

MAINE STATE LEGISLATURE

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PUBLIC DOCUMENTS OF MAINE

1911

BEING THE



ANNUAL REPORTS

OF THE VARIOUS

DEPARTMENTS AND INSTITUTIONS

For the Year 1910.

VOLUME IV.

AUGUSTA
KENNEBEC JOURNAL PRINT
1911

ANNUAL REPORT

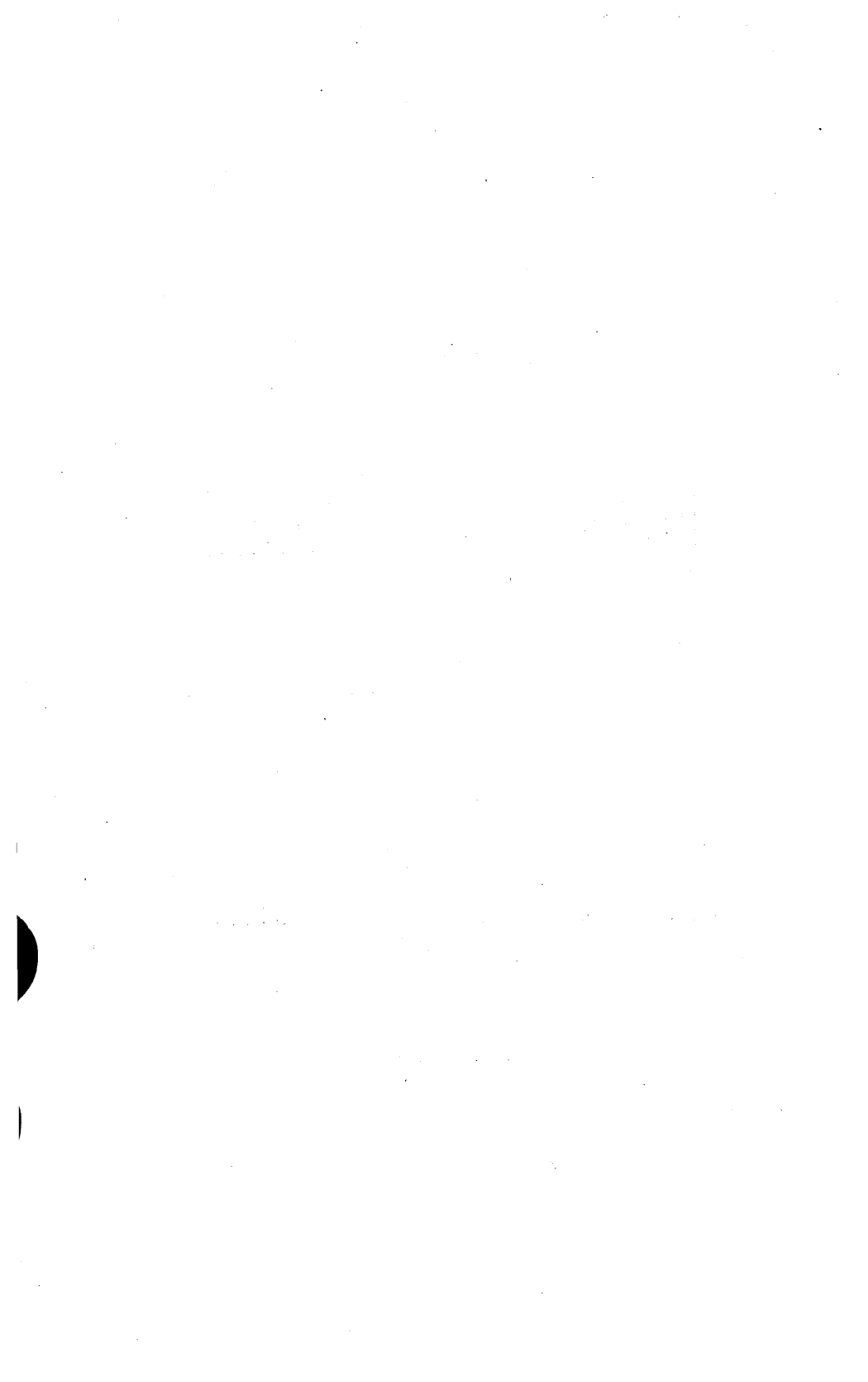
OF THE

UNIVERSITY OF MAINE

FOR THE YEAR ENDING JUNE 30, 1910

**REPORTS OF THE TRUSTEES, TREASURER,
PRESIDENT AND FACULTY**

Printed for the University
KENNEBEC JOURNAL PRINT
AUGUSTA, MAINE
1910



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REPORT OF THE BOARD OF TRUSTEES

To the Honorable Governor and Executive Council of Maine:

The trustees of the University of Maine respectfully submit their 42nd annual report with the report of the President and Treasurer.

There has occurred in the past year no change in the Board of Trustees.

Since the last report the University has suffered a severe loss in the resignation of its President, George Emory Fellows, Ph. D., LL. D. Dr. Fellows began his term of office at Orono on January 1st, 1902.

The entrance of Dr. Fellows as head of the faculty marked a new era in the history of the University. The attendance increased by bounds notwithstanding the entrance requirements were made stricter and the courses of study more exacting. The University went through a process of modernizing and today stands with the first in regard to standards of scholarship.

With the improvements at Orono came an increased interest from the people of the State, which resulted in larger appropriations from the Legislature.

Under Dr. Fellows, the summer term was first held, in spite of discouragements and opposition. The result shows an increase of attendance from 13 in 1902 to 153 during the past summer. Perhaps the most conspicuous achievements of President Fellows in connection with the University, outside the general administration, were the authorization by the State of admission to the Carnegie Foundation, the obtaining of the Carnegie Library, and his able handling of the University's case before the State Committee in 1907 which refused to abolish the B. A. degree and restrict the liberal arts work to such courses as are absolutely necessary to technical students. Dr. Fellows has resigned to take up work in another field, but he has left a record at Orono for earnestness and progression that will stand forever.

Dr. Fellows' successor, the new President, is Robert J. Aley, Ph. D., LL. D. The Board of Trustees made a thorough canvass of the workers in the educational field before making this selection and feel that the future will confirm their judgment. Dr. Aley comes to the University with the strongest recommendations from the heads of all the institutions with which he has been connected, and also the Governor and Board of Public Instruction of the State of Indiana, where he resigned the office of Superintendent to come to Orono. A full account of Dr. Aley's life work will be found in another part of this book.

During the months of Dr. Fellows' leave of absence, Prof. J. N. Hart was elected Acting President and conducted the affairs of the University in an able manner.

There have been many changes in the faculty during the past year, all of which are referred to in the report of President Fellows, and the Board of Trustees has endeavored to increase the efficiency of its teaching force in all changes.

The campus as in former years has received careful attention and shows marked improvement. Grading and beautifying the grounds around the buildings has added to the general neat appearance.

During the past year a new dormitory has been erected on the campus, and will be ready for occupancy in a few weeks now. The building is red brick relieved by cast limestone trimmings. This new building will furnish ample accommodations for 75 or 80 students, and was planned along the most modern lines in dormitory building.

The College of Law has passed through another of its most successful years. During the ensuing year the entrance requirements will be increased, and a number of lecturers added to its already large lecturing force.

In regard to the most pressing needs of the University, a great deal could be said. It appears however at the present time the most urgent requirement is that of a laboratory building either for chemistry or physics, or both. The combined laboratory probably could be built more economically than two separate ones.

The last Legislature having provided for maintenance for four years from 1909 until 1912 may not feel it would be possible to make any appropriations for new buildings. While much is necessary in the way of farm buildings and dairy improvements, the Trustees were waited upon by a committee from the Maine Dairymen's Assn. and Live Stock Assn. urging that better accommodations should be furnished these departments, and it is the opinion of the Board of Trustees that such improvement should be made when the State feels it possible to appropriate money for same.

The undergraduates have never shown more interest in the affairs of the University. The Trustees have taken a keen interest in all athletics and realize that the University cannot help but be benefited by clean sports.

The general health of the upwards of 1000 people connected with the University has been excellent.

At no time during the existence of the University has a greater interest been shown in the Department of Agriculture.

Respectfully submitted,

EDWARD B. WINSLOW,

President Board of Trustees, University of Maine.

REPORT OF THE TREASURER
FOR THE FISCAL YEAR ENDED JUNE 30, 1910

ASSETS

Trust Fund Investment:

| | | |
|--|--------------|--------------|
| Coburn Trust Fund, Schedule A | \$100,000 00 | |
| U. S. Land Scrip Fund, Schedule A | 118,300 00 | |
| Nehemiah Kittredge Loan Fund, Schedule B.. | 1,248 37 | |
| Kidder Scholarship Fund, Schedule B | 1,166 89 | \$220,715 26 |

| | | |
|---|------------|--------------|
| Land & Buildings, Schedule C | 451,606 37 | |
| Inventories, Schedule D | 176,891 30 | |
| Accounts Receivable, Schedule E | 25,952 13 | |
| General Appropriation, State of Maine, Schedule F | 33,856 38 | |
| Bills Receivable, Schedule G | 4,979 17 | |
| Cash on hand—June 30, 1910, Schedule H | 1,389 16 | |
| | | \$915,389 77 |

LIABILITIES

Trust Funds:

| | | |
|------------------------------------|--------------|--------------|
| Coburn Trust Fund | \$100,000 00 | |
| U. S. Land Scrip Fund | 118,300 00 | |
| Nehemiah Kittredge Loan Fund | 1,250 73 | |
| Kidder Scholarship Fund | 750 00 | \$220,300 73 |

| | | |
|------------------------------------|------------|--------------|
| Bills Payable, Schedule I | 59,500 00 | |
| Accounts Payable, Schedule J | 18,569 45 | |
| Surplus | 617,019 59 | |
| | | \$915,389 77 |

SCHEDULE A—ASSETS

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine, dated Feb. 5, 1889, due July 1, 1917, bearing interest at 4% per annum, of the par value of..... \$100,000 00

United States Land Scrip Trust Fund Investment:

Under the provisions of An Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has realized an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1889, due June 1, 1919, bearing interest at 5% per annum, of the par value of \$118,300 00

NOTE: All of the foregoing described bonds are deposited with the Treasurer of the State of Maine.

SCHEDULE B—ASSETS

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same loans are made to needy students in the three upper classes. It is now invested as follows:

| | | |
|---|----|------------|
| Eighteen promissory notes, signed by present and former students of the University, and aggregating, exclusive of accrued interest, | \$ | 861 93 |
| On Deposit in Bangor Savings Bank, as per Deposit Book, No. 45602 | | 386 44 |
| | | <hr/> |
| | | \$1,248 37 |

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder of Denver, Colorado, class of 1879, providing for the award of scholarship to a member of the junior class, selected by the President and Faculty.

| | | |
|------------------------|----|------------|
| Original Fund | \$ | 750 00 |
| Accrued Interest | | 416 89 |
| | | <hr/> |
| | | \$1,166 89 |

Total Amount on Deposit in Bangor Savings Bank, as per Deposit Book, No. 45603.

SCHEDULE C—ASSETS

Lands and Buildings:

| | | |
|------------------------------|----|-----------|
| Alumni Hall | \$ | 31,979 80 |
| Wingate Hall | | 25,143 93 |
| Coburn Hall | | 28,203 80 |
| Fernald Hall | | 30,000 00 |
| Lord Hall | | 38,337 48 |
| Carnegie Library | | 50,985 06 |
| Agricultural Building | | 45,207 85 |
| Stock Judging Pavilion | | 4,292 46 |

REPORT OF THE TREASURER

9

| | |
|----------------------------------|--------------|
| Oak Hall | 40,000 00 |
| Mt. Vernon House | 3,500 00 |
| Commons | 6,000 00 |
| Horticultural Building | 2,500 00 |
| Observatory | 500 00 |
| Heating Plant | 55,652 47 |
| Power House | 1,000 00 |
| Store House, old Art Guild | 500 00 |
| Infirmary | 700 00 |
| Janitor's House | 1,000 00 |
| Farm Buildings | 25,066 61 |
| Theta Epsilon House | 3,500 00 |
| Two Waiting Rooms | 200 00 |
| Old Pumping Station | 1,200 00 |
| Store House, Tools, etc. | 500 00 |
| Faculty Houses | 26,235 65 |
| Locomotive House | 200 00 |
| Campus and Farm Land | 11,000 00 |
| Alumni Field | 1,000 00 |
| Standpipe and Fixtures | 1,000 00 |
| Woodward Farm | 3,000 00 |
| Kappa Sigma House..... | 5,400 00 |
| New Dormitory | 7,588 59 |
| New Waiting Room | 212 67 |
| | <hr/> |
| | \$451,606 37 |

SCHEDULE D—ASSETS

Inventories:

| | |
|-------------------------------------|-----------|
| Repairs to Buildings | \$ 46 20 |
| Furnishings & Fixtures | 5,201 40 |
| Insurance | 1,739 97 |
| Grounds | 1,005 85 |
| University Inn | 2,191 65 |
| Mount Vernon House | 948 19 |
| Oak Hall | 159 65 |
| Commons | 1,119 28 |
| Supplies, Heat, Light & Power | 467 90 |
| Coal | 4,350 00 |
| Civil Engineering | 6,009 00 |
| Electrical Engineering | 7,048 34 |
| Forestry | 1,580 15 |
| Law School | 900 50 |
| Law Library | 9,405 41 |
| Library | 41,257 25 |
| Mathematical Science | 3,327 25 |
| Mechanical Engineering | 32,419 14 |
| Mechanics & Drawing | 772 00 |

| | |
|---|--------------|
| Military Science | 468 75 |
| Museum | 9,807 03 |
| Physical Training | 1,883 50 |
| Latin | 95 10 |
| Education | 53 00 |
| History | 111 00 |
| Economics & Sociology | 41 00 |
| Greek | 1,198 00 |
| Philosophy | 366 50 |
| Advertising | 686 20 |
| Commencement | 188 30 |
| Office Supplies & Postage | 308 62 |
| Diplomas | 60 20 |
| Locker Account | 680 00 |
| Equipment (College of Agriculture) | 9,304 57 |
| Cows (College of Agriculture) | 3,458 00 |
| Poultry (College of Agriculture) | 569 55 |
| Other Live Stock (College of Agriculture) | 984 00 |
| Feed (College of Agriculture) | 411 05 |
| Sundry Supplies & Misc. (College of Agriculture)..... | 679 10 |
| Repairs | 100 40 |
| Domestic Science | 425 22 |
| Bacteriology & Vet. Science | 1,454 75 |
| Biology | 7,672 20 |
| Biological & Agricultural Chemistry | 742 00 |
| Chemistry | 8,304 49 |
| Pharmacy | 288 46 |
| Physics | 6,601 18 |
| | <hr/> |
| | \$176,891 30 |

SCHEDULE E—ASSETS

Accounts Receivable:

This account represents funds due the University as follows:

| | |
|---|-------------|
| <i>Students' Accounts</i> | \$11,117 20 |
| Maine Agricultural Experiment Station | 7,150 94 |
| Other General Ledger Accounts | 7,683 99 |
| | <hr/> |
| | \$25,952 13 |

SCHEDULE F—ASSETS

General Appropriation, State of Maine:

| | |
|---|-------------|
| Amount due the University under the provisions of Chapter 269 of the Resolves of the State of Maine for the year 1909, and unpaid | \$33,856 38 |
|---|-------------|

SCHEDULE G—ASSETS

Bills Receivable:

| | |
|---|------------|
| Representing notes held by the University as follows: | |
| Ninety-five (95) promissory notes signed by present and former students, given in settlement of tuition fees, term bills, etc., and aggregating | \$2,079 17 |
| Three promissory notes given by Building Association... | 2,900 00 |
| | <hr/> |
| | \$4,979 17 |

SCHEDULE H—ASSETS

Cash Balance, June 30, 1910:

| | |
|--|-------------|
| Cash deposit at bank: | |
| First National Bank, Bangor, Maine | \$ 753 15 |
| Cash at Office (Cash Drawer) | 636 01 |
| | <hr/> |
| | \$ 1,389 16 |

Cash Receipts and Disbursements:

| | |
|---|--------------|
| Total Cash Receipts | \$361,703 67 |
| Total Cash Disbursements | 360,319 32 |
| | <hr/> |
| Excess of Receipts | \$1,384 35 |
| Cash Balance at beginning of year | 4 81 |
| | <hr/> |
| Cash Balance at end of year | \$ 1,389 16 |

SCHEDULE I—LIABILITIES

Bills Payable:

| | |
|--|-------------|
| Merrill Trust Company, Bangor, due July 14, 1910 | \$11,000 00 |
| First National Bank, Bangor, due July 14, 1910 | 15,000 00 |
| First National Bank, Bangor, due July 16, 1910 | 8,500 00 |
| First National Bank, Bangor, due July 16, 1910 | 11,000 00 |
| Merrill Trust Company, Bangor, due July 18, 1910 | 8,500 00 |
| First National Bank, Bangor, due July 23, 1910 | 5,500 00 |
| | <hr/> |
| | \$59,500 00 |

SCHEDULE J.—LIABILITIES

Accounts Payable:

| | |
|-----------------------------------|-------------|
| Audited Vouchers | \$17,477 01 |
| Athletic Association | 975 00 |
| I. Maxwell Stover | 1 29 |
| Chicago Alumni Association | 30 00 |
| New York Alumni Association | 30 00 |
| Kidder Scholarship | 30 00 |
| Maud Colcord | 15 |
| C. A. Varnum | 26 00 |
| | <hr/> |
| | \$18,569 45 |

STATEMENT SHOWING INCOME FROM ALL SOURCES

Income from Students:

| | | |
|---|------------|-------------|
| Registration fees | \$5,710 00 | |
| Tuition fees, General | 17,422 50 | |
| Tuition fees, Law School | 4,051 50 | |
| | | 22,074 00 |
| Incidental fees | 11,340 00 | |
| Special fees for Libraries, Laboratories, de- grees, etc. | 1,100 50 | |
| For Dormitories | 1,253 35 | |
| | | \$41,477 85 |

Income from Investments:

| | | |
|---|------------|------------|
| Endowments for general purposes (Coburn) .. | \$4,000 00 | |
| Rents | 1,941 50 | \$5,941 50 |

Income from grants by State and Nation:

State:

| | |
|--|--------------|
| *Appropriation for current expenses and buildings | \$133,000 00 |
|--|--------------|

Federal Aid:

| | |
|--|-----------|
| Income from Land Grant—Act of July 2nd, 1862 | 5,915 00 |
| Additional endowments—Acts of August 30, 1890, and March 4, 1907..... | 40,000 00 |

\$178,915 00

*The provisions of Chapter 269 of the Resolves of the State of Maine for the year 1909, making a general appropriation for the benefit of the University, were not effective, because of the amendment to Article Four of the Constitution of the State, until July 3rd, of that year. In April, 1909, before said resolve became operative, but in anticipation thereof, the sum of twenty thousand dollars was paid or advanced by the State of Maine to the University, which payment or advancement (the fiscal year of the State and that of the University differing), is charged by the latter among its receipts for the fiscal year which ended June 30, 1909. This report, therefore, comprises only the remainder of said appropriation for the calendar year 1909, or eighty thousand dollars, plus the amount to which, under said resolve, the University was entitled between the dates of January 1st and June 30th, 1910, both inclusive, or fifty thousand dollars, making a total income from this source, for the fiscal year of the University which ended June 30th, 1910, of one hundred and thirty thousand dollars to which is added the sum of three thousand dollars, being amount of appropriation for printing and binding reports for the years 1909-10.

