta and Charlotte Air Line Ry. Co., 1st Mtge. Gold Bonds, 5%, due 1944	9,000.00	9,337.50
5,000.00	Atlanta and Charlotte Air Line Ry. Co., 4½% due, 1944	5,075.00	4,925.00
10,000.00	Baltimore and Ohio R. R. Co., Refunding and General Mtge. Bonds, Series C, 5%, due 1995	10,000.00	10,200.00
10,000.00	Baltimore and Ohio Equipment Trusts of 1923, 5%, due 1930	9,950.00	10,050.00
15,000.00	Baltimore and Ohio Railroad Co., Refunding and General Mtge. Bonds, Series C, 6%, due 1995	14,966.25	16,275.00
10,000.00	Baltimore and Ohio Railroad Co. (Toledo & Cinn. Division), 1st Lien and Refunding Mtge., Series A, 4%, due 1959	8,981.25	8,487.50
10,000.00	Burlington, Cedar Rapids & Northern Ry. Co., Consolidated 1st Mtge. Bonds, 5%, due 1934	9,800.00	10,237.50
4,000.00	Canada Southern Railway Co., Consolidated Guaranteed Gold Bonds, Series A, 5%, due 1962	4,000.00	4,320.00
5,000.00	Central of Georgia Railway Co., Consolidated Mtge. Gold Bonds, 5%, due 1945	5,000.00	5,200.00
11,000.00	Central Railroad of New Jersey, General Gold Bonds, 5%, due 1987	11,000.00	11,110.00
14,000.00	Central Pacific Railway Co., 1st Refunding Mtge. Gold Bonds, 4%, due 1949	11,200.00	13,020.00
27,000.00	Chicago, Burlington & Quincy R. R. Co., Illinois Division Bonds, 4%, due 1949	21,771.25	25,515.00
2,000.00	Chicago, Burlington & Quincy R. R. Co., General Mtge. Bonds, 4%, due 1958	2,000.00	2,000.00
10,000.00	Chicago & Erie Railroad Co., 1st Mtge. Gold Bonds, 5%, due 1982	8,250.00	10,600.00

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4,800.00	Chicago, Milwaukee, St. Paul and Pacific Ry. Co., 50 year Mtge. Bonds, Series A, 5%, due 1975	4,476.77	4,512.00
19,200.00	Chicago, Milwaukee, St. Paul and Pacific Ry. Co., adjustment Mtge. Gold Bonds, Series A, 5%, due 2000	17,907.15	14,448.00
7,000.00	Chicago Union Station 1st Mtge. Coll. Trust, 5%, due 1963	7,154.00	7,140.00
10,000.00	Columbia & Port Deposit Ry. Co., 1st Mtge. Gold Bonds, 4%, due 1940	9,776.00	9,775.00
10,000.00	Denver & Salt Lake Ry. Co. (Moffatt Road), 1st Mtge. Bonds, Series A, 6%, due 1950	10,000.00	10,150.00
4,000.00	East Tennessee, Virginia & Georgia R. R. Co., Consolidated Mtge. Gold Bonds, 5%, due 1956	4,000.00	4,320.00
10,000.00	Erie & Jersey Railroad Co., 1st Mtge. Gold Bonds, 6%, due 1955	10,000.00	11,300.00
1,000.00	Erie Railroad Co., General Lien Gold Bonds, 4%, due 1996	1,000.00	840.00
10,000.00	Erie R. R. Co. Prior Lien, 4%, due 1996	8,985.00	8,500.00
10,000.00	Georgia & Alabama Ry., 1st Mtge. Consolidated 50 Year Gold Bonds, 5%, due 1945	9,662.50	10,000.00
10,000.00	Georgia Southern & Florida Ry. Equipment Trusts, Series F, 4½%, due 1930	9,929.55	9,950.00
2,300.00	Hudson & Manhattan R.R.Co., 1st Lien Refunding Mtge.Bonds,Series A,5%,due 1959	1,421.66	2,288.50
5,000.00	Hudson & Manhattan R. R. Co., Adjustment Bond, 5%, due 1957	4,650.00	4,650.00
24,000.00	Illinois Central R. R. Co., and Chicago, St. Louis & New Orleans R. R. Co., Joint 1st Refunding Mtge. Bonds, Series A, 5%, due 1963	23,427.50	24,720.00
20,000.00	Indiana Harbor Belt Line Co., 50 Year General Mtge. Gold Bonds of 1907, 4%, due 1957	17,890.34	17,950.00
10,000.00	Kanawha West Virginia R. R. 1st Mtge., 5%, due 1955	10,100.00	10,000.00
10,000.00	Kansas City Terminal Ry., 1st Mtge. Gold Bonds, 4%, due 1960	9,457.50	9,100.00
10,000.00	Lehigh Valley Harbor Terminal Ry. Co., 1st Mtge. Gold Bonds, 5%, due 1954	9,867.50	10,725.00
1,000.00	Long Island R. R. Co. (North Shore), 1st Consolidated Gold Bonds, due 1932	1,000.00	1,010.00
3,000.00	Long Island Railroad Co., 1st Consolidated Mtge. Gold Bonds, 4%, due 1931	2,411.57	2,940.00
5,000.00	Louisville and Nashville R. R. Co., 1st and Refunding Mtge. Gold Bonds, Series B, 5%, due 2003	4,775.00	5,243.75
6,500.00	Missouri, Kansas & Texas R. R. Co., Adjustment Mtge. Gold Bonds, Series A, 5%, due 1967	3,526.25	6,825.00
3,000.00	Missouri, Kansas & Texas R. R. Co., Prior Lien Mtge. Gold Bonds, Series A, 5%, due 1962	2,325.00	3,011.25

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LIST OF SECURITIES—Continued *Schedule A-1*—Continued

Par Value	Railroad Bonds	Book Value	Market Value
$3,000.00	Missouri, Kansas & Texas R. R. Co., Prior Lien Mtge. Gold Bonds, Series B, 4%, due 1962	$1,920.00	$2,640.00
11,000.00	Missouri Pacific Railway Co. (Inc. 1917), 1st and Refunding Mtge. Bonds, Series A, 5%, due 1965	10,325.00	11,110.00
5,000.00	New England Railroad Co., Consolidated Mtge. Gold Bonds, 5%, due 1945	4,800.00	4,950.00
8,000.00	New York Central and Hudson River R. R. Co., 1st Mtge. Gold Bonds, 3½%, due 1997	5,240.00	6,720.00
10,000.00	New York, New Haven & Hartford R. R. Co., Equipment Trusts Gold Certificates of 1926, 4½%, due 1930	9,910.25	9,050.00
15,000.00	New York, Pennsylvania & Ohio R. R. Co., Reorganization Prior Lien Gold Bonds, 4½%, due 1935	13,489.00	13,350.00
4,000.00	Norfolk and Western Railway Co., 1st Consolidated Mtge. Gold Bonds, 4%, due 1996	4,000.00	3,760.00
7,000.00	Oregon Railroad & Navigation Co., Consolidated Mtge. Bonds, 4%, due 1946	5,355.00	6,510.00
5,000.00	Paterson Railway Co., Consolidated Mtge. Bonds, 6%, due 1931	5,000.00	5,000.00
10,000.00	Pennsylvania R. R. Co., Gen. Mtge. Bonds, Series A, 4½%, due 1965	8,100.00	10,125.00
10,000.00	Port Arthur Canal & Dock Co., 1st Mtge. Bonds, Series A, 6%, due 1953	9,867.50	10,500.00
10,000.00	St. Louis, Iron Mountain & Southern Railway Co., Gen. Consolidated and Land Grant Mtge. Bonds, 5%, due 1931	10,000.00	10,050.00
10,000.00	Southern Pacific Railroad Co., 1st Refunding Mtge. Gold Bonds, 4%, due 1955	7,812.50	9,425.00
10,000.00	Southern Pacific Co., Gold Bond, Series A, 4½%, due 1968	9,975.00	10,025.00
5,000.00	Southern Railway Co., 1st Consolidated Gold Mtge. Bonds, 5%, due 1994	5,000.00	5,543.75
5,000.00	Southern Railway, Equipment Trusts, Series Y, 5%, due 1933	5,000.00	5,087.50
10,000.00	Terminal Railroad Assn. of St. Louis, Gen. Mtge. Refunding Sinking Fund Gold Bonds, 4%, due 1953	8,821.50	9,050.00