Income from other sources.

| | | |
|-------------------------------------|-----------|--------------|
| Profit & Loss Account | \$61 16 | |
| College of Agriculture, Sales | 10,590 42 | |
| Board of Students, Summer Term | 123 70 | |
| | | <hr/> |
| | | \$ 10,775 28 |
| | | <hr/> |
| | | \$237,109 63 |

STATEMENT SHOWING TOTAL EXPENDITURES

Salaries:

| | | |
|-----------------------------|------------|-------------|
| Salaries, Officers | \$8,762 30 | |
| Salaries, Instructors | 82,310 45 | \$91,072 75 |
| | | <hr/> |

Administration Expenses:

| | | |
|------------------------------------|------------|-------------|
| Advertising | \$1,193 24 | |
| Clerk Hire | 2,167 73 | |
| Commencement | 558 59 | |
| Freight & Express | 506 98 | |
| Office Supplies | 1,224 65 | |
| Printing & Binding | 34 18 | |
| Telephone & Telegraph | 230 32 | |
| Traveling Expenses | 944 06 | |
| Interest & Discount | 684 88 | |
| Miscellaneous | 830 37 | |
| School Inspections | 126 60 | |
| Printing Reports & Bulletins | 2,143 62 | \$10,645 22 |
| | | <hr/> |

Maintenance of Property:

| | | |
|------------------------------|-------------|-------------|
| Repairs to Buildings | \$ 4,637 29 | |
| Care of Buildings | 4,602 74 | |
| Furnishings & Fixtures | 1,199 63 | |
| Insurance | 360 10 | |
| Grounds | 2,027 59 | |
| Athletic Field | 21 60 | \$12,848 95 |
| | | <hr/> |

Heat, Light and Power:

| | | |
|---------------------------|-------------|-------------|
| Labor | \$ 3,212 48 | |
| Repairs | 211 14 | |
| Supplies | 3,825 45 | |
| Electricity | 2,271 40 | |
| Coal | 8,387 58 | |
| Miscellaneous | 139 14 | |
| Freight & Express | 27 71 | |
| Oak Hall Steam Line | 93 06 | \$18,167 96 |
| | | <hr/> |

Department Expenses:

| | | |
|----------------------------------|-------------|-------------|
| Civil Engineering | \$ 2,005 60 | |
| Electrical Engineering | 597 96 | |
| Forestry | 66 34 | |
| Law School | 8,517 48 | |
| Law Library | 835 18 | |
| Library | 4,628 18 | |
| Mathematical Science | 18 64 | |
| Mechanical Engineering | 824 53 | |
| Mechanics & Drawing | 166 58 | |
| Military Science | 39 92 | |
| Museum | 981 18 | |
| Physical Training | 126 50 | |
| English Language | 122 22 | |
| Romance Language | 26 37 | |
| Bacteriology | 408 64 | |
| Biology | 1,085 77 | |
| Biological & Ag. Chemistry | 231 81 | |
| Chemistry | 961 89 | |
| Pharmacy | 27 72 | |
| Physics | 499 59 | \$22,172 10 |

Forward \$154,906 98

House Charges:

| | | |
|----------------------|------------|------------|
| University Inn | \$5,635 23 | |
| Commons | 1,504 16 | \$7,139 39 |

Sundry Accounts:

| | | |
|-------------------------|--|----------|
| Summer Term, 1909 | | \$537 54 |
| Prizes | | 70 00 |
| Water Supply | | 1,893 94 |

College of Agriculture:

| | | |
|-------------------------------|-----------|--|
| Farmers' Week | \$ 387 78 | |
| Salaries of Instructors | 10,818 50 | |
| Pay of Employees | 9,327 12 | |
| Equipment | 1,412 40 | |
| Horses | 475 00 | |
| Cows | 50 00 | |
| Feed | 3,724 47 | |
| Hay and Straw | 69 07 | |
| Fertilizer, seeds, etc. | 1,035 36 | |
| Heating | 97 25 | |

| | | |
|---------------------------------------|-----------|---------------------|
| Sundry Supplies & Miscellaneous | 1,273 37 | |
| Repairs | 269 04 | |
| Traveling Expenses | 743 88 | |
| Postage, Printing & Stationery | 357 83 | |
| Freight & Express | 496 02 | |
| Advertising | 33 20 | |
| Forest Experiment Station | 80 94 | |
| Domestic Science | 1,254 81 | |
| | | <u>\$ 31,906 04</u> |
| | | \$196,453 89 |
| Surplus | 40,655 74 | |
| | | <u>\$237,109 63</u> |

NOTE: The figures shown in the foregoing statement may not show the net cost of the several departments. This is explained by the fact that no inventories were available at the beginning of the year and it is likely that figures shown hereon may include charges for fixtures, supplies, etc., included in inventories taken at end of year.

STATEMENT SHOWING HOW SURPLUS WAS EMPLOYED

Increased Assets:

Plant:

| | | |
|-----------------------------|------------|-------------|
| Agricultural Building | \$1,083 96 | |
| Heating Plant | 500 00 | |
| Farm Buildings | 723 98 | |
| Faculty Houses..... | 13,035 65 | |
| New Dormitory | 7,588 59 | |
| New Waiting Room . | 212 67 | \$23,144 85 |

Accounts Receivable:

| | | |
|---------------------------------------|------------|-------------|
| Maine Agricultural Experiment Station | \$6,643 71 | |
| Other Accounts | 972 82 | \$ 7,616 53 |

| | | |
|--|--|-------------|
| Due from State of Maine— Account of Appropriation | | \$33,856 38 |
|--|--|-------------|

Inventories:

| | | |
|----------------------|-------------|-------------|
| University Inn..... | \$ 2,191 65 | |
| Domestic Science.... | 425 22 | \$ 2,616 87 |

Cash:

| | | |
|--|-------------------|-------------|
| | <u>\$1,384 35</u> | \$68,618 98 |
|--|-------------------|-------------|

LÉSS

| | | |
|--|-------------|-------------|
| Bills Payable, Increased | \$10,500 00 | |
| Accounts Payable, Increased | 17,413 30 | |
| Bills Receivable, Decreased | 49 71 | |
| Trust Fund Investment, Decreased | 23 | \$27,963 24 |
| | | <hr/> |
| Net Increase in Surplus | | \$40,655 74 |

MAINE AGRICULTURAL EXPERIMENT STATION

For the Fiscal Year Ended June 30, 1910

ASSETS

| | |
|---|-------------|
| Highmoor Farm | \$10,000 00 |
| Holmes Hall | 18,500 00 |
| Incubator House | 1,800 00 |
| Poultry Houses | 3,350 00 |
| Due from State of Maine Appropriation for Analysis of Food, Seeds, etc. | 9,000 00 |
| Due from State of Maine Appropriation for Printing Re- ports | 3,473 72 |
| Inventory—Highmoor Farm | 5,087 68 |
| Inventory—Furnishings, Fixtures & Appliances | 29,948 91 |
| | \$81,160 31 |

LIABILITIES

| | |
|--|-------------|
| Appropriation, 1910, Analysis of Foods, Seeds, etc., Un- expended | \$ 4,500 00 |
| Appropriation, 1910, Printing Reports, unexpended..... | 3,473 72 |
| Amount due University of Maine | 7,150 94 |
| | \$66,035 65 |
| Surplus | \$81,160 31 |

Statement showing Income and Expenditures:

Income:

| | |
|---|--------------|
| Adams Fund | \$ 13,000 00 |
| Hatch Fund | 15,000 00 |
| General Fund | 1,428 72 |
| Appropriation for Food, Seeds, etc. | 13,500 00 |
| Appropriation for Printing Reports, etc. | 5,526 28 |
| Inspection Receipts | 2,144 77 |
| Highmoor Farm | 1,100 71 |
| Appropriation for purchase Highmoor Farm..... | 10,000 00 |
| General Fund balance from 1909, account | 1,137 83 |
| | \$62,838 31 |

Expenditures:

| | |
|---|--------------|
| Salaries, Labor, Traveling Expenses, Chemical Supplies, etc., etc., Adams Fund | \$ 13,000 00 |
| Salaries, Labor, Traveling Expenses, Chemical Supplies etc., etc., Hatch Fund | 15,000 00 |
| Salaries, Labor, Traveling Expenses, Chemical Supplies, etc., etc., General Fund | 1,802 36 |
| Salaries, Traveling Expenses, Chemical Supplies, etc., etc., Inspections 1909, & 1909-1910 | 15,597 98 |
| Printing Reports, etc. | 5,526 28 |
| | <hr/> |
| | \$50,926 62 |
| Surplus | 11,911 69 |
| | <hr/> |
| | \$62,838 31 |

Statement showing how surplus was employed:

INCREASED ASSETS

| | |
|--|-------------|
| Highmoor Farm, New Purchase | \$10,000 00 |
| Highmoor Farm, Receipts and Inventory in excess of ex- penditures | 1,100 71 |
| Inspections, Receipts in excess of expenditures | 46 79 |
| General Fund, Receipts in excess of expenditures | 764 19 |
| | <hr/> |
| | \$11,911 69 |

Respectfully submitted,

CHARLES J. DUNN,
Treasurer.

To the Trustees, University of Maine:

Approved: CHARLES P. HATCH, *State Auditor.*

REPORT OF THE PRESIDENT

To the Board of Trustees of the University of Maine:

The President of the University has the honor to present his ninth annual report, covering the years 1909-1910.

CHANGES IN THE FACULTY

Professor Gordon E. Tower resigned the chair of Forestry at the close of the college year, June, 1910. Professor Tower has been in charge of the Department of Forestry for five years. When he came to Maine, although courses in forestry had been offered for two years, it could not be said that the Department had passed beyond the experimental stage. During the past five years it has become clearly evident that not only is there demand for instruction in this subject, but a very urgent demand for men trained to care for public forests and those belonging to large paper manufacturing corporations. This has accordingly caused an increasing number of young men to enter upon the study of forestry. The number enrolled in the Forestry Department in 1905 was 22, 1906 31, 1907 27, 1908 42, 1909 40. Professor Tower's work has been earnest and successful as a teacher. He resigned to engage in private business.

To succeed Professor Tower, John M. Briscoe has been appointed. He was a member of the class of 1909 at the Yale Forest School, and for the past year has been engaged in the United States Forest Service. He was highly recommended by Henry S. Graves, Chief of the United States Forest Service, and by others conversant with his ability.

For several years many of those having great interest in the athletics of the University have desired that the general management be placed in the hands of a competent director, who should be a regular officer in the University and responsible to the Faculty and Trustees. Mr. Edward Rainey Wingard has been appointed Director of Physical Culture and Athletics. He was graduated at Susquehanna in 1900 and received the degree of M. S. from the University of Pennsylvania, with a major in history, two years later. During his undergraduate career he played football, baseball, and basketball, pitched on the baseball team, was a member of the track team, and during his senior year was captain of the football, baseball, and track teams. At Pennsylvania, although ineligible for 'varsity teams, during his first year he played on the second football team and coached it during his second year. In the local track meet he made a record of ten seconds in the hundred yards dash.

Since completing his work at Pennsylvania, he has been an athletic director, for three years at Butler College, one year at Western University of Pennsylvania, and three years at Louisiana State University. His teams have been remarkably successful. During two summers he has taken work in physical culture at the Harvard summer school.

At Maine he will have charge of the gymnasium work and coach such of the teams as he sees fit, with such assistance as he may require. All coaches will be directly responsible to him for their methods and their results.

The University pays him the amount it was previously putting into the salaries of the Physical Director and the Assistant in Physical Training. The additional amount necessary to secure his services is contributed by the Athletic Association. His faculty rank is that of professor.

To replace Mr. George E. Pearson, Instructor in the Department of English, resigned, Mr. Victor Alvin Ketcham, B. A., LL.B., has been appointed.

Mr. Ketcham was graduated from the arts department of the Ohio State University in 1907 and from its College of Law in 1910. He represented Ohio State in a number of intercollegiate debates and oratorical contests, and has trained the Mt. Vernon, Ohio, High School pupils in argumentation and debate during the past year. He will have the work in English which has been carried for several years by Mr. Pearson, resigned.

Mr. Kaulfuss, who succeeds Mr. Johnstone as Instructor in Civil Engineering, is a graduate of the course in civil engineering at the University of Wisconsin, in 1908, and since that time has been in practical railroad engineering work.

Mr. W. F. Washburn, Instructor in Chemistry, resigned in the middle of the spring semester of 1910 to accept a commercial position. The vacancy was filled by the appointment of Lloyd M. Burghart, B. S. Mr. Burghart was graduated at Lake Forest College in 1906, and for three years was in charge of commercial laboratories. He was appointed graduate assistant in Analytical Chemistry at the University of Illinois, in 1909, and had nearly completed the work required for the degree of M. S. when he left to accept the position in Maine.

Owing to ill health, Miss Isabel Munro, B. S., Cataloger in the Library since 1907, was obliged to discontinue her work last December. The vacancy was filled by the appointment of Miss Bertha Carey Whittemore, who has been an Assistant in the Library since 1907. The vacancy caused by the transfer of Miss Whittemore was filled by the appointment of Miss Helen Waugh Stobie as Assistant. Miss Stobie was librarian of the Taconnet Club Library in 1906-07, and in 1907-8 took the one year library course at Simmons College. The vacancy in the library staff that has existed since 1908 was filled in April last by the appointment as Assistant of Miss Julia Lydia Crocker. Miss Crocker was a student in the library course at Simmons College for three years, leaving in 1908, at the end of her Junior year, to ac-

cept a position as librarian of the Calais Free Library, where she remained until the acceptance of her appointment at the University. All the time that can be used for this purpose will be given by Miss Crocker to cataloging public documents, a branch of work that has necessarily been slighted up to this time.

Miss Edith Maynard Wallace, M. A., Instructor in Biology since 1908, resigned in the fall of 1909 on account of ill health. Her position was filled by the appointment of Miss Alice Middleton Boring, M. A. Miss Boring graduated at Bryn Mawr in 1904, where she was Graduate Scholar in Biology the following year and received the degree of M. A. in 1905. She was Fellow in Zoology at the University of Pennsylvania, 1905-6, Fellow in Biology at Bryn Mawr, 1906-7, and a student at the University of Wurzburg and in Stazione Zoologica at Naples, 1908-9.

Assistant Professor George E. Simmons, Director of Extension Work in the College of Agriculture, has been transferred to the Department of Agronomy to take the place of Assistant Professor Sherwin, resigned. To be Director of Extension work in place of Professor Simmons, Dr. Leon S. Merrill has been appointed. He has for the last four years been in charge of the dairy division of the State Department of Agriculture as State Dairy Instructor. His work in that position has been thoroughly successful and has given him a knowledge of conditions throughout the State and a wide acquaintance among the people that will be of great value to him in his new position.

Dr. Merrill graduated from the Maine Medical School in 1889, but severe trouble with his eyes for several years prevented his following the practice of medicine. He has conducted a general store in Solon for many years, and from 1898 to 1907 was manager and auditor of the Solon Creamery Company. He is actively interested in farming at the present time, and has declined an attractive position at the Massachusetts Agricultural College in order to accept that at the University of Maine.

Mr. Harry M. Royal has been appointed Instructor in Physics to take the place of Mr. George A. Scott, resigned. Mr. Royal is a graduate of the University of Maine in the class of 1910.

Mr. Arthur M. Bussell has been appointed Instructor in Chemistry to take the place of Mr. Benjamin E. Kraybill, resigned. Mr. Bussell graduated from the University of Minnesota in 1910, with a major in chemistry. He taught science and mathematics for a year in Windom Institute and had been employed as chemist during his vacations by the Kennicutt Water Softening Co., of Chicago, and the Minneapolis Board of Health.

Mr. Harvey H. Jordan and Mr. John N. Philbrook have been appointed tutors in civil engineering to replace Mr. W. E. Connor and Mr. N. H. Mayor, resigned. Both Mr. Jordan and Mr. Philbrook are graduates of the University of Maine in the course in Civil Engineering in 1910.

PROMOTIONS

At the meeting of the Board of Trustees on June 20th, Professor Harold S. Boardman was made Dean of the College of Technology. Dean Boardman was graduated at the University in 1895, in the course in civil engineering. The following year he did graduate work at the Massachusetts Institute of Technology. He was Tutor in Drawing at the University, 1896-99, and then for two years in practical work with the American Bridge Co. He returned to the University in 1901 as Instructor in Civil Engineering, was promoted to Associate Professor, in charge of the department, upon the resignation to Professor N. C. Grover in 1903, and made Professor in 1904. He has spent most of his summers for some years in professional work and most of the important field work of the Maine Hydrographic Survey has been done under his oversight. He has been a member and chairman of some of the most important faculty committees, and his appointment as Dean of the College of Technology will undoubtedly advance the interests and promote the efficiency of all the engineering departments.

Other promotions were Mintin Asbury Chrysler, from Associate Professor to Professor of Botany; Victor Ray Gardner, from Assistant Professor to Professor of Horticulture; Truman Leigh Hamlin, from Instructor to Assistant Professor of Mathematics; Ernest Claude Drew, from Tutor to Instructor in Physics.

CHEMISTRY

I wish to call attention to the complete change in the personnel of the Faculty in the Department of Chemistry. This is set forth in detail in Professor McKee's report. What is of greater significance is the re-organization in work and method in conformity with the best in modern chemical laboratories. Great as has been the progress in a single year, results entirely satisfactory to the new head of the Department cannot be obtained while the space in the laboratory is insufficient for the number of students now enrolled, and hopelessly inadequate for expansion in variety of work offered and increasing numbers. Once more it seems best to repeat the statement made in several previous reports that the next building upon the campus should be a large, well equipped chemical laboratory.

DOMESTIC SCIENCE

Fully organized class work in Domestic Science has been given for the first time during the past college year, and with most satisfying and encouraging results. Not only have the regular students availed themselves of the new opportunities, but, in response to a demand, classes have been formed of ladies from Orono, Oldtown and Bangor. Miss Comstock, in addition to her regular work at the University, has responded to a great many calls to lecture upon Domestic Science and to organize work in various parts of the State. The demand for and need of thoroughly organized extension work in this and related topics is as urgent as for that in agriculture.

EXTENSION WORK IN AGRICULTURE

No division of the work of State Universities and State Colleges is attracting more attention throughout this country and Canada than the Extension Work. Some institutions have arranged for extra-mural classes in many departments of college and university instruction, but for obvious reasons, much more commonly is the effort put forth entirely in agriculture and related topics.

In the three years since the first man was appointed at the University of Maine to develop this line of work, the progress has been amazing, but every step forward only reveals new roads to follow and new fields to enter.

The real beginning of the tie between the farmers of the State and the University was in 1906, when Farming Special trains were run over the lines of the Bangor & Aroostook system and part of the Maine Central system.

In June, 1910, the University, in co-operation with the newly organized Industrial Department of the Maine Central, ran a train far better equipped for instruction purposes than the one of 1906. The Railway Company furnished the train, and the University the lecturers, demonstrators and exhibits. The State Department of Agriculture heartily joined in this effort, as on the previous occasion. The following itinerary was followed:

THURSDAY, JUNE 9th.

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|----------------------|----------------------------|
| Leave Orono | 7.00 A. M. |
| Ellsworth | 8.30 A. M. to 9.30 A. M. |
| Cherryfield | 10.45 A. M. to 12.45 P. M. |
| Columbia Falls | 1.15 P. M. to 2.45 P. M. |
| Eastport | Evening. |

FRIDAY, JUNE 10th.

| | |
|-----------------|---------------------------|
| Pembroke | 8.15 A. M. to 9.45 A. M. |
| Princeton | 11.30 A. M. to 3.00 P. M. |
| Calais | Evening. |

SATURDAY, JUNE 11th.

| | |
|-------------------|----------------------------|
| Dennysville | 8.05 A. M. to 9.30 A. M. |
| Machias | 10.35 A. M. to 12.50 P. M. |
| Harrington | 1.40 P. M. to 2.40 P. M. |
| Bangor | 5.45 P. M. and Evening. |

SUNDAY, JUNE 12th.

Bangor.

MONDAY, JUNE 13th.

| | |
|------------------|--------------------------|
| Waterville | 9.30 A. M. to 12.00 M. |
| Vassalboro | 1.30 P. M. to 2.30 P. M. |
| Riverside | 3.00 P. M. to 5.00 P. M. |
| Augusta | Evening. |

TUESDAY, JUNE 14th.

| | |
|------------------|--------------------------|
| Gardiner | 9.00 A. M. to 12.00 M. |
| Richmond | 1.32 P. M. to 4.00 P. M. |
| Bowdoinham | 4.30 P. M. to 6.00 P. M. |
| Brunswick | Evening. |

WEDNESDAY, JUNE 15th.

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|-------------------|---------------------------|
| Steep Falls | 9.00 A. M. to 11.00 A. M. |
| Hiram | 12.00 M to 5.00 P. M. |
| Fryeburg | Evening. |

THURSDAY, JUNE 16th.

| | |
|------------------------|---------------------------|
| Cornish | 9.00 A. M. to 11.00 A. M. |
| South Windham | 12.00 M. to 2.00 P. M. |
| Cumberland Mills | 3.00 P. M. to 5.00 P. M. |
| Springvale | Evening. |

FRIDAY, JUNE 17th.

| | |
|-----------------|--------------------------|
| Waterboro | 9.00 A. M. to 12.00 M. |
| Bradbury | 1.00 P. M. to 2.00 P. M. |
| Gorham | 3.00 P. M. to 5.00 P. M. |
| Kennebunk | Evening. |

SATURDAY, JUNE 18th.

| | |
|---------------------|---------------------------|
| Eliot | 8.30 A. M. to 10.00 A. M. |
| North Berwick | 10.30 A. M. to 1.00 P. M. |
| Wells Depot | 1.30 P. M. to 2.30 P. M. |
| Saco | 3.00 P. M. to 5.00 P. M. |
| Portland | Evening. |

SUNDAY, JUNE 19th.

Portland.

MONDAY, JUNE 20th.

| | |
|---------------------|----------------------------|
| Poland | 9.00 A. M. to 11.00 A. M. |
| West Minot | 11.30 A. M. to 12.30 P. M. |
| Buckfield | 1.30 P. M. to 4.00 P. M. |
| Peru | 5.00 P. M. to 6.00 P. M. |
| Rumford Falls | Evening. |

TUESDAY, JUNE 21st.

| | |
|----------------------|---------------------------|
| Canton | 9.00 A. M. to 11.00 A. M. |
| Mechanic Falls | 1.00 P. M. to 4.00 P. M. |
| Auburn | Evening. |

WEDNESDAY, JUNE 22nd.

| | |
|-----------------|--------------------------|
| Monmouth | 9.00 A. M. to 12.00 M. |
| Readfield | 2.00 P. M. to 4.30 P. M. |
| Madison | Evening. |

THURSDAY, JUNE 23rd.

| | |
|-------------------|---------------------------|
| North Anson | 9.00 A. M. to 11.00 A. M. |
| Solon | 1.00 P. M. to 4.00 P. M. |
| Bingham | Evening. |

FRIDAY, JUNE 24th.

| | |
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| Norridgewock | 9.00 A. M. to 11.00 A. M. |
| Oakland | 11.30 A. M. to 2.00 P. M. |
| Mattawamkeag | 6.00 P. M. and Evening. |

SATURDAY, JUNE 25th.

| | |
|----------------|---------------------------|
| Danforth | 9.00 A. M. to 11.00 A. M. |
| Kingman | 12.00 M. to 2.00 P. M. |
| Enfield | 3.00 P. M. to 5.00 P. M. |

End at Bangor 6.15 P. M.

HAZING

At the meeting in June, 1909, the Trustees, at the request of the Faculty, authorized the requiring of every student entering the University in the Fall of 1909 and thereafter, to sign a card stating that he would take no part in hazing. After hesitating a day or two at the beginning of the semester in September, all students, old and new, signed the required card.

Early in October unmistakable cases of hazing occurred. After a careful investigation, the Faculty suspended several students for taking active part. It is unnecessary in this report to relate further incidents, but merely to state that influences among the students brought about a quite general "strike." All but about fifty students left all college work for six days. When, however, it became clear that the Trustees could not be persuaded to interfere with the disciplinary measures of the Faculty, the students returned to their work.

At their regular meeting in November, the Trustees unanimously approved of all the measures the Faculty had taken. The general effect of the episode was wholesome. It was observed in all departments of the University that there was a more studious atmosphere and class work was distinctly better throughout the remainder of the college year.

There is no manner of doubt that for several years previously there had been a great amount of time and student energy wasted in the so-called "razoos," and this, added to the evils and outrages of hazing, could not be longer tolerated if the University were to successfully perform its functions. If the Faculty and Trustees maintain the firm stand they have now taken on this whole question, a very appreciable obstacle to progress will have been removed.

NEW DORMITORY

The dormitory which has been long needed is now in process of construction and will be ready for occupancy about January 1st, 1911. The plans were furnished by William Hart Taylor & Son, of Boston, and the contract was let to Smith & Rumery, of Portland. It is 168 feet long and 35 feet wide, having four stories and a basement. The building is divided by fireproof walls into three sections. Each floor in each section is provided with bath and toilet facilities, and in the basement is a

dining room large enough to accommodate three hundred. A thoroughly equipped kitchen is built in the rear, and is connected by corridors with the dining room.

THE DEPARTMENT OF EDUCATION

The University has for years received more calls for High School teachers than it could supply. Many graduates and undergraduates have taken up the work of teaching without any special study of the history of education or of school organization and administration. This is unfortunate both for the teacher and the school. A better equipped teacher can command higher pay, and better paid and better equipped teachers are what most of the schools in Maine seriously need. If Maine would require by law what many other States now demand of all teachers for high schools, *i. e.*, at least one year of work in the Science of Education as offered in the State University, the effect could not fail to be beneficial in many ways.

There is a very rapidly growing demand for teachers in agriculture, manual training, domestic science and other specialized departments. The Department of Education should be provided with enough help and facilities to meet this demand. It cannot well be met elsewhere, and it is the duty of the State University, as the head of the State school system, to fit the teachers for all departments of the High Schools, as it is of the Normal Schools to provide the proper training for teachers of the grades.

The University has been able so far to engage only one professor for the Department of Education, but the amount and quality of the work offered by him has amply demonstrated the utility of the Department. The immediate efficiency of those who, having taken the courses offered, now occupy important superintendencies and principalships, is noteworthy.

THE UNIVERSITY AS A UNIT IN STATE EDUCATION

What has just been said regarding the Department of Education has a distinct bearing on the place of the University in the State system. Education has prospered best in those States where there is no break in the system from the kindergarten through the University. There should be the closest of ties between all the divisions into which the system of public education falls, Common Schools, High Schools, Normal Schools and Universities. The transition from one division to the other should be as easy and natural as from one grade to another in the same school. This cannot well be accomplished if each division is left to work for its own development and aggrandizement without relations with and knowledge of the others.

The State Superintendent of Schools has as part of his duty the study and solution of just the problem here suggested. He is intimately connected with Common, High and Normal Schools, their relations to each other, their courses of study and classification. The State University should not in any way be apart from these other educational divisions.

How to bind its interests and duties closer to the others may well engage the deepest thought of Trustees and Faculty.

Would it not be wisdom to have the laws relating to the University so amended as to place the State Superintendent of Schools as an *ex-officio* member on the Board of Trustees?

REPORTS OF FACULTY

Following the report of the President, as has been customary every two years, will be found the reports of the Deans and heads of the various departments of instruction. No definite form of statement has been required for these reports. Each head of a department has addressed to the President a statement of his own work and of the needs of the department as he sees them. A perusal of these Faculty reports is recommended. They will throw much light on the details of departmental instruction and the varying ideals of those in charge.

DEGREES CONFERRED IN JUNE, 1910

COLLEGE OF ARTS AND SCIENCES

| | |
|---|---------------------|
| LEROY WINFIELD AMES, B. A. (Biology) | Bangor |
| WALES HENRY ANDREWS, B. S. (English) | Middleboro, Mass. |
| FRANCES ELIZABETH STANISLAUS ARNOLD, B. A. (Romance Lan- guages) | Orono |
| EMERY RAY BOWDOIN, B. S. (Economics) | Bucksport |
| JENNIE CHRISTIANNA BROWN, B. S. (English) | Orono |
| GROVER TRITES CORNING, B. S. (Economics) | Lynn, Mass. |
| CHARLES LIGUORI GRAHAM, B. S. (Mathematics)..... | Brooklyn, N. Y. |
| W WARREN HARMON, B. S. (Economics)..... | Old Orchard |
| DANIEL RUSSELL HODGDON, B. A. (Physics) | Gorham |
| GEORGE CROSBY HOWARD, B. A. (Greek) | Orono |
| CHESTER CLEVELAND JOHNSON, B. S. (Mathematics) | Portland |
| EDITH LUELLE JORDAN, B. A. (Romance Languages) | Old Town |
| GLADYS EMMA KAVANAH, B. S. (Mathematics) | Bangor |
| JOSEPH SYLVESTER KEATING, B. S. (Economics) | Red Beach |
| ERNEST LAMB, B. S. (Economics) | Utica, N. Y. |
| EDWIN RANDOLPH MORGAN, B. S. (Economics) | Sangerville |
| FRANKLIN WILLIAM PETTEY, B. A. (Biology) | Fall River, Mass. |
| GENEVA ALICE REED, B. A. (Mathematics) | Orono |
| AUGUST HERMAN THEODORE SCHIERLOH, B. A. (German) Brooklyn, N. Y. | |
| OLIVER FISK SEVRENS, B. S. (Biology) | North Woburn, Mass. |
| FRANK ELWYN SOUTHARD, B. A. (Economics) | Auburn |
| WINTHROP HAMOR STANLEY, B. A. (Education) | Hull's Cove |
| LENORA ELLEN TAFT, B. A. (Latin) | Boston, Mass. |
| JAMES IRVING TRAVIS, B. S. (Economics) | Machiasport |
| GEORGE ARTHUR WAKEFIELD, B. A. (Biology) | Andover |

COLLEGE OF AGRICULTURE

WILLIAM CLARKE BAGG, B. S. in ForestryUtica, N. Y.
 ROBERT BACON CRUICKSHANK, B. S. in ForestryAkron, Ohio
 FRED DUMONT DAVIS, B. S. in ForestryBrooks
 FRANK EUGENE FORTIER, B. S. in AgricultureTurner Center
 ALBERT KINSMAN GARDNER, B. S. in Agriculture.....Rockland
 LEROY WHITTIER GARDNER, B. S. in ForestryDennysville
 MARSHALL EVERETT REED, B. S. in ForestryRoxbury
 GEORGE ALBERT STUART, B. S. in AgricultureCalais
 HERMAN PITTEE SWEETSER, B. S. in AgricultureCumberland Center
 GEORGE SABINE WADSWORTH, B. S. in AgricultureEastport

COLLEGE OF PHARMACY

WALTER MELVILLE CHASE, B. S. in PharmacyBangor
 FREDERIC LIBBY DAVIS, Ph. C.South Berwick
 FRED HELGESEN, Ph. C.Newport, R. I.
 ROYCE BREWSTER JOSSELYN, Ph. C.....South Hanson, Mass.
 GEORGE CAMPBELL WARD, Ph. C.Kennebunk

COLLEGE OF TECHNOLOGY

GEORGE FRANK BARRON, B. S. in Electrical EngineeringOrono
 JAMES EDMUND BATTLES, B. S. in Electrical EngineeringFrankfort
 WALLACE BROWNELL BAYLIES, B. S. in Civil Engineering
 New Bedford, Mass.
 FREDERICK ROWE BIGNEY, B. S. in Electrical EngineeringGreenville
 ROY JAMES BIRD, B. S. in ChemistrySouth Paris
 LESTER MORSE BRAGG, B. S. in Civil EngineeringStockton Springs
 HERBERT PUTNAM BRUCE, B. S. in Civil EngineeringLynn, Mass.
 ALFRED KIMBALL BURKE, B. S. in ChemistryKennebunk
 VAUGHN RUSSELL CHADBOURNE, B. S. in Electrical Engineering,
 Mattawamkeag
 ALFRED BLANCHARD CHANDLER, B. S. in Electrical Engineering,
 Yarmouthville
 HAROLD LINSOTT CLIFFORD, B. S. in Civil Engineering.....Orono
 RAYMOND THURBER COLE, B. S. in Mechanical Engineering So. Portland
 JOHN LAMBERT COLLINS, B. S. in Electrical EngineeringGardiner
 FREDERICK WILLIS CONLOGUE, B. S. in Electrical Engineering ..Houlton
 HORACE JEWETT COOK, B. S. in Civil EngineeringWaterville
 RALPH WILLIS CROCKER, B. S. in Electrical EngineeringBangor
 CHESTER GOODMAN CUMMINGS, B. S. in Mechanical Engineering,
 Vanceboro
 JAMES MURCHIE EATON, B. S. in Electrical EngineeringPrinceton
 MALCOLM EDWARD FASSETT, B. S. in Civil EngineeringWoodfords
 CHARLES HENRY FENN, B. S. in Civil EngineeringPortland
 KENT RICHARD FOX, B. S. in ChemistryBangor
 CHARLES MELVILLE FULTON, B. S. in Civil Engineering,
 Effingham Falls, N. H.