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10,000.00	Toledo & Ohio Central Railway Co., 1st Mtge. Gold Bonds (Western Div.), 5%, due 1935	9,512.50	10,100.00
10,000.00	Union Pacific, 40 Year Bonds, 4½%, due July 1, 1967	9,745.00	9,800.00
9,000.00	Union Pacific R. R. Co., 1st Mtge. Refunding Land Grant Gold Bonds, 4%, due 1947	7,885.00	8,572.50
10,000.00	Union Pacific Railroad Co., 1st Lien and Refunding Gold Bonds, 5%, due 2008	9,950.00	11,100.00
10,000.00	Union Pacific R. R. Co., Gold Bond, 4%, due 1988	9,275.00	9,000.00
10,000.00	United New Jersey R. R. & Canal Co., 1st General Mtge. Bonds, 4%, due 1944	8,900.00	9,400.00
5,000.00	Wabash Railway Co., Equipment Trust Bonds, Series C, 5½%, due 1935	5,000.00	5,050.00
20,000.00	Wabash Railroad Co., 1st Mtge. Gold Bonds, 5%, due 1939	19,125.00	20,625.00
10,000.00	Wabash Railroad Co., 2nd Mtge. Bonds, 5%, due 1939	10,000.00	10,100.00
9,500.00	West Shore R. R. Co., 1st Mtge. Bond, Guaranteed 4%, due 2361	9,077.50	8,515.00
6,000.00	Wheeling & Lake Erie R. R. Co., Wheeling Div., 1st Mtge. Bonds, 5%, due 1928	5,811.25	6,000.00
	Totals	$571,236.54	$601,714.75

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LIST OF SECURITIES—Continued *Schedule A-1*—Continued

Par Value	Industrial and Utility Bonds	Book Value	Market Value
$10,000.00	American Smelting & Refining, 1st Mtge. Gold Bond, Series A, 5%, due 1947	$9,018.00	$8,820.00
8,000.00	Batavian Petroleum Co., Guar. Deb. Bond, 4½%, due 1942	7,590.00	7,440.00
25,000.00	Bell Telephone Co. of Penn., 1st and Refunding 25 Year Mtge. Bonds, Series B, 5%, due 1948	25,000.00	26,437.50
1,000.00	Bluff Point Land Improvement, 1st Mtge. Bonds, 4%, due 1940	1,000.00	1,000.00
10,000.00	Chicago By-Products Coke Co., 1st and Refunding Mtge., Series A, 5%, due 1976	9,975.00	10,000.00
10,000.00	Cities Service Gas Co., 1st Mtge. Pipeline Bonds, Series 1927, 5½%, due 1942	9,625.00	9,750.00
5,000.00	Commonwealth Edison Co., 1st Mtge. Collateral Gold Bonds, Series A, 5%, due 1953	4,787.50	4,800.00
5,000.00	Cuba Cane Sugar Corp., Convertible Debenture Bonds, 8%, due 1930	5,000.00	4,543.75
10,000.00	Edison Elec. Ill. Co. of Boston, Gold Bond, 4½%, due 1930	10,012.50	10,000.00
5,000.00	Gatineau Power Co., 1st Mtge. Gold Bonds, 5%, due 1956	4,769.80	4,800.00
10,000.00	General Motors Acceptance Corp., Serial Gold Note, Series J, 5%, due 1936	9,675.00	9,800.00
10,000.00	Goodyear Tire Rubber Co., 1st Mtge. Coll. Trust, 5%, due 1957	9,412.50	9,100.00
15,000.00	Gulf Oil Corp., 20 Year Sinking Fund Debenture Bonds, 5%, due 1947	14,925.00	15,000.00
10,000.00	Hackensack Water Co., General and Refunding Bonds, Series A, 5%, due 1977	9,637.50	9,000.00
5,000.00	Illinois Bell Telephone Co., 1st & Refunding Mtge. Bonds, Series A, 5%, due 1956	4,700.00	5,218.75
10,000.00	Illinois Northern Utilities Co., 1st and Refunding Mtge. Gold Bonds, 5%, due 1957	9,226.25	9,250.00
10,000.00	Indiana Service Corp., 1st Lien and Ref. Mtge., Series A, 5%	9,950.00	10,000.00
10,000.00	Interstate Public Service Co., 1st Refunding, Series D, 5%, due 1956	9,602.10	9,800.00
2,000.00	Iowa Public Service, First, 5%, due 1957	1,950.00	1,980.00
5,000.00	Macy & Co., R. H. Gold Deb., Series IV, 5¼%, due 1935	5,117.45	5,100.00
7,000.00	Massachusetts Gas Co., 20 Year S. F. Gold Bonds, 5½%, due 1946	7,315.00	7,315.00
11,000.00	Middlesex Water Co., 1st Ref. Mtge. Gold Bonds, Series A, 5½%, due 1957	11,000.00	11,000.00
10,000.00	New England Telephone & Telegraph Co., 1st Mtge. 30 Year Gold Bonds, Series A, 5%, due 1952	10,000.00	10,762.50

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5,000.00	New York Power & Light Co., 1st Mtge. Gold Bonds, 4½%, due 1967	4,800.00	4,850.00
20,000.00	Ohio Power Co., 1st Ref. Mtge., Series D, 4½%, due 1956	19,200.00	18,800.00
5,000.00	Pacific Gas & Electric Co., General Refunding Mtge. Bonds, Series A, 5%, due 1942	5,000.00	5,100.00
10,000.00	Pacific Power & Light Co., 1st Refunding 20 Year Gold Bonds, 5%, due 1930	10,000.00	10,050.00
10,000.00	Penn. Public Service Corp., 1st and Refunding Mtge. Gold Bonds, Series D, 5%, due 1954	9,400.00	9,600.00
10,000.00	Philadelphia Suburban Water Co., 1st Mtge. Gold Bonds, 5%, due 1955	9,750.00	9,750.00
7,000.00	Provincial Paper Co., 1st Mtge., Series A, 5½%, due 1947	6,931.40	6,965.00
10,000.00	Public Service Corp. of New Jersey, Perpetual Interest Bearing Certificate at 6%	10,000.00	10,000.00
10,000.00	Public Service Gas & Electric Co., 1st Ref. Mtge., 4½%, due 1967	9,945.00	9,700.00
50.00	Salaam Temple Redeemable Deb., 4%, due 1942	50.00	50.00
10,000.00	Shell Union Oil Corp., 20 Year Sinking Fund Gold Deb. Bonds, 5%, due 1947	9,950.00	9,725.00
10,000.00	Southern California Gas Co., 1st Ref. Gold Bonds, 5%, due 1957	10,100.00	10,150.00
2,000.00	Union Tank Car Co., Equipment Trust G. C., 4½%, 1928	1,980.00	2,000.00
4,000.00	Union Tank Car Co., Equipment Trust G. C., 4½%, 1930	3,959.99	4,000.00
4,000.00	Union Tank Car Co., Equipment Trust G. C., 4½%, 1931	3,959.99	4,000.00
15,000.00	United Electric Co. of New Jersey, 1st Mtge. Bonds, 4%, due 1949	13,662.50	14,550.00
800.00	West Monmouth Water Co., 1st Mtge. Bonds, 6%, due 1946	800.00	.....
10,000.00	West Penn Power Co., 1st Mtge. Gold Bonds, Series E, 5%, due 1963	9,750.00	10,237.50
	Totals	$338,527.48	$340,445.00

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LIST OF SECURITIES—Continued *Schedule A-1*—Continued

Par Value	Stocks	Book Value	Market Value
$200,000.00	Anahma Realty Corp., Stock—2,000 shares	$200,000.00	$200,000.00
6,000.00	Buckeye Pipe Line Co., Capital Stock—60 shares	5,580.00	4,005.00
9,900.00	Charter Realty Corp., Capital Stock—99 shares	9,900.00	9,900.00
1,100.00	Chicago, Indianapolis & Louisville Ry. Co., Common Stock—11 shares	1,100.00	1,100.00
600.00	City and Suburban Homes Co., Capital Stock—60 shares	600.00	600.00
600.00	Cuba Cane Sugar Corp., Preferred Stock—6 shares—7%	550.50	630.00
5,975.00	Dickerson Suckasunny Mining Co.—119.5 shares (par $50)	10,336.75	10,336.75
8,800.00	Farmers Loan & Trust Co., Capital Stock—88 shares	49,720.00	72,600.00
6,000.00	Green Bay & Western R. R. Co., Capital Stock—60 shares	6,000.00	6,000.00
20,400.00	Interwoven Mills, Inc., Pfd. Capital Stock—204 shares	21,420.00	21,420.00
3,500.00	National Bank of New Jersey, Capital Stock—35 shares	12,250.00	17,850.00
10,000.00	Pittsburgh, Ft. Wayne & Chicago Ry. Co., Pfd. Capital Stock	12,400.00	12,400.00
200.00	Reserve Building & Loan Single Payment Stock—2 shares	201.00	201.00
10,000.00	United N. J. R. R. & Canal Co., 10% Guaranteed—100 shares	18,000.00	26,500.00
700.00	U. S. Trust Co. of N. Y.—Capital Stock—7 shares	8,050.00	22,400.00
800.00	West Virginia Surety Co., Capital Stock—8 shares	800.00	000.00
500.00	Young Men's B. & L. Assn., Elizabeth, N. J.—5 shares	667.93	667.93
	Totals	$357,576.18	$ 406,610.68

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Par Value	U. S. Government Bonds	Book Value	Market Value
$6,000.00	U. S. of A. Treasury Bonds, 4¼%	$6,000.00	$6,000.00
5,000.00	Third Liberty Loan, Convertible, 4¼%	5,000.00	5,017.18
86,250.00	Fourth Liberty Loan, Convertible, 4¼%	86,250.00	86,842.97
	Totals	$97,250.00	$97,860.15
	Foreign Government Bonds		
$10,000.00	Dominion of Canada, Province of Manitoba, 20 Year Gold Debentures, 4½%, due 1945	$9,675.00	$9,700.00
5,000.00	Imperial Japanese Government, 6½% External Loan, due 1954	4,625.00	5,137.50
10,000.00	Kingdom of the Netherlands, 30 Year, 6%, External Sinking Fund Gold Bonds, due 1954	9,825.00	10,150.00
10,000.00	Kingdom of Sweden, 5½%, 30 Year Gold Bonds, due 1954	9,950.00	10,312.50
	Totals	$34,075.00	$35,300.00

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Recapitulation

	Book Value	Market Value
Railroad Bonds	$571,236.54	$601,714.75
Industrial and Utility Bonds	338,527.48	340,445.00
Corporation Stocks	357,576.18	406,610.68
U. S. Bonds	97,250.00	97,860.15
Foreign Bonds	34,075.00	35,300.00
Real Estate Mortgages	633,700.00	633,700.00
Real Estate Advances (College for Women)	166,000.00	166,000.00
Call Money	100,000.00	100,000.00
Cash on hand to invest	23,175.30	23,175.30
Total Investments	$2,321,540.50	$2,404,805.88
Schedule A	$2,202,465.31	
Schedule B	119,075.19	

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	Principal Cr.			*Income* Dr.		*Income* Cr.	
	Balances	Additions	Totals	Balances June 30, 1928	Expenses	Income	Balances June 30, 1927
GENERAL FUNDS							*Schedule A-2*
Alumni	$70,685.26		$70,685.26		$3,534.25	$3,534.25	
Baldwin, Henry R., Memorial	4,500.00		4,500.00		225.00	225.00	
Beardslee, John W.	2,500.00		2,500.00		125.00	125.00	
Bell, James M.	10,000.00		10,000.00		500.00	500.00	
Blair, John S.	6,050.00		6,050.00		302.50	302.50	
Bookstaver, Henry W.	17,500.00		17,500.00		875.00	875.00	
Cantine, Chas. F., Memorial	3,000.00		3,000.00		150.00	150.00	
Chambers, Talbot W., Mem.	2,500.00		2,500.00		125.00	125.00	
Class 1874	1,470.00		1,470.00		73.50	73.50	
Class 1890	1,000.00		1,000.00	$50.00		50.00	
Class 1900	1,800.00		1,800.00		90.00	90.00	
Class 1901	1,200.00		1,200.00		60.00	60.00	
Class 1912		$201.00	201.00				
Class 1921	488.00		488.00	24.40		24.40	
DeWitt, Simeon, Professorship	25,000.00		25,000.00		1,250.00	1,250.00	
Duryee, Peter S., Memorial	7,500.00		7,500.00		375.00	375.00	
Elmendorf, Joachim, Mem.	5,000.00		5,000.00		250.00	250.00	
Endowment Fund 1916	268,138.59	4,672.50	272,811.09		13,455.20	13,455.20	

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ENDOWMENT FUNDS SCHEDULES—Continued

	Principal Cr.			*Income* Dr.		*Income* Cr.	
	Balances	Additions	Totals	Balances June 30, 1928	Expenses	Income	Balances June 30, 1927
							Schedule A-2 (Con'd)
General Education Board	$100,000.00		$100,000.00		$5,000.00	$5,000.00	
Gould, Jay, Memorial	20,000.00		20,000.00		1,000.00	1,000.00	
Grant, Thomas H.		$21,000.00	21,000.00		525.00	525.00	
Hardenbergh, Henry J.	20,000.00		20,000.00		1,000.00	1,000.00	
Hardenbergh, Wm. P.	10,000.00		10,000.00		500.00	500.00	
Heckscher, Anna A.	200,000.00		200,000.00		12,000.00	12,000.00	
Hill Professorship	75,000.00		75,000.00		3,750.00	3,750.00	
Hobart, Garret A.	10,000.00		10,000.00		500.00	500.00	
Jameson, Edwin C.	5,000.00		5,000.00		250.00	250.00	
Kingston 1st Dutch Church Scholarship	3,000.00		3,000.00		150.00	150.00	
Lansing, Susan Y.	20,000.00		20,000.00		1,000.00	1,000.00	
LeFevre, Egbert, Scholars'p.	15,000.00		15,000.00		750.00	750.00	
Leupp, William H.	100,000.00	5,000.00	105,000.00		5,250.00	5,250.00	
Monroe, Virginia M.	5,000.00	4,500.00	9,500.00		418.75	418.75	
Nevius, Mary, Scholarship	3,000.00		3,000.00		150.00	150.00	
Pell, Mary B.		59,841.22	59,841.22				
Permanent Endowment	299,253.21		299,253.21		25,741.16	25,741.16	
Rahway Scholarship	505.00	12.00	517.00		25.55	25.55	