CARL JOSEPH GOOCH, B. S. in Civil Engineering Biddeford
 GEORGE PERCY GOODRICH, B. S. in Electrical Engineering Phippsburg
 CLIFTON ALLISON HALL, B. S. in Electrical Engineering Brewer
 ROY OTIS HATCH, B. S. in Chemistry..... Orono
 WESTON MILLIKEN HICKS, B. S. in Civil Engineering Portland
 RALPH EVERETT HOBBS, B. S. in Electrical Engineering Lynn, Mass.
 RUPERT A JELLISON, B. S. in Chemistry..... Bar Harbor
 HARVEY HERBERT JORDAN, B. S. in Civil Engineering Waltham
 CHARLES CLAYTON KETCHUM, B. S. in Civil Engineering Ashland
 HERMAN WINSLOW KYES, B. S. in Electrical Engineering, Ipswich, Mass.
 YUEN FOO LEONG, B. S. in Electrical Engineering,
 Sun Dong, Canton, China
 PHILIP HENRY LITTLEFIELD, B. S. in Mechanical Engineering ... Portland
 ROBY PERKINS LITTLEFIELD, B. S. in Chemistry Ogunquit
 AUSTIN LOUIS MADDOX, B. S. in Civil Engineering Ellsworth
 FRANK EDMUND MERRIAM, B. S. in Mechanical Engineering, Skowhegan
 WALTER SCOTT MERRILL, B. S. in Civil Engineering Skowhegan
 ARTHUR SCUDDER MOORE, B. S. in Electrical Engineering,
 West Lynn, Mass.
 RAYMOND PRATT NORTON, B. S. in Chemistry Patten
 ALLEN EDSON OAK, B. S. in Civil Engineering Caribou
 JOHN NEAL PHILBROOK, B. S. in Civil Engineering Woodfords
 CHARLES AUGUSTUS CUSHMAN PORTER, B. S. in Civil Engineering,
 Bangor
 CHARLES OLAND PRATT, B. S. in Civil Engineering, West Medford, Mass.
 JOSEPH GEORGE ROSE, B. S. in Civil Engineering Brooklyn, N. Y.
 HAROLD MERTON ROYAL, B. S. in Electrical Engineering Hermon
 JAMES GRINDLE SCALES, B. S. in Chemistry Guilford
 CHARLES FRENCH SMITH, B. S. in Electrical Engineering .. Skowhegan
 EDWARD NOTLEY SNOW, B. S. in Electrical Engineering Skowhegan
 GEORGE EDWIN SPRINGER, B. S. in Electrical Engineering Portland
 ISAAC MAXWELL STOVER, B. S. in Electrical Engineering Orono
 CHARLES HENRY TUCKER, B. S. in Civil Engineering Orono
 HAROLD EDWARD WALKER, B. S. in Civil Engineering Sabattus
 GEORGE ALEXANDER WALLACE, B. S. in Civil Engineering Portland
 GEORGE ALBERT WEBSTER, B. S. in Electrical Engineering ... Farmington
 JAMES LEON WHITMORE, B. S. in Electrical Engineering .. North Haven
 HAROLD WILLIAMS WRIGHT, B. S. in Civil Engineering .. Reading, Mass.

COLLEGE OF LAW

FRANK LYMAN BASS, LL. B. (B. A., Bowdoin College, 1907) ... Bangor
 ISRAEL HARRY CAPLAN, LL. B. Portland
 CARLETON DOAK, LL. B. Belfast
 ASTOR ELMASSIAN, LL. B. Lynn, Mass.
 OSCAR HARRIS EMERY, LL. B. Bar Harbor
 CARL FOLSOM GETCHELL, LL. B. (B. A., Dartmouth College, 1905)

Newport

| | |
|---|-----------------|
| HERBERT LEROY GRINNELL, JR., LL. B. (B. A., Bowdoin College, 1902) | Derry, N. H. |
| WILLIAM HARRISON HOLMAN, LL. B. | Bangor |
| LAWRENCE VIVIAN JONES, LL. B. | Bangor |
| CHARLES WENDELL LEMAIRE, LL. B. | Taunton,, Mass. |
| ROBIE LAWTON MITCHELL, LL. B. (B. A., University of Maine, 1907) | West Newfield |
| BERTRAM EVERETT PACKARD, LL. B. (B. A., Bates College, 1909) | Litchfield |
| FRED EDGECOMB RICHARDS PIPER, LL. B. (B. A., Bowdoin College, 1906) | Portland |
| ELISHA SHAW POWERS, LL. B. | Houlton |
| BERTRAND EDWIN SPENCER, LL. B. (B. A., Dartmouth College, 1906) | Lenox, Mass. |
| HENRY NATHAN TAYLOR, LL. B. | Portland |
| CHRISTOPHER TOOLE, JR., LL. B. | Bangor |

HONORARY DEGREE

DOCTOR OF LAWS

| | |
|--|--------|
| EDWARD HOWARD BLAKE, (LL. B., Albany Law School, 1878) ... | Bangor |
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ADVANCED DEGREES

MASTER OF SCIENCE

| | |
|---|-------|
| WILLIAM ARCHIBALD BROWN, B. S. A., (Ontario Agric. College) 1906, (Agriculture) | Orono |
| EDITH MARION PATCH, B. S. (University of Minnesota), 1901 (Biology) | Orono |

MASTER OF LAWS

| | |
|---|--------------------|
| EDWARD WILLIAM BRIDGHAM, LL. B., 1909 | Bridgton |
| ARCHER RAWSON GREELEY | Webster, Mass. |
| HENRY BURT MONTAGUE, LL. B. (Cornell University), 1895, | Southbridge, Mass. |
| FRANK HOWARD PURINGTON, LL. B., 1908 (B. A., Bates College, 1896) | Portland |
| WILLIAM MARSTON WEEKS, LL. B. (Cumberland University, 1908), 1909 | Lebanon, Tenn. |

CIVIL ENGINEER

| | |
|---|-------------------|
| PAUL LEONARD BEAN, B. S. in Civil Engineering, 1904. | Orono |
| GEORGE ESTYN GOODWIN, B. S. in Civil Engineering, 1901 .. | Helena, Mont. |
| HERMAN STEPHEN MARTIN, B. C. E., 1896 | Twin Falls, Idaho |

ELECTRICAL ENGINEER

| | |
|---|-------------|
| ELMER JOSIAH WILSON, B. S. in Electrical Engineering, 1907. | Lynn, Mass. |
|---|-------------|

MECHANICAL ENGINEER

WILLIAM ELMER STONE, B. S. in Mechanical Engineering, 1907,
 Hartford, Conn.
 PORTER LAFOREST SWIFT, B. S. in Mechanical Engineering, 1907,
 Hartford, Conn.

CERTIFICATES IN THE SCHOOL COURSE IN AGRICULTURE.

RAYMOND MURRAY PAYSONRockland
 PHILIP OTTO PILLSBURYRangeley
 CURTIS TAYLORSpringvale
 WARREN DUDLEY TRUELitchfield

CERTIFICATE IN THE TEACHERS' COURSE IN AGRICULTURE

HERBERT STAPLES HILL, B. A. (Bowdoin), 1905Westbrook

HONORS AWARDED

GENERAL HONORS

| | |
|---------------------------|-------------------------|
| FREDERICK WILLIS CONLOGUE | AUSTIN LOUIS MADDOX |
| GEORGE PERCY GOODRICH | WALTER SCOTT MERRILL |
| CHARLES LIGUORI GRAHAM | FRANKLIN WILLIAM PETTEY |
| VAUGHN RUSSELL CHADBOURNE | MARSHALL EVERETT REED |
| HARVEY HERBERT JORDAN | HAROLD MERTON ROYAL |
| ROBY PERKINS LITTLEFIELD | OLIVER FISK SEVRENS |

GENERAL HONORS IN THE COLLEGE OF LAW

HERBERT LEROY GRINNELL, JR. ROBIE LAWTON MITCHELL
 BERTRAND EDWIN SPENCER

Respectfully submitted,

GEO. E. FELLOWS, *President.*

REPORT OF THE DEAN OF THE UNIVERSITY

To the President of the University:

During the past two years my work as Dean has had to do mainly with the following matters: (1) admission of first year students to the University; (2) consultation with students; (3) the work of the Committee on Attendance; (4) the work of the Committee on Rules.

ADMISSION

In my report for 1908, a brief table was printed showing the admissions in 1904, 1906, 1908; and this is repeated here with the addition of 1909.

| | | | | | |
|--|------|------|-------|------|--------|
| Students admitted to college courses in 1904, 1906, 1908, 1909: | | | | | |
| Regular Freshmen | 88 | 152 | 162 | 144 | (152) |
| First year specials | 27 | 17 | 21 | 14 | (6) |
| Percentage of special students | 23.5 | 10 | 11.5 | 10 | (4) |
| Average number of points offered by candidates for four year courses | | | | | |
| | 23.8 | 25.9 | 28.26 | 28.5 | (27.8) |
| Percentage admitted without conditions ... | 48 | 62 | 62 | 43 | (40) |

The figures in the first column for the year 1909 are made up on the same basis as those for the previous years. Those in parenthesis under 1909 were added after a study of the statistics of admissions to college printed in the 4th Annual Report of Carnegie Foundation. In making up these figures all students under 21 years of age taking first year work are counted as regular students, although they may have registered as bona fide specials. In 1909, as in 1908, there was an unusually large percentage of candidates admitted who did not register, in addition to the numbers given above; in fact, the number of admissions up to September 1 appeared to promise an increase in Freshmen over the previous year instead of the decrease which actually occurred.

Although we increased our requirements by one point, we obtained on the average barely one fourth of one point in preparation more than in the preceding year. This small gain in average of points, together with the increase in the percentage of conditioned students, apparently indicates that this addition of one point to our requirements in the fall of 1909 has brought them about to the limit of the ability of our Maine high schools to prepare.

Candidates were admitted to the University in 1909 from the following schools; Bangor, 12, North Yarmouth and Portland High, seven each; Bridgton Academy, Foxcroft Academy, Orono, five each; Bar Harbor, Edward Little High (Auburn), four each; Belfast, Berwick Academy,

Brewer, Coburn Classical Institute (Waterville), Guilford, Maine Wesleyan Seminary (Kent's Hill), Skowhegan, three each; Camden, Deering, Gorham, Hebron Academy, Lewiston, Old Town, South Portland, Vanceboro, Waterville, two each; Bath, Biddeford, Bluehill Academy, Brownville, Bucksport, Calais, Cherryfield Academy, Cony High (Augusta), Corinna Academy, Dexter, Ellsworth, Farmington, Fryeburg Academy, Gardiner, Houlton, Higgins Classical Institute (Charleston), Lee Normal Academy, Lincoln Academy (Damariscotta), Mattanawcook Academy (Lincoln), Mexico, Maine Central Institute (Pittsfield), Newport, Patten Academy, Ricker Classical Institute (Houlton), Solon, Thornton Academy (Saco), Tripp Academy (Kittery), Yarmouth, one each:

Schools outside of Maine: Beverly, Mass., 3; Claremont, N. H., and Reading, Mass., two each; Andover, Attleboro, Chelsea, Clinton, Danvers, Dorchester, Fairhaven, Framingham, Hudson, Lynn English High, Medford, Marlboro, Peabody, Revere, Saugus, Southbridge, Wakefield, Wareham, Mass., Lebanon, Colby Academy (New London), N. H., Newport, Vermont, Pawtucket, R. I., Wilimantic, Conn., Medina, St John's School (Manlius), N. Y., Clearfield, Mercersburg, Pa., Washington, D. C., Norway, Michigan, one each.

From 54 Maine schools we received 118 students; from 20 Massachusetts schools 23 students; from the eight schools in the other New England States, nine students; from the six schools outside of New England, eight students.

STUDENT INTERVIEWS

During the year 1909-10, I held 199 interviews with students sent to me by the Committee on Delinquent Students, because their work was more or less unsatisfactory, considerably more than an average of one for each school day. There was probably an equal, or larger, number of voluntary visits from students.

About two-thirds of the first-year students were, at some time during the year, reported delinquent in one or more subjects. There was no consistent difference in the percentage of delinquents between those admitted by certificate, those admitted by examination, and those admitted by certificate and examination, the figures being for the fall semester 52 per cent, 58 per cent and 59 per cent respectively; and for the spring semester 39 per cent, 28 per cent, and 50 per cent, respectively.

The percentage of delinquents for the spring semester of 1908 was almost exactly 40 per cent for each method of admission, practically the same as for the spring semester 1910.

ATTENDANCE

In the spring of 1909, the Faculty, on recommendation of the Committee on Rules, adopted new regulations regarding absences: no excuses for absence from class-room work are now granted. If a student takes absences exceeding a certain portion of exercises in any subject, about

10 per cent, he is dropped from that class and can be reinstated only by action of the Committee on Attendance, after favorable recommendation by the instructor.

Conditions in the University were so abnormal last year that it is difficult to judge of the effect of the new rule, but it may be noted that the percentage of average attendance was higher during the spring semester than in the corresponding part of the two previous years. Two results are noticeable: (1) The demands upon my time for meetings of the Committee on Attendance and the resulting correspondence and interviews with students are less than under the previous plan of granting individual excuses; (2) There is a noticeable improvement in the general health of the student body, colds, toothache, etc., being less prevalent than formerly.

SCHOLARSHIPS

In the letters that come to me from prospective students, scarcely any questions are more frequently asked than these: "What chance is there for a student to earn all, or a part, of his expenses? What scholarships are available?" I believe that tuition ought to be made free for all students of Maine in all courses given in the Colleges at Orono. If this cannot be done, it would at least seem reasonable to expect the Trustees to establish a small number of free scholarships. If, for instance, each State senator were given the right during his two years' term to appoint one scholar who should receive free tuition, with the proviso that the student selected must satisfy certain high standards of scholarship, I believe that the plan would bring to the University many valuable students who would not otherwise be able to obtain a college education. In recent years our facilities for housing students have been so inadequate that there seemed little reason for encouraging more to come, but with the completion of the new dormitory, it seems to me that we will be justified in holding out additional inducements. If greater numbers are not especially desired, I believe that the plan would help to materially raise the quality of preparation in the entering classes, and would cause greater interest in the work of the institution in all parts of the State.

Respectfully submitted,

JAMES N. HART, *Dean of the University.*

REPORT OF THE COLLEGE OF LAW

To the President of the University:

I beg leave to submit the following report regarding the College of Law, covering the period (not yet covered) ending July 1st, 1910, but not any part of the period between that date and the date of the present report, November 17th, 1910:

The total registration of the school at about Thanksgiving, 1909, was 100 men, which number had increased to 108 at the end of the school year.

The students at the time of their registration were classified as follows: Graduate students 28, Seniors, 23, Juniors 16, First Year men 24, Special Students 9. The number of new men was 28 regular and 7 special students.

The different counties of the State of Maine were represented as follows: Androscoggin 1, Aroostook 6, Cumberland 10, Hancock 9, Kennebec 3, Oxford 1, Penobscot 17, Piscataquis 2, Somerset 2, Waldo 1, Washington 6 and York 3, or 61 in all. It will be seen from this that the student body of the Law School, so far as it comes from Maine, continues to be drawn equally from every section of the State, a result first gained in 1904, and since maintained.

The different states of the Union were represented as follows: Massachusetts 26, New Hampshire 6, Vermont 2, New York 3, Tennessee 1. There was one student from abroad, Armenia, making 39 in all from outside of the State of Maine. The steady increase of attendance from Massachusetts continues to be a most gratifying feature of the development of the school.

This attendance from Massachusetts has risen from 8 in 1903 to 26 at the beginning of the present school year, more than one-fourth of the total registration, a fact which gives the institution a good standing, not only in Massachusetts, but in even a greater degree in Maine itself. The attendance from New Hampshire is also noteworthy and we trust it will continue.