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Raven, Anton A. and J. H.	11,000.00		11,000.00		550.00	550.00	
Sage, Margaret O.	100,000.00		100,000.00		5,000.00	5,000.00	
Steel, Wm. H., Scholarship	5,000.00		5,000.00		250.00	250.00	
Suydam, Van Mater W.	16,000.00		16,000.00		800.00	800.00	
Thompson, Frank F.		3,000.00	3,000.00				
Upson, Irving S. (⅓)	7,820.18		7,820.18		391.00	391.00	
Urbano, Francisco G., Scholarship	1,000.00		1,000.00		50.00	50.00	
Van Pelt, Cornelia B.	3,000.00		3,000.00		150.00	150.00	
Van Pelt, Gilbert S.	50,000.00		50,000.00		2,500.00	2,500.00	
Voorhees, Abram, Professorship	21,525.00		21,525.00		1,076.24	1,076.24	
Wortendyke, Jacob R. and Rynier J.	2,500.00		2,500.00		125.00	125.00	
Premium Reserve	11,080.16	1,404.25	12,484.41		554.00	554.00	
	$1,543,015.40	$99,630.97	$1,642,646.37 Sched. A	$74.40	$90,812.15 Sch. (D-11C) 35.00	$90,921.55 Sched. D-2	
SPECIAL FUNDS							*Schedule A-3*
Bergen, Rebecca M., Mem.	$20,000.00		$20,000.00	$10.00	$1,250.00	$1,200.00	$60.00
Canfield, Fred. A., Museum	2,000.00		2,000.00	150.00		100.00	50.00
Canfield, Frederich A.		34,336.75	34,336.75	424.37	(D-10) 324.03	858.40	*110.00
Class of 1886	5,000.00		5,000.00	250.00		250.00	
Demarest, Alfred H.	1,500.00		1,500.00	177.55		75.00	102.55
Demarest, S. DuBois	1,500.00		1,500.00	178.55		75.00	103.55
Ballantine, Herb. F., Gymnasium	11,000.00		11,000.00		550.00	550.00	

*Overdraft.

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ENDOWMENT FUNDS SCHEDULES—Continued

	Principal Cr.			*Income* Dr.		*Income* Cr.	
	Balances	Additions	Totals	Balances June 30, 1928	Expenses	Income	Balances June 30, 1927
							Schedule A-3 (Con'd)
Herbert, John O., Memorial	$21,000.00		$21,000.00	$2,204.26		$1,050.00	$1,154.26
Herbert, Richard W., Mem.	20,000.00	$5,290.70	25,290.70	132.25	(D-11a) $1,100.00	1,232.25	
Horton, Mary E., Music	3,000.00		3,000.00		150.00	150.00	
Kellogg, Luther L., Lectureship	5,000.00		5,000.00	*58.78	(D-11) 617.55	250.00	308.77
Library Lights (Class of 1888)	600.00		600.00		30.00	30.00	
Queens Maintenance	3,000.00		3,000.00		150.00	150.00	
Sleght Fire-Fighting	1,500.00		1,500.00		750.00	75.00	675.00
Winants Hall Maintenance	10,000.00		10,000.00		500.00	500.00	
	$105,100.00	$39,627.45	$144,727.45 Sched. A	$3,468.20	$5,421.58	$6,545.65 Sched. D-2	$2,344.13
LIBRARY FUNDS							*Schedule A-4*
Class of 1898	$50.00	$795.00	$845.00	$17.44	$ .20	$12.65	$4.99

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Cook, George H.	1,000.00		1,000.00	45.75	63.07	50.00	58.82
Cook, Sarah	1,000.00		1,000.00	29.72	46.42	50.00	26.14
Cook, Silas	1,000.00		1,000.00	23.70	52.27	50.00	25.97
Halsted, Byron D., Mem'r'l	1,000.00		1,000.00	11.29	67.53	50.00	28.82
Library	1,500.00		1,500.00		75.00	75.00	
Patterson, Harold F., Mem.	500.00		500.00	.96	25.00	25.00	.96
Pruyn, Robert H.	10,500.00		10,500.00	41.93	499.97	525.00	16.90
Spader, P. Vanderbilt	10,000.00		10,000.00	77.78	538.54	500.00	116.32
Stephens, Benjamin, Gift	5,000.00		5,000.00	44.81	339.41	250.00	134.22
Taylor, Van Campen, Mem.	1,000.00		1,000.00	6.59	45.42	50.00	2.01
Weston, Harry J., Mem.	1,000.00		1,000.00	74.35	22.00	50.00	46.35
	$33,550.00	$795.00	$34,345.00 Sched. A	$374.32	$1,774.83 Sched. D-19	$1,687.65 Sched. D-2	$461.50
FELLOWSHIP FUNDS							*Schedule A-5*
Blodgett, James H. and Frederick H.	$2,000.00		$2,000.00	$678.76		$100.00	$578.76
Van der Poel, John A.	24,057.42		24,057.42	3,355.16	$550.00	1,202.89	2,702.27
	$26,057.42		$26,057.42 Sched. A	$4,033.92	$550.00 Sched. D-11b	$1,302.89 Sched. D-2	$3,281.03
PRIZE FUNDS							*Schedule A-6*
Appleton, Elizabeth, Mem.	$500.00		$500.00	$296.51		$25.00	$271.51
Bogert, John	1,000.00		1,000.00	12.50	$50.00	50.00	12.50
Brodhead, Jacob and J. Romeyn	700.00		700.00	385.00	35.00	35.00	385.00
Brooks, Edward F., Mem.	1,000.00		1,000.00	50.00	50.00	50.00	50.00
Bussing, Ann	1,000.00		1,000.00	25.00	50.00	50.00	25.00
Class 1876	1,000.00		1,000.00	510.00		50.00	460.00

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ENDOWMENT FUNDS SCHEDULES—Continued

	Principal Cr.			*Income* Dr.		*Income* Cr.	
	Balances	Additions	Totals	Balances June 30, 1928	Expenses	Income	Balances June 30, 1927
							Schedule A-6 (Con'd)
Cooper, Jacob, Memorial	$6,000.00		$6,000.00	$37.47	$255.50	$300.00	*$7.03
Doolittle, T. Sanford, Mem.	1,000.00		1,000.00	275.00		50.00	225.00
Kleinhaus, Rufus E., Mem.	300.00		300.00	25.25		15.00	10.25
Smith, Myron W.	500.00		500.00		25.00	25.00	
Society of Colonial Wars	2,000.00		2,000.00	135.00	200.00	100.00	235.00
Spader, Peter-Quick, Tunis	1,000.00		1,000.00	363.48	35.00	50.00	348.48
Suydam, James, (Book)	2,000.00		2,000.00	75.00	100.00	100.00	75.00
Suydam, James	1,000.00		1,000.00	125.00	50.00	50.00	125.00
Upson, Irving S.	1,000.00		1,000.00		50.00	50.00	
Vail, Theodore F.	1,000.00		1,000.00	150.00	50.00	50.00	150.00
Van der Poel, John	1,000.00		1,000.00	192.76	36.84	50.00	179.60
Van der Poel, S. Oakley	1,000.00		1,000.00	125.00	50.00	50.00	125.00
Van Doren, William H.	700.00		700.00	315.00		35.00	280.00
Van Vechten, Samuel and Louisa	1,000.00		1,000.00	427.50		50.00	377.50
	$24,700.00		$24,700.00 Sched. A	$3,525.47	$1,037.34 Sch. D-11c	$1,235.00 Sched. D-2	$3,327.81

*Overdraft.