The different colleges and universities of the country were represented in the College of Law during the year as follows: Bowdoin 7, Dartmouth 3, Colby 2, Bates 2, Maine 2, Harvard, Yale, Brown, St. Mary's and Euphrates one each, or 21 in all. There were 17 men that had a partial college education: Maine was represented by 6, Bowdoin by 4, Bates, Colby, Brown, St. Mary's, Amherst, Clark and Holy Cross had one each.

The different law schools of the country were represented by 8 men, that of Boston University by 2, and those of Albany, Cornell, Cumberland University, George Washington University, Harvard and Illinois College of Law by one each.

At the Commencement last June the degree of Bachelor of Laws was conferred upon 17 men out of an original senior class of 26, 9 failing to come up to the required standard, a large percentage due to the increased standard of attainment required for the degree. The number of men who received the degree of Master of Laws was five.

All the members of the graduating class of 1910 that took the bar examination in Maine were successful, and in Massachusetts all but one. In Massachusetts and Connecticut the state legislatures were in session and our law school was represented in their deliberative assemblies, in Connecticut by one graduate, in Massachusetts by three.

The Maine Law Review has now been published for three years and has been firmly established. It is published by the students of the Law School without any financial help from the University except two advertisements of the University that regularly appear in its pages, and brings the University and its College of Law in direct touch with the legal profession. Some of its articles are of very great value, a fact that is beginning to be taken notice of by the profession, even abroad, for in one of the next numbers there will appear an article from Rt. Hon. Sir Wilfrid Laurier, G. C. M. G., P. C., LL. D., Prime Minister of Canada.

The hope of a new building for the College of Law within the next two or three years, a building all its own, assumes an ever more solid aspect, and cheers the minds of all our friends everywhere throughout the State.

There is no doubt about the spirit that has animated the school since its foundation, for a great determination prevails on the part of the students and the faculty to do honest, faithful and loyal work, and to make the institution an honor to the State and a nursery of men.

Respectfully submitted,

W. E. WALZ, *Dean of the College of Law.*

REPORT OF THE COLLEGE OF ARTS AND SCIENCES

To the President of the University:

The registration in the College of Arts and Sciences for the last three years has been as follows:

| | |
|-----------------|-----|
| 1907-1908 | 180 |
| 1908-1909 | 175 |
| 1909-1910 | 184 |

These numbers include the students registered in the Summer Term which at present is a branch of this College. If the numbers of the Freshman Class who are actually doing their work in the College of Arts and Sciences were included, these numbers would be nearly doubled. I suggest that considerable attention be given to the matter of increasing the size of this College. In past years, the unfortunate differences of opinion which have existed in the State regarding the right of the University of Maine to maintain a College of Arts and Sciences have, perhaps, caused some hesitation on the part of the authorities here to call public attention to the strength of this department of the University. There seems now to be no reason why we should hesitate to call the attention of students and teachers in the State to our excellent curricula along liberal lines. It is from this college that we shall have to draw students if the University ever takes the place in debating, public speaking, and writing which it should occupy. Since this is a State University, there would seem to be no reason why the young women of Maine should not be strongly urged to come here and be as well provided for when they do come as the young men.

With the College of Arts and Sciences registering four or five hundred students, there would be an increased literary activity upon the campus which would be most satisfactory.

In this report I shall speak of some of the interests in which the College of Arts and Sciences is concerned.

FIRST:—SUMMER TERM

In the summer term of 1908, there were registered 99 students; in 1909, 125 students, and in 1910, 153 students. In addition there were registered last summer sixteen students who were taking work in Library Economy under the direction of Mrs. Frances Rathbone Coe. These courses were provided by the State Library Commission, not by the University. There can be but one opinion regarding the good work which the Summer Term is doing. There are many teachers in Maine who feel that they have not the training they desire for their work, or

who wish to review some of the subjects they have taken in college. Each year an enthusiastic company of superintendents, principals, and teachers meet on the university campus and spend six weeks in the most profitable kind of work. Each year an increasing number of our own students find the summer term of advantage in gaining points in their course, or in repeating subjects in which they have failed to pass. It is hoped that the suggestion which has already been made that the Trustees put the Summer Term on a permanent financial basis will soon be carried out.

SECOND:—THE GENERAL LECTURE COURSE

During the past few years this College has maintained a general lecture course open to students who wish credit and to the public at large. Last year the subjects presented lay along the lines of history, sociology, and philosophy in the fall semester, and English language and literature in the spring semester. This year the heads of departments of Greek, Latin, Romance Languages, and German, have charge of the course.

THIRD:—FRIDAY CHAPEL TALKS

Last year there was inaugurated the custom of devoting about ten minutes of the time usually occupied by chapel services on Friday morning to the discussion of events of general interest. A variety of subjects was presented, and the talks were unquestionably of great benefit to the student body. This year a change in the method of conducting chapel services has interfered somewhat with this plan, but it is hoped to resume them about the middle of the year.

FOURTH:—THE LITERATI

This is an organization conducted by the students in the College of Arts and Sciences. It aims to present to the public a variety of entertainments along literary, musical, and dramatic lines. The work done by the organization last year was highly creditable.

FIFTH:—THE ARTS CLUB

This is composed of the Faculty of the College of Arts and Sciences and their wives. Its meetings are in part social and in part educational. Papers upon subjects bearing special relation to their own departments are read by the various members of the Club.

SIXTH:—THE CATALOG

As it is a part of the duties of the Dean of the College of Arts and Sciences to edit the University catalog, it might not be out of place to mention that publication here. It has been the aim of the editor of the catalog to emphasize the university idea and to arrange the catalog as far as possible in divisions which shall show the relationship of the various colleges to one another. This year a material change has been

made in the nomenclature used in the catalog. This change is in accordance with the action of the National Association of State Universities, and will do much toward placing the divisions of the University on a more systematic basis.

SEVENTH :—BULLETINS

The College of Arts and Sciences issues occasional bulletins descriptive of the work offered in its various departments. Last year such a bulletin was issued by the Department of Education. This bulletin called attention to the advantage offered by the University of Maine to students who are proposing to make a business of teaching. Each year there are many more calls for teachers of English, mathematics, the sciences, and modern languages than we are able to supply. It is hoped that this may be of help in turning the attention of young men and women to the advantages offered at the University of Maine in this department.

The faculty of the College of Arts and Sciences holds a monthly meeting at which matters pertaining to the welfare of the college are discussed. Considerable attention is given to methods of conducting department work with the view of becoming more familiar with the work done in one another's departments.

Respectfully submitted,

JAMES S. STEVENS,

Dean of the College of Arts and Sciences.

REPORT OF THE COLLEGE OF TECHNOLOGY

To the President of the University:

I herewith submit my report as Dean of the College of Technology.

This college comprises the departments of Chemistry, Civil Engineering, Mechanical Engineering, Electrical Engineering, and Mechanics and Drawing.

The heads of these departments, with the exception of the department of Chemistry, remain the same as at the time of the last report. Professor A. B. Aubert, who had been a member of the faculty for over thirty years, resigned in 1909, and Dr. Ralph H. McKee was appointed by the Trustees to the position of Professor of Chemistry.

The following table shows the registration in the Civil, Electrical, and Mechanical engineering departments since 1895:

TABLE SHOWING THE RELATIVE REGISTRATION SINCE 1894 OF THE DEPARTMENTS OF CIVIL, MECHANICAL, AND ELECTRICAL ENGINEERING

| Year. | Total Civils. | Total Elecs. | Total Mechs. | Total in Univ. | Total Engrs. | Per cent of Engrs. to total. | Per cent of Civils to Engrs. | Per cent of Elecs. to Engrs. | Per cent of Mech. to Engrs. |
|---------|---------------|--------------|--------------|----------------|--------------|------------------------------|------------------------------|------------------------------|-----------------------------|
| 1894-5 | 64 | 38 | 36 | 208 | 138 | 67.9 | 46.4 | 27.5 | 26.1 |
| 1895-6 | 59 | 53 | 47 | 243 | 164 | 67.5 | 36.0 | 35.2 | 28.8 |
| 1896-7 | 59 | 80 | 53 | 309 | 192 | 62.1 | 30.8 | 41.6 | 27.6 |
| 1897-3 | 64 | 77 | 61 | 306 | 202 | 66.0 | 31.6 | 38.1 | 30.3 |
| 1898-9 | 62 | 86 | 41 | 293 | 189 | 64.5 | 32.8 | 45.5 | 21.7 |
| 1899-0 | 75 | 82 | 38 | 316 | 195 | 61.7 | 38.5 | 42.0 | 19.5 |
| 1900-1 | 82 | 73 | 33 | 345 | 188 | 54.5 | 43.6 | 38.8 | 17.6 |
| 1901-2 | 102 | 86 | 35 | 350 | 223 | 63.7 | 45.7 | 38.6 | 15.7 |
| 1902-3 | 119 | 93 | 34 | 404 | 246 | 60.9 | 48.4 | 37.9 | 18.7 |
| 1903-4 | 138 | 107 | 52 | 433 | 297 | 68.6 | 46.5 | 36.0 | 17.5 |
| 1904-5 | 140 | 104 | 44 | 449 | 288 | 64.1 | 48.6 | 36.1 | 15.3 |
| 1905-6 | 138 | 112 | 53 | 476 | 303 | 63.7 | 45.5 | 37.0 | 17.5 |
| 1906-7 | 144 | 125 | 54 | 545 | 323 | 60.4 | 44.6 | 38.7 | 16.7 |
| 1907-8 | 149 | 120 | 56 | 580 | 325 | 56.0 | 45.9 | 36.9 | 17.2 |
| 1908-9 | 159 | 122 | 54 | 621 | 335 | 53.9 | 47.5 | 36.4 | 16.1 |
| 1909-10 | 147 | 121 | 56 | 608 | 324 | 53.3 | 47.4 | 37.4 | 17.3 |

If to the above, for 1909-10, is added 45 chemical engineers, the "Total Engineers" becomes 369 and "% of Engineers to Total" 60.7.

The personnel of the faculty of instruction of the College of Technology is so nearly like that of the University Faculty that meetings of the former are not held. Regular meetings of a committee of the faculty, known as the Engineering Faculty, are held during the week preceding the meeting of the general faculty. The Engineering Faculty is composed of those members of the faculty in the five departments comprising the College of Technology.

This committee has power "To arrange courses in the technical time; to act upon petitions relating to the administration of technical time; to determine under what conditions a student shall be advised to register or continue to register in an engineering course" Many questions of general policy have been discussed, resulting in recommendations to the general faculty. I consider that the work of this committee has been very fruitful, and has resulted in a saving of time of the general faculty, and has accomplished results in a much more comprehensive manner than was possible before its creation.

I wish to emphasize some of the recommendations appearing in the reports of the heads of the departments in this College. Especially important is the need for more space. The department of Chemistry is housed in a building unfit for the present needs, as well as being dangerous in case of fire. Both the departments of Mechanical Engineering and Electrical Engineering have equipment on hand as well as in prospect which can not be properly housed. The department of Civil Engineering is so crowded for room that many courses can not be properly presented. If new laboratories can be obtained for the departments of Chemistry and Physics, Fernald Hall, the present home of the department of Chemistry, can be converted into much needed space for offices and recitation rooms for other departments, and Wingate Hall, where the department of Physics is now located, can be used by the department of Civil Engineering. At least a beginning should be made upon the building advocated by the head of the department of Mechanical Engineering, it being noted that the plan of this building contemplates its advancement in unit sections, as required.

Most of the members of the teaching force of the departments in this College are overworked. From fifteen to eighteen hours should be the maximum time for an instructor in the class room. Nearly all of the instructors in engineering spend much more than this, with the result that they can not do justice to their subjects. Additional instructors should be allowed, and enough salary should be available to keep a satisfactory man with us for more than one or two years.

One of the great needs of the engineering departments is a fully equipped hydraulic power house and laboratory. There are many places in the State of Maine where such a plant could be easily built, and with such facilities many of the courses could be developed to such an extent that they would become second to none in the country.

Engineering is a constructive art. The teachings of such an art wholly from books or lectures without object lessons is very difficult. The location of this institution is far from the large centres of active prac-

tice and construction, and many of the courses are consequently presented under difficulties. Trips of investigation are made by some of the students, usually in company with an instructor, to different points of interest, some of the trips being local, while others are more remote. Lectures are given by practicing engineers from New York and other large cities, the expenses being borne by the students. It is earnestly recommended that a yearly fund be appropriated for this purpose, as it is considered that these lectures result in much benefit to the students.

Although the conditions are far from ideal, the College of Technology is doing good work and accomplishing excellent results, and it is believed that the future will continue to show as constant improvement as the past.

Respectfully submitted,

H. S. BOARDMAN,
Dean of the College of Technology.

REPORT OF THE COLLEGE OF AGRICULTURE

To the President of the University:

DEAR SIR:—I have the honor to submit the following report of the College of Agriculture.

When the last biennial report of the College of Agriculture was submitted, two years ago, its various departments were temporarily housed in three or four of the other buildings of the campus. Now it has a building of its own, with class rooms, laboratories, and offices for each department. The new Agricultural Hall, completed and dedicated in January, 1909, together with the stock judging pavilion built from the same appropriation, now furnishes excellent facilities for instructional work. While some of the laboratories still lack considerable in the way of equipment, most of them are well fitted.

Possession of these new facilities has created an increased demand for them. Two years ago the records show that 27 students were enrolled for the four years' curriculum in Agriculture, 21 for the two two years', 8 for special work, 31 for the Forestry curriculum, 49 in short courses, and 530 were enrolled for Farmers' Week. This year there are 48 enrolled in the four years' curriculum in Agriculture, 43 for the two years' course, 23 for the curriculum in Domestic Science, 40 for the curriculum in Forestry, and 4 for special courses. Last winter a total of 66 were enrolled for some one of the short courses and 470 attended Farmers' Week. This year there are 45 new students in Agriculture.

Mention has already been made of the Department of Domestic Science. This began its work as a regular department a year ago. It possesses a well equipped kitchen, a dining room, laundry, and sewing room. The number of regular students taking this work and the number of requests for special classes from Bangor, Old Town, and other near-by places is indicative of the demand for training of this kind.

To meet the demand for teachers of Agriculture in the secondary schools a one year teacher's course, open only to those of considerable training and experience, has been established.

In addition to the customary short courses in dairying and poultry keeping, a two weeks' short course in fruit growing was held last February. Its success warrants making it an annual affair. Plans for a short course in general crop raising for this coming winter are well under way.

Since the last biennial report was made, probably no department of the College of Agriculture has made such rapid growth as that of Agricultural Extension. An account of the way in which it is reaching the agricultural interests of the State is given in the report of the Supervisor of Agricultural Extension. Special mention should be made of the "Modern Farming Special" train which was run last June in co-operation with the Industrial Department of the Maine Central Railroad. On this two and one-half weeks' trip, stops were made at 57 points on the Maine Central, Boston & Maine, and Washington County railroads. At each stop visitors were given an opportunity to study the exhibits in the cars and at many places short addresses were given by members of the Agricultural faculty and other agricultural workers.

Recently the Department of Agronomy has been divided, one division handling the subjects of soils, fertilizers and farm crops, the other those of agricultural engineering and farm management.

During the two years under consideration there have been a number of changes in the Agricultural Faculty. Mr. William D. Hurd, Dean of the College of Agriculture and Professor of Agronomy, resigned in June 1909, to accept a position with the Massachusetts Agricultural College. Mr. Ernest D. Waid, Assistant Professor of Agronomy, and Mr. James E. McClintock, Supervisor of Extension Work, resigned at the same time. Messrs. Melvin E. Sherwin and George E. Simmons were appointed to fill their places. Mr. Henry G. Bell was obtained as Professor of Agronomy. Upon the recent resignation of Professor Sherwin, Professor Simmons was placed in charge of agricultural engineering and farm management. Dr. Leon S. Merrill was elected Supervisor of Agricultural Extension in the place of Professor Simmons. Miss Laura Comstock was elected to take charge of the Department of Domestic Science. Mr. James R. Dice and Mr. Wintha R. Palmer were appointed one year ago as the additional instructors in the Departments of Animal Industry and Horticulture. The recent resignation of Professor Gordon E. Tower as head of the Department of Forestry has been filled by the appointment of Professor John M. Briscoe.

While the past two years have seen the addition of two new instructors for the strictly agricultural work of the College of Agriculture and of one Assistant Professor to take charge of the Department of Domestic Science, the greatly increased number of students and the constantly increasing demands upon the time of the teaching staff for extension and demonstration work through the State are such as to make additional help necessary. The agricultural interests of the State are looking to the University for assistance in many ways. Lectures and demonstrations on all phases of farm life are wanted by granges, stock and poultry breeders' associations, horticultural societies, teachers' association, farmers' clubs, churches, and many other organizations, and by individuals. The College of Agriculture should be prepared to offer this assistance and lead in the agricultural awaken-

ing that is taking place. Many of the classes in Agriculture are now of such size that they tax to their limit the capacity of the lecture rooms and laboratories. Further increase in size will mean increase in the number of sections and this will necessitate more instructors. The Departments of Agronomy, Animal Industry, Domestic Science, Forestry, Horticulture, and Poultry Husbandry each need an additional instructor.