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BENEFICIARY FUNDS							*Schedule A-7*
Bell, Thos. O., Scholarship	$53,534.77		$53,534.77	$1,676.73	$1,000.00	$2,676.73	
Brownlee, Wm. C., Mem.	3,000.00		3,000.00		150.00	150.00	
Hedges, James E., Scholars'p	6,000.00		6,000.00		300.00	300.00	
Hopper, Garret N.	3,000.00		3,000.00		150.00	150.00	
Knox, Rebecca	3,000.00		3,000.00	90.00		150.00	*60.00
Mandeville, William	7,000.00		7,000.00		350.00	350.00	
Paterson 1st Dutch Church	4,600.00		4,600.00		230.00	230.00	
Smock, William H.	1,000.00		1,000.00		50.00	50.00	
Van Bunschooten, Elias	20,000.00		20,000.00	*90.00	1,090.00	1,000.00	
Van Liew	1,000.00		1,000.00		50.00	50.00	
Voorhees, Abram, Residuary	36,000.00		36,000.00	1,898.75	1,196.00	1,800.00	1,294.75
Vreeland, Jacob J., Resid'ry	4,700.00		4,700.00	409.17	100.00	235.00	274.17
Repayment	3,430.43	$804.67	4,235.10	80.22	325.00	171.52	233.70
	$146,265.20	$804.67	$147,069.87 Sched. A	$4,064.87	$4,991.00 D-11 965.00 **4,026.00	$7,313.25 Sched. D-2	$1,742.62
STUDENT AID FUNDS							*Schedule A-8*
Sandham, Anna M., Student Aid	$43,000.00		$43,000.00	$12,465.64		$2,325.87	$10,139.77
Sandham Loan Fund				***11,938.53	5,992.37	3,122.97	***9,069.13
				$527.11	$5,992.37	$5,448.84	$1,070.64

*Overdraft.
**Balance used in lieu of tuition and fees.
***Total Loans Outstanding.

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ENDOWMENT FUNDS SCHEDULES—Continued

	Principal Cr.			*Income* Dr.		*Income* Cr.	
	Balances	Additions	Totals	Balances June 30, 1928	Expenses	Income	Balances June 30, 1927
							Schedule A-8 (Con'd)
Class of 1902		$2,500.00	$2,500.00				
Johnson, Henry N., Mem.	$1,000.00		1,000.00	$25.00	$25.00	$50.00	
Reid, Wendell P., Mem.	1,000.00		1,000.00	600.00		50.00	$550.00
Gowen, Isaac W.	25,000.00		25,000.00	1,825.00	1,000.00	1,250.00	1,575.00
	$70,000.00	$2,500.00	$72,500.00 Sched. A	$2,977.11	$7,017.37 Sch. D-11a	$6,798.84 D-2 3,500.00 D-8 3,298.84	$3,195.64
ANNUITY FUNDS AND CLASS FUNDS							*Schedule A-9*
Elmendorf, James W.	$8,772.21		$8,772.21		$450.00	$450.00	
Upson, Irving S., (⅔)	15,640.34		15,640.34		782.00	782.00	
	$24,412.55		$24,412.55 Sched. A		$1,232.00 D-11	$1,232.00 Sched. D-2	

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PREPARATORY SCHOOL FUNDS							*Schedule A-10*
Student Association	$200.00		$200.00		$10.00	$10.00	
Endowment	200.00		200.00		10.00	10.00	
	$400.00		$400.00 Sched. A		$20.00 Sched. D	$20.00 Sched. D-2	
ACCUMULATING FUNDS (Income to be added to principal yearly)							*Schedule A-11*
Class of 1924	$807.48	$40.38	$847.86		$40.38	$40.38	
Class of 1925	441.00	22.05	463.05		22.05	22.05	
Class of 1927		355.00	355.00				
Leupp, William H.	52,168.55	1,764.68	53,933.23		1,764.68	1,764.68	
	$53,417.03	$2,182.11	$55,599.14 Sched. A		$1,827.11 Sched. D	$1,827.11 D-2	
TOTALS							
Balance July 1, 1927	$2,026,917.60						
Addition to June 30, 1928		$145,540.20					
Totals to June 30, 1927			$2,172,457.80				
			Sched. A				

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	Income			
	Dr.		Cr.	
	Balance June 30, 1928	Expenses	Income	Balance June 30, 1927
TEMPORARY FELLOWSHIPS (Gifts)				*Schedule A-12*
Borax Research		$900.00	$1,050.00	*$150.00
Calcium Citrate Research	$77.75	1,854.06	1,800.00	131.81
Cel-O-Glass Research	600.00	1,350.00	1,350.00	600.00
Chemical Foundation Research	2,365.10	382.78	1,500.00	1,247.88
Hydrotator Research	34.49	7.20		41.69
Industrial Fertilizer Research	362.54	1,137.46	1,500.00	
William Jenks	3,000.00		3,000.00	
J. & J. Research (Bacteriology and Biochemistry)	1,494.12	9,314.33	10,998.96	*190.51
J. & J. Research (Pharmacy)	14.18	802.93	817.11	
Merck Research (Pharmacy)		1,000.00	1,000.00	
Nicotine Research	811.41	1,188.59	1,500.00	500.00
Nitrogen-Fixation Research	37.50			37.50
Protozyme Research			58.33	*58.33
Sewage Research	223.67	2,233.53	1,833.37	623.83
Sewage Chlorination Research	59.24	1.472.63	1,312.50	219.37
Sodium Nitrate Research	842.49	952.36		1,794.85
Stream Pollution Research	1.23	42.00		43.23
Synthetic Nitrogen Research	576.35	1,111.15	1,200.00	487.50

*Overdraft.

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Walker-Gordon Research	563.21	1,811.79	2,000.00	375.00
	$11,063.28	$25,560.81 Sch. D-11b	$30,920.27 Sched. D-5	$5,703.82
TEMPORARY SCHOLARSHIP (Gifts)				*Schedule A-13*
American Agricultural	$40.90		$40.90	
Jewish Agricultural and Industrial Aid	76.33	$546.67	650.00	*$27.00
Short Course Poultry Husbandry	155.95		30.45	125.50
Summer School	265.00			265.00
Klock, A. M., Memorial		100.00	100.00	
Upson	696.45	2,250.00	2,946.45	
Zuzi		750.00		750.00
	$1,234.63	$3,646.67 Sch. D-11a	$3,767.80 Sched. D-5	$1,113.50
SUNDRY TEMPORARY FUNDS				*Schedule A-14*
Class of 1884	$105.97			$105.97
Class of 1896	51.42			51.42
Class of 1897	162.00			162.00
Class of 1898	25.16			25.16
Donation Prizes		(D-11c)$50.00	$242.00	*192.00
Philosophy and Psychology		(D-19) 10.01		10.01
Pack	280.00	(D-11a)520.00		800.00

*Overdraft.