The development of the new farm near Stillwater is mentioned in the report of the Professor of Agronomy. This piece of land is rapidly being changed into a model farm. It is not only growing a large amount of feed that formerly had to be bought by the University but it is furnishing the students in Agronomy with excellent material for field and laboratory study.

The necessity for new barns and greenhouses is again urged in the reports of the Departments of Animal Industry and Horticulture. These new buildings should be provided at the earliest possible opportunity. The College of Agriculture also needs a farm machinery building. Something cheaply but at the same time, substantially, constructed, like the stock judging pavilion, would well serve the purpose.

The importance of additional funds for extension work can hardly be over-emphasized. A more detailed account of the work and special needs of this department is found in another place.

The College of Agriculture is coming to have a more important part in the development, not only of the agriculture, but of the general industrial conditions of the State. Its work is not only in its classrooms and laboratories, but throughout the commonwealth. It should not only teach its students how to farm successfully, but in a broader way, it should make our general agriculture more profitable and rural life more enjoyable. Because it is attempting to serve in this way it asks for improved machinery and increased operating expenses.

Respectfully submitted,

V. R. GARDNER,

Acting Head of the College of Agriculture.

REPORT OF THE LIBRARIAN

To the President of the University:

The total number of volumes in the University of Maine libraries on June 30, 1910, according to the accession records, was 42,383, of which 35,927 were in the General Library, 3,295 in the Law Library, and 3,161 in the Library of the Agricultural Experiment Station.

Figures compiled for the State Auditor show that the cost of the General Library has been \$41,257.25, the Law Library \$9,405.41, and the Experiment Station Library \$9,439.30, a total of \$60,101.96. The inventory of the furniture and equipment of the General Library shows a valuation of \$6,838.25.

The total number of accessions for the two years ending June 30, 1910, was 5,507, of which 4,494 were added to the General Library, 349 to the Law Library, and 454 to the Experiment Station Library. The amount paid out for books, periodicals, binding, etc., 1908-10, was as follows: General Library, \$6,057.82; Law Library, \$1,293.86; Experiment Station Library, \$1,839.46; total, \$9,191.14. The books for the Experiment Station Library are ordered by the Director of the Station and the bills do not go through the hands of the Librarian. There is a record of those received, and they are catalogued by members of the library staff, but the Library has no record of the cost of the various volumes or the source of gifts to the Station Library.

Of the 5,307 volumes added to the General and Law Libraries, 2,111 were obtained by purchase, 1,065 by binding, and 2,131 by gift. The purchases were distributed as follows: General Agriculture, 69; Agronomy, 14; Animal Industry, 20; Bibliography, 39; Biological and Agricultural Chemistry, 22; Biology, 26; Botany, 14; Chemistry, 52; Civil Engineering, 42; Domestic Science, 62; Economics and Sociology, 98; Education, 80; Electrical Engineering, 35; English, 487; Fine Arts, 41; Forestry, 3; German, 74; Greek, 9; History, 111; Horticulture, 45; Latin, 9; Law, 328; Local History, 33; Mathematics and Astronomy, 20; Mechanical Engineering, 19; Mechanics and Drawing, 7; Military Science, 1; Miscellaneous, 110; Pharmacy, 1; Philosophy, 55; Physics, 31; Poultry Husbandry, 10; Reference, 81; Religion, 32; Romance Languages, 31; Veterinary Science, and Bacteriology, 10. Special provision was made in 1908-9 for Philosophy, and in 1909-10 for English, Chemistry, and Domestic Science.

There is a special charge of ten dollars a year for each student in the College of Law which is set aside for library purposes; this has been nearly enough to meet the requirements for the last two years and it is expected that hereafter there will be no draft made for the Law Library upon General Library funds.

As heretofore, the largest number of gifts has come from the Superintendent of Documents, most of which come to us as a designated depository for all ordinary government publications, from the Maine State Library, including all the State of Maine publications, and from the libraries of a number of other states with which an exchange was arranged by the late L. D. Carver, State Librarian. A large number of books were received from the publishers, chiefly for a text book collection for the Department of Romance Languages. Many individuals remembered the Library generously, among them Miss Mary King Longfellow of Portland, who had previously presented the Library with several hundred volumes from the library of her father, Alexander W. Longfellow; another generous giver was the estate of the late Fred Atwood, at one time a trustee of the University; the largest individual gift was from Professor A. B. Aubert, and many other individuals in the faculty and among the alumni gave books to the Library. A set of Massachusetts Soldiers and Sailors of the Revolutionary War was sent us by the Secretary of the Commonwealth of Massachusetts, at the request of Hon. E. E. Hobson, Law 1900, a member of the Massachusetts Legislature. Hon. L. C. Southard, '75, has continued to turn over to the University, for the benefit of the Law Library, the fee paid him for his lectures at the College of Law. A list of the sources from which gifts were received, with the number from each, is appended to this report.

Among the sets of special importance bought for the General Library are the following: Nelson's Loose-leaf Encyclopedia, Catholic Encyclopedia, Oxford Dictionary, Bosworth's Anglo-Saxon Dictionary, Cyclopaedia of Civil Engineering, Cyclopaedia of Drawing, Cyclopaedia of Textile Work, Gardiner's History of England, Documentary History of American Industrial Society, Lankester's Treatise on Zoology, Proceedings of the American Pomological Society, Proceedings of the American Gas Institute 1906-date, Chamberlin and Salisbury's Geology, Maxwell's Scientific Papers, Thompson's Mathematical and Physical Papers, Abegg's Handbuch der Anorganischen Chemie, Meyer-Jacobson's Lehrbuch der Organischen Chemie, Beilstein's Handbuch der Organischen Chemie, Richter's Lexikon dey Kohlenstoff-verbindungen, Courthorpe's History of English Poetry, and the works of Beaumont and Fletcher, Lyly, Addison, Macaulay, Milton, Swift, Lamb, Richardson, the Bronte sisters, Austen, Fielding, Smollett, Defoe, Kingsley, Meredith, Stevenson, Byron, Tennyson, Poe, Tolstoi, and Alexander Hamilton.

The most important addition to the Law Library was the American Digest, and another worthy of mention was Definitions of Words and Phrases.

Among the noteworthy additions to the Station Library were Brefeld's *Botanische Untersuchungen*, *Allgemeine Zeitschrift für Entomologie*, *Entomologica Americana*, and *Chemical Abstracts*.

The list of periodicals received regularly was given in the report of two years ago, and as but few changes have been made, it is not repeated here.

The library staff for 1908-9 was nearly the same as in the preceding year, with Miss Isabel Monro, B. S., cataloger, and Miss Bertha C. Whittemore, assistant. Owing to ill health, Miss Monro took a long vacation in the summer of 1909, but the improvement was so slight that her physicians obliged her to discontinue library work entirely, and her resignation was accepted in December, 1909. The position of cataloger was filled by the transfer of Miss Whittemore, and the vacancy by the appointment as assistant of Miss Helen W. Stobie, formerly librarian of the Hollingsworth and Whitney Library at Winslow, and a graduate of the one year course in library economy at Simmons College.

During all of 1908-9 and most of 1909-10 a vacancy in the staff, caused by the resignation of Miss Maude W. Colcord, who accepted a more remunerative position elsewhere, remained unfilled. All of the evening and the Sunday work, with some other, was done by undergraduate assistants, but this was not altogether satisfactory, and in May, 1910, Miss Julia L. Crocker was appointed assistant. She had been librarian of the Calais, Maine, Free Library for nearly two years, and before that had completed three of the four years of the regular course in library economy at Simmons College. Such time as she is able to spare from other duties will be given to cataloging our valuable collection of public documents, which has unfortunately been somewhat neglected for more pressing demands. The Library staff is smaller than in many other institutions where the use of the Library and rate of growth do not equal our own. The work of the cataloger and the assistants averages 44 hours a week, with one month's vacation, longer hours than seems wise for work of this character, but less cannot be required under present conditions.

Every department of the University is dependent in part upon the equipment and maintenance of the Library, and every institution is judged to-day by its library facilities. As liberal provision as is possible should be made for its maintenance.

An urgent need of the Law Library is the installation of electric lights between each pair of stacks, as the lack of light at present makes it almost impossible to find the books on the shelves in the late afternoon and evening, during which there is general use of the Law Library by the law students.

At the time our new building was erected, in 1906, it was estimated that its accommodations would suffice for ten years. Although there is no immediate danger of overcrowding, the need of additional accommodations within a few years is sufficiently evident to make it clear that plans for the future must be made. Possibly the best arrangement would be to erect a building on what is called the back road, directly opposite the Library, similar to it in style of architecture, which shall temporarily provide suitable accommodations for those departments which are dependent upon the Library for laboratory purposes, such as the languages, history, economics, and philosophy, none of which now have suitable accommodations, and connect this with the extension to the stacks that must be made for shelving books. Later, this building

might be transferred to the Library and other provisions made for the departments it housed temporarily.

Following is a list of those by whom books have been presented to the Library during the last two years, with the number from each:

E. Stanley Abbot, 2; Allyn & Bacon, 3; American Anti-Boycott Association, 1; American Bar Association, 3; American Book Company, 19; American Breeders Association, 1; American Esperantist Co., 1; American Pharmaceutical Association, 2; American Railway Bridge and Building Association, 2; American Society of Mechanical Engineers, 2; American Swedenborg Printing and Publishing Co., 20; D. Appleton & Co., 1; Archæological Institute of America, 1; Argentine Republic Department of Agriculture, 1; Arkansas Geological Survey, 1; Association of Life Insurance Presidents, 3; Estate of Fred Atwood, 19; Professor A. B. Aubert, 99; Commonwealth of Australia, 1; Bancroft-Whitney Co., 1; City of Bangor, 4; Bangor Public Library, 8; Bangor Theological Seminary, 8; C. W. Bardeen, 4; Wharton Barker, 1; Frank C. Barrett, 1; W. E. Barrows, '02, 1; Beta Eta of Beta Theta Pi, 2; Ben Blewett, 17; Board of Casualty and Surety Underwriters, 2; Boston-Cambridge Bridge Commission, 1; Boston Public Library, 1; Boston Transit Commission, 1; Charles Bradley, 1; Capt. W. S. Brown, 2; Brown Alumni Magazine Co., 1; Bureau of Railway News and Statistics, 1; California State Library, 1; California Department of Horticulture, 1; Cambria Steel Co., 1; Cambridge University Press, 5; Prof. P. A. Campbell, 2; Canada, Department of the Interior, 15; Canada, Royal Astronomical Observatory, 2; Canadian Forestry Association, 1; Carnegie Foundation, 4; Carnegie Institution, 35; Prof. J. W. Carr, 2; Paul Carus, 1; H. N. Casson, 1; G. W. Chamberlain, '85, 1; Chicago Association of Commerce, 1; Chicago, Board of Supervising Engineers, 1; Chicago, Controller, 1; Chilean Nitrate Works, 1; Colby College, 1; Colorado Agricultural Experiment Station, 1; Colorado State Board of Health, 1; Connecticut Bureau of Railway Statistics, 1; Connecticut State Library, 27; Cornell Agricultural Experiment Station, 1; Cornell University, 1; G. T. Corning, '10, 1; Rev. E. M. Cousins, 1; Prof. Wallace Craig, 4; Prof. W. P. Daggett, 2; Joseph Debar, 1; Democratic National Committee, 1; Emmett Densmore, M. D., 2; J. B. Dill, 1; DuPont-deNemours Powder, Co., 1; Economics and Sociology Classes, 15; Hon. L. A. Emery, 2; Mrs. H. M. Estabrooke, 5; Farmers' National Congress, 1; E. C. Farnsworth, 1; President G. E. Fellows, 5; Prof. M. C. Fernald, 3; Fidelity and Casualty Co., 1; Henry Fink, 1; Florida Department of Agriculture, 1; H. S. French, '86, 5; Hon. W. P. Frye, 5; Georgia Agricultural Experiment Station, 1; Georgia Geological Survey, 4; Ginn & Co., 18; S. M. Griswold, 1; Hon. F. E. Guernsey, 14; Hon. Eugene Hale, 3; General Charles Hamlin, 5; F. B. Hanley, 1; Dean J. N. Hart, 2; Harvard Law School, 3; Harvard University, Jefferson Physical Laboratory, 2; Haverford College, 1; Hawaii, Board of Commissioners of Forestry and Irrigation, 1; D. C. Heath & Co., 18; H. N. Higginbotham, 1; C. L. Himebaugh, 2; Hispanic Society of America, 1; E. F. Hitchings, '75, 1; Holstein-Fresian Association of

America, 3; Henry Holt & Co., 15; J. A. Homan, 1; Idaho State Library, 2; Illinois Agricultural Experiment Station, 3; Illinois State Bureau of Labor Statistics, 3; Illinois State Geological Survey, 5; Illinois State Laboratory of Natural History, 1; International Bureau of American Republics, 2; Iowa Board of Railway Commissioners, 2; Iowa Board of Railway Statistics, 1; Iowa Department of Agriculture, 1; Prof. W. F. Jackman, 3; W. R. Jenkins, 103; Prof. A. C. Jewett, 1; R. K. Jones, '86, 1; W. H. Jordan, '75, 3; Kansas Agricultural Experiment Station, 1; Kansas State Board of Agriculture, 1; Kansas State Board of Health, 1; Keefe-Davidson Co., 1; Kentucky Department of Education, 1; Lake Forest College, 4; Lake Mohonk Conference, 4; University of La Plata, 2; Ambrose Lee, 1; A. L. Lasher, 1; Little, Brown & Co., 1; Miss Mary King Longfellow, 24; R. E. Lord, '06, 1; Duc de Loubat, 3; C. S. Lunt, '84, 10; G. W. McAleer, M. D., 1; Macmillan & Co., 8; S. S. McClure Co., 1; Maine Bank Examiner, 2; Maine Department of Public Instruction, 1; Maine Enforcement Commission, 1; Maine State Library, 126; Maine State Treasurer, 1; Maine Society of Mayflower Descendants, 1; Maine W. C. T. U., 1; Mass. Bureau of Statistics of Labor, 2; Mass. Highway Commission, 1; Mass. Secretary of State, 17; Mass. State Board of Agriculture, 3; Mass. State Board of Charity, 2; Mass. State Board of Insanity, 3; Mass. State Forester, 1; Hon. R. Masujuma, 1; Maynard, Merrill & Co., 3; Mentzer & Grover, 1; Merck & Co., 1; Michigan Agricultural College, 1; Michigan Board of Agriculture, 3; Michigan State Library, 87; University of Michigan Library, 8; B. K. Miller, 1; Minneapolis Publicity Club, 1; Minn. Agricultural Experiment Station, 2; Minn. Bureau of Labor, 1; Minn. Geological and Natural History Survey, 1; University of Minnesota Library, 5; Miss. Department of Archives and History, 2; Missouri Botanic Garden, 2; University of Missouri, 1; Mitchell Publishing Co., 2; J. H. Moore, 1; National Academy of Science, 1; National Conservation League, 1; National Lumbermen's Association, 1; National Prison Association, 8; Nebraska Bureau of Labor, 1; New England Society of New York, 1; N. H. Horticultural Society, 2; N. H. State Library, 89; N. J. Bureau of Statistics, 2; N. J. Geological Survey, 2; N. J. State Board of Agriculture, 1; N. J. Sanitary Association, 1; New Orleans Sewerage and Water Board, 1; N. Y. (State) Advisory Board of Consulting Engineers, 1; N. Y. Agricultural Experiment Station, 3; N. Y. Department of Education, 6; N. Y. Department of Labor, 1; N. Y. State Board of Pharmacy, 1; N. Y. State Engineer, 2; N. Y. State Library, 10; N. Y. (City) Board of Water Supply, 5; N. Y. Department of Finance, 1; N. Y. Merchants Association, 1; N. C. Agricultural Experiment Station, 1; N. D. State Geological Survey, 1; N. D. State Treasurer, 1; Miss Margaret Norton, 4; Office of the University, 11; Ohio State Library, 56; Ohio Society S. of R., 1; Okla. State Board of Ag., 1; Felipe Pardo, 1; Pa. State College, 1; Pa. State Dept. of Forestry, 1; P. I. Bureau of Education, 1; Dr. F. W. Putnam, 2; G. P. Putnam's Sons, 3; Railway World, 1; G. L. Raymond, 9; Miss G. A. Reed, '10, 3; Republican National Committee, 1; R. I. Bureau of In-

dustrial Statistics, 1; Ridgeway Co., 1; Allen Rogers, '97, 1; P. D. Sargent, '96, 2; Miss Marshall Saunders, 2; Scandinavian-American Line, 1; Scott, Forseman & Co., 1; Charles Scribner's Sons, 2; Prof. M. T. Scudder, 2; Prof. J. B. Segall, 1; Silver, Burdett & Co., 4; Smithsonian Institution, 10; Society of American Florists, 1; L. C. Southard, '75, 1 (and gift of \$60 for Law Library); Stanford University Library, 1; Standard Oil Co., 6; G. S. Staunton, 1; G. E. Stechert & Co., 5; Frank P. Stearns, 5; Storrs Agricultural Experiment Station, 3; Testimony Publishing Co., 2; D. S. Thomas, '09, 1; Prof. G. A. Thompson, 1; Prof. G. W. Thompson, 2; Towle Mfg. Co., 1; Trow Press, 1; G. M. Tucker, 1; U. S. Superintendent of Documents, 671; U. S. Miscellaneous Departments, 154; U. S. Brewers Association, 7; Unknown, 14; Uruguay, 1; Va. Agricultural Experiment Station, 1; Dean W. E. Walz, 4; Washington Academy of Science, 1; Washington University, 1; Wesley Webb, '75, 2; West Publishing Co., 2; West Virginia University, 1; Williams College, 1; J. C. Winston Co., 1; Wis. Agricultural Experiment Station, 1; Wis. Dairy and Food Commission, 1; Wis. State Historical Society, 6; Wis. State Horticultural Society, 1; Prof. C. D. Woods, 35; Prof. L. E. Woodman, 1; H. P. Wright, 1; Wyoming State Dairy Commissioner, 1; Yale University, 1; Young Churchman Co., 1.

Respectfully submitted,

RALPH K. JONES,

Librarian.

REPORT OF THE DEPARTMENT OF GREEK AND CLASSICAL
ARCHÆOLOGY

To the President of the University:

I have the honor to submit the following statement bearing upon the work of the department:

By a vote of the Trustees two years ago, the name of the Department of Greek was changed to that of Greek and Classical Archæology, a change that more nearly represents the scope of work now embraced in my courses.

Since the establishment of the Department of Greek twelve years ago, I have undertaken as part of my work certain courses in the history of Renaissance Art; this initial step in a department of Fine Arts went along naturally with the purpose of the University Guild, established at the same time for a more general interest in art study, and particularly in the formation of an art collection at the University. The Guild has since dropped out of existence, but the art collection was achieved and the purpose fulfilled by bringing together a representative collection of reproductions of the world's best art monuments. This apparatus, or what might be termed laboratory facilities, for art history, numbering several thousand reproductions, renders possible scholarly work in a field where without such facilities little serious work could be accomplished.

It will be observed from a comparison of our catalog of two years ago, and that of 1911, that we have made large additions to the courses in History, Sculpture, Architecture, Religion, Private Life, and the Greek New Testament; and it would seem from the large increase in the registration in Greek that these new courses were to fill a real gap and render a distinct service.

This change is an acknowledgement that Greek henceforth must be more than Greek has been in the past. The culture of ancient Greek civilization in the present day world is no less a large factor than it has been, but the multiple demands of modern electives has forced the humanities to stand each upon its own merits. It is doubtful if the study of Greek can again hold the preeminence of a generation back; in the new adjustment, however, which is attending this movement in academic studies, the Classics will find their rational place.

Greek must stand, therefore, for the Greeks and for what they accomplished for man's advancement, and it devolves upon departments such as mine to be the means of interpreting the various aspects of the

Greek genius, not only for students of the Greek language, but for the much larger number who do not include the latter in the plan of their college studies.

Another feature of my work still remains to be spoken of, and that is the slight attempt I have made to fill in the unoccupied fields of Bible literature and historical architecture. I have already noted in an earlier report the importance of establishing at some time, in the near future, a department of Architecture in our College of Technology. My courses are confined almost entirely to the Classical period and its immediately following styles in Byzantine and Romanesque epochs.

The courses on the development of the literary sides of the Old and New Testaments introduced two years ago, and offered in alternating years, present work that may at some later time be given in another department where it will receive the full amount of time and attention due to this great field.

Respectfully submitted,

J. H. HUDDILSTON,

Professor of Greek and Classical Archæology.

REPORT OF THE DEPARTMENT OF LATIN

To the President of the University:

In behalf of the Latin department, I beg to report that the requirements of the B. A. degree, making College Latin no longer compulsory, has resulted in a less number in the Latin classes. This has been partially, though not wholly, made up by the numbers of students taking the new course in Roman History.

In five years the University has expended less than \$5.00 for equipment of the Latin Department, with the exception of some books bought for the library. I spent the summer of 1909 in Italy to prepare myself for the course in Roman history which I was about to offer. I asked the University for \$200 for the purchase of illustrative material in connection with the course. The request was not granted. The department is at present not equipped to give a course in Roman History. The subject cannot be satisfactorily taught from text books. I have spent over \$500 on my own account for material which is available, but not sufficient. I therefore repeat the request for \$200 to be spent for photographs, casts, charts, and similar material for the study of history.

Respectfully submitted,

GEORGE D. CHASE,

Professor of Latin.

REPORT OF THE DEPARTMENT OF ENGLISH

To the President of the University:

I have the honor to present the following report concerning the department of English:

During the year 1908-1909 Professor Guy A. Thompson was acting head of the department. I took up my duties as head of the department in September, 1909. There were associated with me, during the academic year, Professor G. A. Thompson, Professor Daggett, Assistant Professor Weaver, Mr. Prince, and Mr. Pearson. Our total enrollment of students, in required and in elective courses, was approximately 540. The total number of major students was 13, of whom one was a candidate for the Master's degree. At present, 1910-1911, there are 17 major students, of whom two are candidates for the Master's degree.

The department was at once organized on as simple a working basis as is possible under present conditions. Staff meetings were held occasionally throughout the year, thereby giving greater unity and efficiency to our work.

A few changes were made in the courses of study, and in the general arrangement and division of work. The number of hours devoted, in the Freshman year, to the theoretical side of rhetoric and composition was decreased and the amount of writing increased. The Sophomores, in the past, had no class room instruction in rhetoric and composition. They were required simply to hand in essays at stated intervals and to attend conferences. Beginning with the autumn of 1910 they will be required to elect two hours the first semester and one hour the second in either Exposition, or Argumentation and Debate. An elective course in "Advanced Composition" was introduced for Juniors and Seniors. In order to make the instruction in all the composition courses as practical and efficient as possible, conferences, in which the student's written work is discussed with him individually, will hereafter be held at least once a month in connection with each course. As the work is now graded, no student will be allowed to take Sophomore English until he has passed Freshman English.

The courses in language and literature have been differentiated into courses for undergraduates and those primarily for graduates. The following courses are either introduced or are practically new: two in Anglo-Saxon, one devoted to the reading of Beowulf, the other to Cynewulf's poetry; two in Middle English; a brief lecture course, exclusively for engineers, in the History of English Literature; two devoted exclusively to Shakspeare; the History of the English Drama; the

Eighteenth Century (1700-1770) writers; the Victorian Period (1830-1900); an English Seminary in which the topic for study and investigation varies from year to year.

In Public Speaking, heretofore, very little, if any, attention was paid to debating. To revive interest in this important subject, Mr. Alvin Ketcham, especially fitted by training, experience, and enthusiasm for the work, has been appointed instructor in argumentation and debate. Mr. Ketcham has already succeeded in forming three debating clubs: one for the Freshmen, one for the Sophomores, and one for Juniors and Seniors. The students get no "credit" for this work. They are, however, meeting regularly and doing good work. As now arranged a student may begin the elements of argumentation in his Freshman year, elect a more advanced course in his Sophomore year with some practice in debating, and elect an advanced course in debating in the Junior and Senior years.

In the spring, Mr. George E. Pearson, for several years instructor in English, and for one year instructor also in Economics, resigned. He intends, I believe, to devote himself exclusively to History and Economics. Mr. Alvin Ketcham, A. B., LL. B., of Ohio State University and Law School, has been appointed to succeed Mr. Pearson.

The needs of the department are chiefly three: 1—More books. Books are to the language departments, particularly English, what apparatus of various kinds is to the departments of science. We cannot do good work without them. The need is imperative, notwithstanding the additions to the English collection made during the year. I am glad to take this opportunity to express my appreciation of the recognition promptly given this year to the dire need of the English department by the library committee. 2—A lantern, that we may illustrate our lectures. The department has about 200 slides; but finds borrowing lanterns from other departments impracticable. A lantern placed in the library lecture room would serve several departments, as well as the English. 3—Lecture rooms for the whole department in one building. At the present time the English department has rooms in five different buildings. Obviously this wastes the time particularly of the head of the department, and makes it more difficult for him to keep in touch with the department as a whole. A lecture room large enough to seat comfortably a whole class is also needed.

Respectfully submitted,

ROLAND P. GRAY,

Professor of English.

REPORT OF THE DEPARTMENT OF ROMANCE LANGUAGES

To the President of the University:

Three languages, French, Italian and Spanish, each occupying a leading place in modern civilization, are looked after by this department. Its time being, of necessity, taken up, almost exclusively, with the elementary work, but relatively little attention, with the present staff, can be given to the legitimate development of the more advanced courses. To bring the department up to the point of efficiency befitting an institution of the rank of the University of Maine, an additional instructor is, therefore, needed.

To enable us to carry on the necessary work with our more advanced students, and to stimulate the spirit of scholarship among them, more books are required. The great difficulty of the Romance Language department, as far as library facilities are concerned, has been throughout that although three of the most important modern languages, French, Italian and Spanish, not to mention the less important members of the Romance group, are represented therein, it has thus far received only a scanty allowance, entirely inadequate for the most urgent needs of even one of those languages. Only by an annual allowance of several hundred dollars can it be hoped to gradually build up a departmental library worthy of an institution of the rank and importance of the University of Maine. Maps, pictures, and other similar teaching materials illustrating the history of the literature and civilization of France, Italy and Spain, are likewise urgently needed.

Respectfully submitted,

J. B. SEGALL,

Professor of Romance Languages.

REPORT OF THE DEPARTMENT OF GERMAN

To the President of the University:

I have the honor to submit the following report of the Department of Germanics:

We have an enrollment of 153 students for the present year. The work of the first year includes a thorough drill in essentials and fundamentals; the second year completes this work, added emphasis being laid on composition; the third and fourth years are devoted to a more vital historical and cultural acquaintance with the German language and literature.

In addition to these regular courses, we offer a course in Faust, Old High German and conversation. The scope of the German work has been enlarged, and increased facilities are offered to those who wish to pursue their study beyond the ordinary limits.

Our present needs are better class-rooms, with ample blackboard facilities, more maps, a good collection of pictures which will present the various phases of German life, as well as art, and additions to the German library.

The undersigned is ably assisted by Dr. R. R. Drummond, and the work is progressing to our satisfaction.

Respectfully submitted,

GARRETT W. THOMPSON,

Professor of German.

REPORT OF THE DEPARTMENT OF HISTORY

To the President of the University:

The Department of History has made steady progress since my last report. A separate course in United States History since 1850, for technical students, has given even better results than were anticipated. From entrance examinations and the work of students in the department, it has been found that the majority enter with a fair knowledge of Colonial history, less knowledge of the early National period, and very little knowledge of recent United States history. The above statement also holds true for history in general, and the department now plans to offer a course on the recent history of other countries, giving the larger part of the time to Europe and the British Empire. This course will be planned especially for the students in the colleges of Technology and Agriculture, and its aim will be to enable students (quoting from the preface of a recent work) "to catch up with their own times, to read intelligently the foreign news in the morning paper."

The regular courses offered primarily for the students in the College of Arts and Sciences, including the graduate work, remain substantially the same as at the time of my last report.

The course in the Social and Industrial History of England has been extended to include American development along the same lines. Greek and Roman history are now given in the Departments of Greek and Latin and the addition of these courses enables students who plan to teach to prepare for all history taught in secondary schools. During the summer terms of 1908 and 1909, history courses were offered in connection with economics and sociology, but in 1910 provision was made for separate department work.

The needs of the department are still great, as few of those mentioned in my last report have been supplied. We have benefited, however, in many instances by the books which have been bought for other departments, especially those of English, Philosophy, and Education.

Respectfully submitted,

CAROLINE COLVIN,

Professor of History.

REPORT OF THE DEPARTMENT OF ECONOMICS AND
SOCIOLOGY

To the President of the University:

During the year 1909-10, Mr. Pearson taught one section of elementary Economics, two hours per week for the year. This year, however, no assistance has been available. The department cannot expand to meet the demand, and many calls for courses in various economic and sociological subjects have to be turned down.

At present the department is in great need of apparatus, especially of an equipment for showing lantern slides. The room has been fitted with shades, but the equipment has not been completed. The department ought to build up a good cabinet of slides and have a lantern constantly ready for operation when needed. Modern methods of work make such things necessary for the best results.

I should also like to bring to the attention of the Trustees the need of a division of this work into a department of Economics and another of Sociology and Government, with two professors, or the employment of another instructor in this present department.

There is plenty of work for one man in economics alone, for we are not meeting the demand for more extended courses in banking, accounting, business methods, insurance, etc.

Much more time should be given to rural sociology as distinguished from the urban type. Maine offers a prolific field and special opportunities for study and work in this direction.

This is an age of great industrial and social interests and there is a lively call for courses in this field, but one professor cannot adequately meet the demand. The addition of an assistant would help out greatly in placing the department in a progressive state.

Respectfully submitted,

ROBERT J. SPRAGUE,

Professor of Economics and Sociology.

REPORT OF THE DEPARTMENT OF MATHEMATICS AND ASTRONOMY

To the President of the University:

The following changes have taken place in the teaching force of this department since my report of two years ago:

At the end of the college year, 1909, Professor Willard was granted a leave of absence for one year, and in June, 1910, this leave was extended for another year. Professor Willard is continuing graduate work at Yale University. In the spring of 1909, Mr. Moots resigned to accept a position at the University of Wisconsin; and Mr. Sweet became Principal of Orono High School. The vacancies thus made were filled by the appointment of Messrs. Truman L. Hamlin, Sherman D. Chambers and Walter E. Wilbur. Mr. Hamlin is a graduate of Western Reserve University and an M. A. of the University of Missouri, and has had several years' experience as a teacher, both in college and in preparatory schools. Mr. Chambers, a graduate of Baldwin University, had been a graduate student and instructor at Ohio State University and associate professor of mathematics at North Dakota Agricultural College. Mr. Wilbur is a graduate of the University of Maine, 1908, and had taught one year in Orono High School. All of these gentlemen have rendered efficient service.

We were fortunate in having no resignations from the teaching force this year. By reason of my appointment as Acting President of the University for the term September 1 to December 1, 1910, a re-arrangement of the work of the department was made necessary. Mr. Charles L. Graham has been appointed assistant in mathematics for the fall semester.

The additions to the mathematical curriculum consist of a one-hour course, extending through the year, in the history of mathematics, and a two-hour course throughout the year in analytic geometry and calculus, arranged especially for students in chemistry and for B. A. students wishing only a brief treatment of these subjects. The course in advanced analytic geometry has also been extended to three hours a week throughout the year. The re-arrangement of Freshman mathematics spoken of in my report of two years ago has proven very satisfactory.

At the Commencement in 1909, two students received the B. A. degree and two the B. S. degree for work in mathematics; in 1910 three received the B. A. degree.

During the year 1909-1910, the department followed the practice of holding regularly each day a consultation hour, the instructors serving in turn. This regular assistance has been much appreciated by the students and the practice will be continued.

A combined transit instrument and zenith telescope has been constructed for us by Carl Bamberg of Friedenau, Germany. This instrument will enable us to make the instruction in astronomy much more complete. As to the further needs of the department, I simply quote from my report of two years ago.

"The following is a fair estimate of the cost of the needed additions, the items mentioned first being most imperatively needed:

| | |
|--|------------|
| A small building with dome for the vertical circle.... | \$400 |
| A standard astronomical clock..... | 400 to 600 |
| A chronograph | 150 to 250 |
| A reflecting circle | 200 |
| An artificial horizon | 50 |

In the near future there should be added to the observatory a room that may be heated and used for a computing room and also, perhaps, as a class-room. There is still great need of considerable additions to the mathematical section of the library, both single volumes and sets of bound volumes of mathematical journals. Several hundred dollars could be immediately and profitably used for this purpose. It would be of great advantage to the department to have three additional large recitation rooms fitted with slate blackboards. The rooms now used by some of our classes are unsuitable for mathematical instruction."

Respectfully submitted,

JAMES N. HART,

Professor of Mathematics and Astronomy.

REPORT OF THE DEPARTMENT OF EDUCATION

To the President of the University:

The Department of Education in the University of Maine opened at the beginning of the school year of 1906-7. Since the preparation of teachers for the elementary schools is the special function of the Normal Schools, the organizers of the Department of Education in the University determined to restrict its activities to the preparation of teachers for high school positions and of candidates for the positions of principal and superintendent. With this intent, the fundamental courses in the history of education, in organization and administration, and in educational psychology were established. Courses were also offered in the pedagogy of each high school study and a research course for the collection and discussion of data pertaining to the special duties of the superintendency. The work of the department, so organized, has continued with little change for four years. During this time, there has been a steady increase in the number of students taking the courses and, among the students of the University, a gratifying growth in the conviction that some study of the history and art of the education is desirable if one wishes to join the ranks of the teachers. It is now a question whether the time has not come when the University should decline to recommend graduates for positions if they have not taken some of the courses in education which the University, by establishing a Department of Education, has declared needful for all teachers.

During the past five years, the movement for agricultural, general industrial, vocational, trade, and continuation schools has rapidly gained in strength and definiteness in this and other states. It would seem to be the function of this University to train teachers and administrative officers for all schools of secondary grade whether cultural or industrial. The calls for such teachers grow more imperative, year by year. The time seems opportune for a careful discussion of the desirability of such a reorganization of the Department of Education as will enable it to unify and direct this instruction and training to the best advantage.