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TEMPORARY FUNDS SCHEDULES—Continued

	Income			
	Dr.		Cr.	
	Balance June 30, 1928	Expenses	Income	Balance June 30, 1927
				Schedule A-14 (Con'd)
Fire Loss (Farm)	$78.80	$2,640.53	$246.50	$2,472.83
Brett, Philip M.		250.00		250.00
Hardenbergh, W. P.	1,639.31			1,639.31
	$2,342.66	$3,470.54	$488.50 D-5	$5,324.70
UPSON MEMORIAL FUND				*Schedule A-15*
Fund	$6,533.46		$248.46	$6,285.00
Upson Loan Account	*5,144.50	$913.46	1,149.68	*5,380.72
	$1,388.96	$913.46 Sch. D-11a	$1,398.14 Sched. D-8	$904.28
				Schedule A-16
Grand Total Balance from last year				$27,399.03
Grand Total Income and Gifts this year			$155,458.65	
Grand Total Expenditures this year		$148,309.86	148,309.86	
Grand Total Unexpended Balance (Sched. C)	$34,547.82			
Unexpended Balances of this year's Income (Sched. D)			7,148.79	

*Total Loans Outstanding.

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LANDS AND BUILDINGS

Schedule B-1

Queens Campus

		Lands	Buildings	Totals
105	Alumni and Faculty House		$ 15,000.00	
103	Geological Hall		58,750.00	
104	Kirkpatrick Chapel		59,737.67	
100	Queens Campus	$ 92,000.00		
101	Queens Building		75,000.00	
107	Schanck Observatory		2,700.00	
102	Van Nest Hall		25,000.00	
106	Winants Hall		78,500.00	
		$ 92,000.00	$314,687.67	$406,687.67

Neilson Campus

200	Neilson Campus	$211,135.26		
201	Ballantine Gymnasium		$107,500.00	
216	Ceramics Building		84,148.14	
207	Chemistry Building		66,860.00	
206	Engineering Building		75,000.00	
204	Entomology Building		9,600.00	
205	Entomology Greenhouse		800.00	
209	Ford Dormitory		112,000.00	
219	Garage (rear President's House)		500.00	
203	New Jersey Hall		90,000.00	
218	Physics Building		213,891.01	
208	President's House		12,150.00	
210	Residence 35 College Ave.		8,000.00	
211	Professorial Residence 39 College Ave.		6,750.00	
212	Professorial Residence 41 College Ave.		10,000.00	
213	Professorial Residence 43 College Ave.		10,800.00	
214	Residence 502 George St.		11,000.00	
215	Residence 542 George St.		20,000.00	
202	Voorhees Library Building		205,258.15	
		$211,135.26	$1,044,257.30	$1,255,392.56

Ford Campus

600	Ford Campus	$198,464.50		
603	Hegeman Dormitory		$207,324.55	
601	Bishop House		45,000.00	
602	Bishop Stables		5,000.00	
		$198,464.50	$257,324.55	$455,789.05

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		Lands	Buildings	Totals
Neilson Field and Adjoining Property				
700	Neilson Field (Athletic)	$ 50,000.00		
710	Residence 139 College Ave.		$ 8,218.00	
710	Field House		9,000.00	
703	Storage Building		825.00	
704	Ticket Office		330.00	
		$ 50,000.00	$ 18,373.00	$ 68,373.00
College Park				
1100	College Park	$ 8,115.00		
1101	Preparatory School Gymnasium		$ 24,489.21	
		$ 8,115.00	$ 24,489.21	$ 32,604.21
College Field				
800	College Field	$ 74,840.79		$74,840.79
Preparatory School and Adjoining Property				
900	Preparatory School Campus	$29,000.00		
905	Carpenter Shop		$ 5,000.00	
903	Preparatory School Building		22,000.00	
904	Elementary School Building		12,500.00	
901	Residence 24 College Ave...		7,000.00	
906	Garage and Storage Shed..		1,000.00	
902	Residence 30 College Ave...		10,000.00	
		$ 29,000.00	$ 57,500.00	$ 86,500.00
Preparatory School Dormitories				
1000	Preparatory School Dormitory Campus	$ 38,445.60		
1001	Preparatory School Dormitory 700 George St.		$ 8,500.00	
1002	Preparatory School Dormitory 696 George St.		10,500.00	
1003	Preparatory School Dormitory 694 George St.		8,500.00	
1004	Preparatory School Dormitory 690 George St.		9,500.00	
1006	Garage (rear 690 George St.)		500.00	
1007	Garage (Huntington St.)..		500.00	
1005	Head Master's House		28,872.30	
		$ 38,445.60	$ 66,872.30	$105,317.90

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Farm and Campus

		Lands	Buildings	Totals
300	College Farm	$287,277.75		
310	Administration Building		$139,600.00	
311	Agronomy Field House		2,700.00	
326	Dairy and Animal Husbandry Building		202,620.18	
325	Dairy Farm and Silos		50,421.98	
342	Duck House		250.00	
303	Experiment Station Greenhouse		20,000.00	
314	Farm Director's House		10,800.00	
313	The Farm House		5,400.00	
317	Horse Barn		10,125.00	
309	Horticultural Building		79,046.69	
316	Judging Pavilion		9,112.00	
340	Laying Houses		750.00	
341	Laying Houses		625.00	
339	Laying House		200.00	
343	Laying House		1,125.00	
315	Machinery Shed		6,255.74	
324	Piggery		4,550.37	
320	Plant Physiology Greenhouse		15,000.00	
304	Poultry Administration Building		12,000.00	
307	Poultry Brooder House		3,000.00	
308	Poultry Building		75,443.03	
337	Poultry Colony Houses		540.00	
338	Poultry Colony Houses		1,300.00	
335	Poultry Farm Barn and Shed		453.50	
336	Poultry Feed House		500.00	
332	Sheep Barn		2,144.26	
301	Short Course Building		20,250.00	
302	Short Course Greenhouse		10,000.00	
330	Slaughter House		5,951.49	
321	Soil House		1,080.00	
323	Storage Building and Fruit Cellar		7,709.63	
322	Tractor Laboratory Building		1,500.00	
331	Water Tower and Pump House		4,812.55	
344	Garage		690.00	
		$287,277.75	$705,956.42	$993,234.17

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		Lands	Buildings	Totals
Dairy Farm				
403	Bull Barn		$ 4,000.00	
401	Dairy Farm Barn		22,000.00	
404	Dairy Farm House		4,000.00	
405	Dairy Farm House		3,000.00	
406	Calf Barn		6,767.00	
407	Silos (2)		900.00	
			$ 40,667.00	$ 40,667.00
Horticultural Farm				
502	Horticultural Farm Barn No. 1.		$ 1,500.00	
507	Horticultural Farm Barn No. 2		2,000.00	
503	Horticultural Farm Greenhouse		300.00	
501	Horticultural Farm House No. 1		7,000.00	
505	Horticultural Farm House No. 2		8,000.00	
506	Horticultural Farm House No. 3		8,000.00	
508	Horticultural Farm Shed		1,000.00	
509	Horticultural Field Laboratory		1,000.00	
504	Horticultural Farm Water Tower and Pump		1,000.00	
			$ 29,800.00	$ 29,800.00
	Totals	$989,278.90	$2,559,927.45	
	Grand Total of Lands and Buildings (Schedule B)			$3,549,206.35

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BUILDING FUNDS

	Income			
	Dr.		Cr.	
	Balances June 30, 1928	Expenses	Income	Balances June 30, 1927
				Schedule B-2
Dormitory Reserve	$14,588.67	.....	$286.05	$14,302.62
Voorhees Library Fund	5,182.13	$1,453.60	106.24	6,529.49
Hegeman Dormitory Fund	12,666.81	5,860.12	318.76	18,208.17
Wessell Memorial Building Fund	70,193.89	.....	*70,193.89	.....
	$102,631.50 Sched. B	$7,313.72 Sched. B	$70,904.94	$39,040.28

*Bequest.

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INCOME SCHEDULES

STUDENT INCOME

Schedule D-1

Matriculation and Diploma Fees	$ 3,645.00	
Tuition Fees	158,955.00	
Public Room Service	73,147.50	
Course Fees	12,545.64	
Repeat Course Fees	2,575.00	
Re-examination Fees	820.00	
Late Filing of Cards	14.00	
Late Registration Fees	120.00	
Deposit Card and Key Account	3,592.83	
Total Regular Undergraduate Fees		$255,414.97
Transcript Fees	$ 268.00	
Short Courses in Agriculture	1,462.47	
Short Courses in Engineering Fees	647.00	
Extension Courses (Education)	20,448.90	
Extension Courses (University)	63,866.47	
Fencing Fees	214.70	
Transportation of Engineers	60.00	
Debating Fees	1,785.00	
Higher Degree Fees	447.00	
Total Other Fees		$ 89,199.54
Summer School 1927		
Course Fees	$ 2,110.50	
Swimming Fees	452.00	
Tuition Fees	1,125.00	
Registration Fees	19,302.50	
Summer School Fees	$ 22,990.00	
Summer School Room Rents (not Dormitories)	2,399.50	
Total Summer School Income		$ 25,389.50
Board (D-21)		36,048.24
Dormitories		
Ford Hall	$ 17,334.50	
Hegeman Hall	17,349.00	
Winants Hall	7,123.75	
Total Dormitory Rents (D-22)		$ 41,807.25
Total Student Income Schedule D		$447,859.50

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ENDOWMENT FUNDS INCOME

Schedule D-2

General Funds Income (A-2)	$ 90,921.55	
Special Funds Income (A-3)	6,545.65	
Library Funds Income (A-4)	1,687.65	
Fellowship Funds Income (A-5)	1,302.89	
Prize Funds Income (A-6)	1,235.00	
Beneficiary Funds Income (A-7)	7,313.25	
Student Aid Funds Income (A-8)	3,500.00	
Annuity Funds Income (A-9)	1,232.00	
Preparatory School Funds Income (A-10)	20.00	
Accumulating Funds Income (A-11)	1,827.11	
To Schedule D		$115,585.10

RENT FROM REAL ESTATE

Schedule D-3

Residence 24 College Avenue	$ 67.00	
Professorial Residence 35 College Avenue	700.00	
Professorial Residence 39 College Avenue	600.00	
Professorial Residence 41 College Avenue	900.00	
Professorial Residence 43 College Avenue	900.00	
Raritan Club 139 College Avenue	1,500.00	
Tritelion Lodge 502 George Street	1,200.00	
Martin Property	96.00	
To Schedule D		$ 5,963.00

MISCELLANEOUS INCOME

Schedule D-4

Income from Banquets (D-21)	$ 6,919.88	
Copyrights	106.64	
Sundry Income	273.41	
Sales and Services (School of Education)	43.55	
Rutgers Legacy Income	249.19	
Mechanical Engineering Notes	187.50	
Rent of Gymnasium	125.00	
Rent of Chapel	7.50	
Loss and Gain	2,662.98	
To Schedule D		$ 10,575.65

GIFTS FOR CURRENT PURPOSES

Schedule D-5

Gifts (for general purposes)	$ 1,337.41	
Temporary Fellowships (A-12)	30,920.27	
Temporary Scholarships (A-13)	3,767.80	
Sundry Funds (A-14)	488.50	
To Schedule D		$ 36,513.98

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FEDERAL APPROPRIATIONS

Schedule D-6

	Land Grant	$ 5,800.00	
	Morrill	50,000.00	
	Hatch, Adams and Purnell	70,000.00	
	Smith-Lever	63,735.67	
	Smith-Lever Supplemental	17,038.14	
	To Schedule D		$206,573.81

STATE APPROPRIATIONS

Schedule D-7

EIA	State Scholarships	$ 48,000.00	
EIB	Short Courses in Agriculture	22,117.89	
EIC	Reference Books	9,760.39	
EID	Long Courses in Agriculture	57,712.47	
EIE	Summer Session	31,919.87	
EIF	Ceramics	19,149.26	
EIG	Agricultural Buildings	2,334.95	
EIH	Horticultural Building	1,930.61	
EII	Poultry Building	1,910.15	
EIJ	Physics Building	1,696.35	
EIK	Dairy Building	4,198.97	
EIL	Engineering Courses	53,240.84	
EIM	Chemistry Courses	30,097.45	
EIN	Sanitary Science and Sanitary Engineering	2,997.97	
EIO	Military Science	4,135.38	
EIP	Education	20,237.52	
EIQ	Biology	19,845.07	
EIR	Journalism	10,791.54	
EIS	Industrial Extension	15,000.00	
EIT	Arts and Sciences	119,978.50	
EIV	State Board of Visitors	124.60	
EIW	Sidewalks, etc.	2,820.90	
EIX	Current Repairs	3,998.34	
EIY	Water Storage for Spraying	4.70	
EIHH	Equipment for Nutrition Building	3,697.60	
	To Schedule D		$487,701.32

EIY	Physics Building	$114,035.21	
EIHH	Nutrition Building	5,276.00	
EIV	Calf Barn	58,560.75	
	To Schedule B		$177,871.96

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STUDENT AID LOANS REPAID

Schedule D-8

Student Aid Funds Income (A-8)	$ 3,298.84	
Upson Memorial Fund Loan Account (A-15)	1,398.14	
To Schedule D		$ 4,696.98

DISBURSEMENT SCHEDULES

UNIVERSITY GENERAL

Schedule D-9

State Board of Visitors	$ 195.29	
Office of President	17,372.30	
Office of Comptroller and Treasurer	26,557.76	
Office of Dean of Men	7,590.33	
Office of Registrar	11,082.57	
Office of Director of Publications	13,952.46	
Office of College Physician	4,477.96	
University Chapel	7,548.34	
Y. M. C. A.	21.28	
To Schedule D		$ 88,798.29

MISCELLANEOUS EXPENSES

Schedule D-10

Advertising	$ 575.00	
Biological Scholarships	155.00	
Campus Development	2,280.21	
Cafeteria Equipment and Alterations	7,500.00	
Commencement	3,724.53	
Canfield Property Expenses (A-3)	324.03	
Entertainment	124.50	
Forensic Board	579.88	
Freshman Week	298.06	
Insurance	4,329.55	
Interest	7,710.30	
Inter-Scholastic Debate	797.45	
Legal Expenses	87.00	
Membership Account	562.50	
Newspaper Institute	192.19	
Research Committee	166.87	
Retiring Allowances	11.66	
State Scholarship Examination	560.96	
Survey	1,595.25	
Sundry Expenses	144.03	
Travel	205.83	
Telephone	2,654.81	
Special Publicity	1,632.10	
Taxes	12,396.00	
To Schedule D		$ 48,607.71

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DISBURSEMENT SCHEDULES

EXPENSES PAID FROM SPECIAL FUNDS

Schedule D-11

Kellogg Lectures (A-3)	$ 617.55	
Beneficiaries (A-7)	965.00	
Annuities (A-9)	1,232.00	
Student Aid (D-11a)	13,197.50	
Fellowships (D-11b)	26,110.81	
Prizes (D-11c)	1,122.34	
To Schedule D		$ 43,245.20

PHYSICAL PLANT

Schedule D-12

College Avenue Campus

Superintendent Buildings and Grounds	$ 9,705.52
Campus	16,647.70
Queens Building	11,868.92
Van Nest Hall	4,310.64
Geological Hall	1,247.35
Kirkpatrick Chapel	2,592.48
Alumni House	593.40
Schanck Observatory	39.27
Carpenter Shop	1,419.55
Physics Building	1,910.68
Ballantine Gymnasium	8,453.11
Entomology Building	1,583.09
Entomology Greenhouse	692.02
President's House	243.64
Residence—24 College Avenue	1,186.92
Residence—30 College Avenue	17.42
Residence—35 College Avenue	184.63
Residence—39 College Avenue	94.86
Residence—41 College Avenue	125.73
Residence—43 College Avenue	71.49
Residence—139 College Avenue	75.47
Residence—502 George Street	277.11
Residence—542 George Street	28.35
Tennis Courts	248.40
Voorhees Library	5,453.26
New Jersey Hall	5,091.02
Ceramics Building	3,822.96
Chemistry Building	4,098.76
College Field	1,306.70
Engineering Building	10,971.06
Bishop Mansion	2,062.07

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College Avenue Campus—Continued

Bishop Stables	$ 455.95	
Neilson Field	1,535.77	
Neilson Field House	88.61	
Garage—24 College Avenue	7.75	
Winants Hall (non Dormitory Expenses)	6,721.68	
To Schedule D		$105,233.34

Schedule D-13

College Farm

Agricultural Building	$ 2,986.77	
Agronomy Field Building	175.46	
College Farm Grounds	7,639.89	
College Farm House	71.51	
Dairy Building	5,539.69	
Dairy Farm Barn and Silo	123.00	
Dairy Farm House	603.92	
Experiment Station Greenhouse	1,174.00	
Extension Service Building	59.75	
Farm Director's House	518.24	
Horticultural Building	2,038.53	
Horticultural Farm House No. 1	205.18	
Horticultural Farm House No. 2	888.00	
Horticultural Farm House No. 3	1,139.48	
Horticultural Farm Barn	7.93	
Horse Barn	42.30	
Judging Pavilion	118.94	
Piggery	43.66	
Poultry Building	2,093.15	
Poultry Farm Barn	16.28	
Rural Engineering Building	47.35	
Short Course Building	2,975.87	
Short Course Greenhouse	469.60	
Soil House No. 321	38.00	
Storage Building	918.76	
Tractor Laboratory Building No. 322	86.40	
Water Tower and Pump House	169.95	
Rent of Redshaw Property	1,314.78	
To Schedule D		$ 31,506.39

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DISBURSEMENT SCHEDULES

COLLEGE OF ARTS AND SCIENCES

Schedule D-14

Administration	$ 8,139.95	
Bacteriology	6,584.71	
Bible and Sociology	1,601.40	
Botany	10,194.84	
Classical Languages	4,406.38	
Chemistry	37,621.21	
English	29,903.83	
Economics	23,324.36	
Economics and Business Research Bureau	5,953.76	
German	8,678.02	
Geology and Mineralogy	9,677.11	
History of Art	250.51	
History and Political Science	16,129.26	
Journalism	10,858.56	
Mathematics	26,663.07	
Music	2,700.70	
Physiology	7,613.93	
Philosophy and Psychology	3,629.61	
Physics	13,454.65	
Romance Languages	20,019.93	
Zoology	11,990.10	
To Schedule D		$259,395.89

COLLEGE OF ENGINEERING

Schedule D-15

Administration	$ 8,892.95	
Civil Engineering	16,070.88	
Electrical Engineering	12,611.90	
Mechanical Engineering	13,582.88	
Short Courses in Engineering	967.43	
Engineering Experiment Station	11,607.63	
To Schedule D		$ 63,733.67

COLLEGE OF AGRICULTURE

Schedule D-16

Administration	$ 11,286.86
Agricultural Biochemistry	3,505.35
Agricultural Economics	3,715.10
Agricultural Field Day	354.75
Agronomy	4,949.66
Animal Husbandry	4,273.27
Dairy Husbandry	10,532.93
Editorial and Publicity	3,575.37

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COLLEGE OF AGRICULTURE—Continued

Entomology	$ 4,576.33		
Floriculture	3,346.79		
Plant Pathology	1,741.18		
Pomology	8,881.18		
Poultry Husbandry	6,668.31		
Rural Engineering	6,601.95		
Soil Chemistry	5,691.57		
Vegetable Gardening	7,397.98		
Water and Sewage Disposal	600.00		
	Instruction	$ 87,698.58	
Hatch	$ 13,644.00		
Adams	15,000.00		
Purnell	40,000.00		
	Research	68,644.00	
Smith-Lever	$ 63,135.67		
Smith-Lever Supplemental	17,038.14		
	Extension	80,173.81	
	To Schedule D		$236,516.39

DISBURSEMENT SCHEDULES

SCHOOL OF EDUCATION — *Schedule D-17*

Education (Resident Instruction)	$ 18,643.67	
Extension Courses (Teacher)	15,015.57	
Summer School 1927	55,862.28	
High School Conference	1,577.02	
To Schedule D		$ 91,098.54

SEPARATE DEPARTMENTS — *Schedule D-18*

Ceramics Department	$ 15,362.43	
Physical Education	13,468.17	
Military Science	4,283.77	
University Extension	93,151.65	
University Concert Courses	98.82	
To Schedule D		$126,364.84

LIBRARY — *Schedule D-19*

Library (General and State Funds)	$ 38,140.68	
Library Funds Income (A-4)	1,774.83	
Library Temporary Funds (A-14)	10.01	
To Schedule D		$ 39,925.52

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DORMITORIES

Schedule D-20

Hegeman Hall (D-22)	$ 8,257.32	
Ford Hall (D-22)	9,912.47	
Winants Hall (D-22)	7,218.99	
To Schedule D		$ 25,388.78

DINING HALL

Schedule D-21

Board Regular Students		$ 26,922.88
Board Summer School Students		9,125.36
Sub-Total (D-1)		$ 36,048.24
Banquets (D-4)		6,919.88
		$ 42,968.12
Expenses—Schedule D		39,205.54
Schedules C and D		$ 3,762.58

DORMITORIES

Schedule D-22

Ford Hall (D-1) (D-20)	$17,334.50	$ 9,912.47	$ 7,422.03
Hegeman (D-1) (D-20)	17,349.00	8,257.32	9,091.68
Winants (D-1) (D-20)	7,123.75	7,218.99	* 95.24
	$41,807.25	$25,388.78 Sch. D	$16,418.47 Sch. C & D

* Loss.

STUDENT AID

Schedule D-11a

Special Funds Income Account (A-3)	$ 1,100.00	
Student Aid Funds Income Account (A-8)	7,017.37	
Upson Loan Fund (A-15)	913.46	
Temporary Funds (Pack) (A-14)	520.00	
Temporary Scholarships (A-13)	3,646.67	
To Schedule D-11		$ 13,197.50

FELLOWSHIPS

Schedule D-11b

Fellowship Funds Income (A-5)	$ 550.00	
Temporary Fellowships (A-12)	25,560.81	
To Schedule D-11		$ 26,110.81

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PRIZES

Schedule D-11c

General Funds (A-2)	$ 35.00	
Prize Funds Income (A-6)	1,037.34	
Sundry Temporary Funds (A-14)	50.00	
To Schedule D-11		$ 1,122.34

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