A Department of Education in a University stands in a peculiar relation to the student body and to the other departments or colleges of the University. Practically all of its students owe their allegiance first to the department or college in which they major. Now, in few of the departments or colleges is the work organized primarily for the training of teachers; this is notably true in the colleges of Agriculture and Technology and true also in many departments of the College of Arts and Sciences. It follows, therefore, in the clash of interests that must arise, in conflicts in program hours, in emphasis upon content in the courses given, that the interests of those who plan to teach must suffer.

It would seem that such students should be under the direction of the Department of Education working with a coadjutor from the college or department in question.

Further, it would seem advisable, so far as may be practicable, that there should be in each college or large department some one instructor who has had experience in, and is thoroughly conversant with, the conditions which such students must meet as teachers of their specialty in secondary schools. For example, a college devoted to engineering does not need to offer for the training of engineers work in wood and iron as advanced as the teachers of a four years' course in wood and iron in a secondary school require. If such applicants are to receive satisfactory training, supplemental and advanced courses should be offered by an instructor of successful experience in the teaching of such courses in secondary schools since the students seek from him both content and method, and such instructor, it would seem, should also be a member of the staff of the Department of Education that the special practice and the general theory may be unified and the work of the pupil planned to the best advantage.

The study of theory and the acquisition of skill in handicraft will not alone suffice for the equipment of a successful teacher; the training should include also opportunity for observation and practice in the schoolroom under criticism. Those who are studying the problems of the superintendency should also follow the working out of specific problems under the guidance of skilled administrative officers who have the authority to institute experiments and to control the conditions under which the experiment is carried on. Those who expect to teach in high schools should practice for some weeks under supervision in a school under the control of the Department of Education. Under present conditions, no experience of value seems obtainable beyond some visitation of schools when the requirements of the various class-rooms permit. I would suggest the desirability of an agricultural high school under the joint control of the College of Agriculture and of the Department of Education. I believe that such a high school as an object lesson to the State would return to the State a heavy interest on the investment. It would also meet the needs of the Department of Education better than any other school, as the course of study would include cultural courses and the fundamental handicraft courses, and through its administration it would afford means for study to those training for executive positions.

The State has already shown its willingness to foster the teaching of agriculture and the mechanic arts in the secondary schools. Unskilled teaching is economic waste; the State will logically look to its University for the teachers of these subjects; it follows necessarily that it will supply its University with the needful funds for this work when it clearly understands the need and the desirable method of attack, and, therefore, I am not without hope that this statement of the present needs of the Department of Education will define the situation and lead to some measures that will increase the efficiency of our work.

Respectfully submitted,

CHARLES DAVIDSON,

Professor of Education.

REPORT OF THE DEPARTMENT OF PHILOSOPHY

To the President of the University:

The report of this department submitted two years ago, when I had just taken charge, consisted solely of plans for future work. Those plans have now been put into execution, but have been changed and developed as I have become familiar with the needs of the institution. During the first year a great part of the instruction was given in elastic courses which were modified to fit the needs of the students entering them, and in this way the desires and needs of our students were gradually discovered and provided for. There was then carefully worked out a curriculum in philosophy which is fully announced for the first time in the catalog of 1910-1911, and which is now expected to be somewhat permanent.

The students taking work in the department may be classed in three groups, as follows: (1) Students taking their major work in philosophy. Since philosophy is a subject in which our immediate graduates cannot expect to work for a livelihood, the number of students majoring in this subject must always be small; the course in philosophy must be chiefly for the benefit of the following two groups; (2) Students specializing in educational or sociological subjects, with which psychology and philosophy are so intimately related as to be more or less definitely required; (3) Students who elect philosophy as an essential part of a general education. The various colleges and schools of the University are represented by student registrations in philosophy in approximately the following numbers: College of Arts and Sciences, 33; College of Technology, 22; College of Agriculture, 8; College of Pharmacy, 1; Law School, 1; Graduate School, 1. The total registration in the Department of Philosophy, which was small during my first year, as it is liable to be during the first year of a new teacher, has increased satisfactorily until it is now between 65 and 70.

The greatest need of the department is now, as it was at the time of the last report, the need of books. In spite of the addition of a small number of books each year, the need is practically as great now as it was then. The interests of the Department of Philosophy would be best served by an increase in the library appropriation as a whole. If such an increase is not to be had, I recommend a special appropriation of two hundred dollars for the purchase of a considerable number of books and a small number of sets of periodicals on philosophy and psychology.

Respectfully submitted,

WALLACE CRAIG,
Professor of Philosophy.

REPORT OF THE DEPARTMENT OF PHYSICS

To the President of the University:

During the past two years few changes have been made in the courses of study offered in this department. The course in least squares has become a required course for students in Civil Engineering and is pretty generally elected by advanced students in mathematics and physics. Professor Woodman is offering a course in the theory of electricity which is proving attractive to a number of students in Electrical Engineering and others. During the spring semester of 1911, there will be a course of two hours a week in meteorology, and a course of two hours in mathematical physics. The course in meteorology is designed to supplement the non-mathematical course given in the fall and the general laboratory course given in the spring so that these three courses will form a desirable year's work for non-engineering students. Although the course in meteorology is scheduled for alternate years, it may be offered yearly if thought desirable.

With the coming of Professor Woodman from Columbia University, from which institution he has recently taken his doctor's degree, I have been able to put the work of my department on a more systematic basis. Professor Woodman has charge of all the laboratory courses except the course in optics and the special courses for advanced students. He is assisted by two instructors,—last year Messrs. Scott and Drew, and this year Messrs. Drew and Royal, and one student assistant, who have charge of sections of the work. The method is proving to be a very satisfactory one.

While the number of students registered in the department is quite large, the number of students taking physics as their major subject is very small. On the other hand, I believe there is no subject in the University, with the possible exception of agriculture, for which there are so many calls for teachers as in the case of physics. Each year I could fill a number of first class positions in physics, both collegiate and preparatory, if I had the students who were properly trained for them. I note with satisfaction the fact that the courses in this department appeal strongly to instructors in the University; fourteen courses in this department have been taken by members of the faculty during the last two years.

From the point of view of material equipment, the Department of Physics is practically at a standstill, and appropriations allowed this department are barely sufficient to keep the apparatus from deteriorating. I request that more generous provision be made in the future

so that we shall be able to supply our students with modern apparatus such as they should be entitled to work with. While the income from student funds, etc., ought, in my judgment, to be used for equipping the department for the best good of the students who pay these fees, it hardly seems proper to expect the students to buy the apparatus used in this department. This is practically what has been done in recent years.

Recent reports from the President of the University have called attention to the pressing need of new quarters for the Department of Physics. Wingate Hall was erected as an engineering building, and in this building the Department of Physics was given temporary quarters. Now the number of students is so large that either the Department of Physics or the Department of Civil Engineering would completely fill the building if occupied alone. In addition, the departments of Mechanics and Latin have quarters in this building. There is little opportunity afforded students in physics to do work of such a character as will impress them with the accuracy of physical measurements, and much of the value of these measurements is necessarily lost. The department has accumulated a collection of apparatus designed for the use of students which would make a very effective outfit, if it could be properly housed. The erection of a building for the Department of Physics would relieve the crowded condition of affairs to a greater extent than that of any other building which might be erected on the campus. This is due, not only to the fact that the Department of Physics is inadequately provided for, but also to the immediate needs of the Department of Civil Engineering. **These two departments would then be provided for for many years to come.** The satisfactory completion of the Agricultural building has suggested the possibility of designing the next building on our campus for the use of two departments, and while, in many respects, it is more desirable to have a building for each department, considerations of economy might warrant the favorable consideration of this proposition.

Respectfully submitted,

JAMES S. STEVENS,

Professor of Physics.

REPORT OF THE DEPARTMENT OF BIOLOGY

To the President of the University:

Since, in past years, the majority of the students in the department have taken enough courses to give them two full credits, a number of short courses have been combined into a continuous course that requires three recitations and two laboratory periods each week throughout the year. This arrangement has made it possible to avoid much repetition that was a necessary part of the other system, and to co-ordinate the work in a much more satisfactory manner. Except for this change the instruction given in the department has not been greatly modified since the last report.

There has been a decided increase in the number of students working in the department, so the accommodation limit, without further division of classes, has been reached. The recitation room is too small to seat the larger classes, so it is necessary to repeat lectures to divisions. As the divisions are too large for satisfactory quizzing, little is gained by the repetition. More satisfactory results could doubtless be obtained by lecturing to the class as a whole and having small groups for quizzing on other days.

The addition of a combined office and research laboratory has added much to the convenience of the department by relieving the crowded condition and giving better opportunities for the preparation of materials for laboratory study, and for consulting with students.

Such new apparatus has been purchased as has been necessary to supply the larger number of students. The most valuable additions are ten compound microscopes, eighteen dissecting microscopes and a number of sets of dissecting instruments.

There is only one small recitation room for the department, so laboratories have been used for recitation purposes when available, although they are poorly arranged for the purpose. The laboratories are crowded and used by so many classes that experimental work that must stand from one day to another is interfered with.

If the registration in the department increases, so that classes have to be further divided, additional instructors will be required. Entomology is such a special and important branch that a trained entomologist is needed. The economic importance of insects demands a knowledge that will lead to their better control and the University should provide a specialist to give the required training.

Besides the apparatus needed each year to supply the greater number of students, special apparatus for instruction in both animal and plant physiology should be provided. While much can be done with simple apparatus in demonstrating the functions of living things, with the present equipment the limit is reached long before it should be.

Respectfully submitted,

GILMAN A. DREW,
Professor of Biology.

REPORT OF THE MUSEUM OF NATURAL HISTORY

To the President of the University:

The rearrangement of the Museum has gone steadily forward and much new material has been added during the past two years. The taxidermist, beside preparing many birds and small mammals for exhibition, has completed a large exhibition case of deer, which is now the largest and most conspicuous case in the Museum. There have also been put on exhibition a splendid specimen of the short-legged deer, mostly white but with patches of the usual color, that is occasionally found in the State, a typical spotted fawn, a fawn that is colored and shaped much like the short-legged white deer referred to, a number of deer heads showing different forms of antlers, and a group of foxes. Skins have been procured and are ready for mounting, when space is available for their display, of a bull and cow moose, the latter donated to the Museum by the Fish and Game Commissioners of the State, raccoons, foxes and other small local mammals.

Many specimens of American conifers have been put on exhibition in display jars, the collection of woods of native Maine trees have been cut, polished and put in cases, and many other important specimens have been added.

A number of new rocks and minerals have been donated and gifts of others are certain when there is room to exhibit them.

Much interest is manifested in the Museum by the general public as well as by the students. The daily number of visitors is very considerable and the Museum is sometimes crowded. With well arranged and satisfactorily labeled specimens a museum offers good educational advantages for the visiting citizens as well as for the students.

Very many important specimens are not on exhibition and little more can be done until additional room is provided. Much material is being gathered and stored for future exhibition but the public soon tires of donating specimens that are to be packed away.

Respectfully submitted,

GILMAN A. DREW,

Director of the Museum of Natural History.

REPORT OF THE DEPARTMENT OF CHEMISTRY

To the President of the University:

Since the last printed report, two years ago, the teaching force of the department has undergone a complete change. Professor Aubert, who has been at the head of the department since its organization, resigned in the spring of 1909, to enjoy a well-earned and much-needed rest. Instructors Clayton, Durgin and Seymour, left to engage in work in technical chemistry. In March, of the year just finished, Instructor Washburn also accepted a commercial position. The vacancies thus made were filled as follows: Professor, Ralph H. McKee, Associate Professor, Charles W. Easley, Instructors, B. E. Kraybill, I. M. Burghart and B. F. Brann. In the late summer Mr. Kraybill resigned to accept a commercial position. His place has been filled for 1910-1911 by the appointment of Mr. A. M. Buswell as Instructor in Industrial Chemistry.

The department needs much in the way of apparatus and chemicals to enable the teaching to be made thoroughly effective, particularly along the lines of physical and organic chemistry. The appropriation made for 1910-1911 for chemistry will supply some of the most crying needs, but it must be followed by similar appropriations.

In the last year a number of changes in the curriculum have been made. The one of most fundamental character is the increase of the first year laboratory work in chemistry from two to four hours of laboratory time a week. This is in line with the universal experience in this and other sciences that mere attendance on a lecture or recitation course does not amount to much; it is only those who spend considerable time in handling the materials and in building up with them who can ever really comprehend the superstructure. It was only because the laboratory space available was insufficient that the change to six hours of laboratory time a week was not attempted, thus conforming with the practice of the best institutions of the country.

The work in agricultural analysis hitherto given by the Department of Chemistry has been transferred to the Department of Biological Chemistry. This has slightly relieved the advanced laboratory for the spring semester.

At present mineralogy is given as a short course in the Department of Chemistry. It would be wise if a Department of Geology were organized and this work transferred to it. Such a department could provide a source in crystallography—a course very much needed by the students whose principal work is chemistry.

The advanced courses have been rearranged so that more organic and physical chemistry, and in particular laboratory work in these more modern divisions of the science, can be given. A course in fuel and gas analysis has been added, primarily for the students in Chemical Engineering and Mechanical Engineering. With additional room available the demands of students for courses in technical chemistry and fuller courses along the line of Chemical Engineering would be provided by the department. These are much needed.

The department is so crowded that Sophomores and Freshmen (30 in 1909-10) are being turned away from the classes in chemistry owing to the fact that every desk is taken and the rooms are so crowded that it is impossible to insert more desks. This need for a building is not new, it has been mentioned in the Reports of the President for the last eight years. Fernald Hall was built to take care of a hundred students—last year, courses in Chemistry and Pharmacy were given in it in one semester to nearly five times this number of students.

The University announces that courses in Chemistry will be given to those students prepared to take the work, but actually a part of these students are refused admission to the classes owing to lack of sufficient laboratory desks. We have utilized all the space available in the basement and in the attic, but still students apply for work in the classes and have to be refused. A new building for Chemistry has been talked of for a long time; it must come quickly.

Respectfully submitted,

RALPH H. MCKEE,

Professor of Chemistry.

REPORT OF THE DEPARTMENT OF PHARMACY

To the President of the University:

Since my last report ten have graduated from this department. The entering class, short course, numbers nine,—making a total of nineteen in the department. Dividing the entering classes for the fifteen years of the existence of this department into five periods of three years each, the entering class averaged 10 per year for the first period; 7 1-3 for the second; 12 1-3 for the third; 9 for the fourth; and 12 for the fifth period. As has been pointed out in previous reports, in the fairly steady growth in numbers of the University this department has not shared. Some of the presumed causes of this failure to expand have been previously stated and need not be repeated; but so far as these causes are due to our failure to provide a sufficient equipment, or to give efficient and correlated instruction adapted to the technical needs of pharmacy students, they should be remedied. Frankly we must acknowledge shortcomings in both of these respects; in the first, because of the poverty of our resources, which cripples the efficiency of all departments alike; in the second, because in our curriculum subjects other than pharmacy are necessarily (now) taught from a standpoint not pharmaceutical.

To minimize the latter evil an addition to the teaching staff should be made of one of pharmaceutical training. Such single additional instructor would not wholly remove the evil here noted; but if he is given charge of pharmaceutical histology, and if a new—much needed—laboratory course in food and drug examinations is added to his duties, the chief and weightier obstacles to a thorough and practical pharmaceutical training will have been removed. The other laboratory courses are believed to be as complete and practical as at present feasible with the limited time available in the short course.

There have been no new books added to the department during the past two years, and but one minor addition to equipment,—a konsel machine. This was however indispensable, and nothing in our meagre equipment is so much used, except the Linbarger-Joly balance. The latter is in almost constant use, either in this department, or in the Department of Physics to which it is often loaned.

Respectfully submitted,

W. F. JACKMAN,

Professor of Pharmacy.

REPORT OF THE DEPARTMENT OF CIVIL ENGINEERING

To the President of the University:

I herewith submit my biennial report and recommendations for the Department of Civil Engineering.

The work of the department during the past two years has been conducted along the lines and policies referred to in my report of 1908. Three years have intervened since making radical changes in the Civil Engineering curriculum and the results obtained have seemed to indicate the wisdom of these changes. The specialization in railroad or hydraulic engineering, explained in my last report, has proved to be a success, and it has been noticeable that the voluntary division of the students in these subjects has been about the same for each. It is now possible for a student to obtain a continuous course of study in railroad engineering from the second semester of the second year, and in hydraulic engineering from the second semester of the third year.

During the past two years the teaching force of the department has remained very stable, as reference to the catalog will show. It now consists of the head of the department, who teaches structural and hydraulic engineering; the professor of railroad engineering, who teaches this subject; an assistant professor, who teaches hydraulics and structural designing; an instructor, who teaches surveying, and sanitary and highway engineering, and two tutors who assist in the above named subjects. In addition, it is necessary to have several student assistants during the field seasons.

Since my last report Mr. P. L. Bean has been made an assistant professor, and Mr. L. I. Johnstone has resigned. Mr. J. E. Kaulfuss has been appointed to succeed Mr. Johnstone.

During the three years in which Mr. Johnstone was in charge of the courses in surveying he brought them to an excellent standard. With the end in view of continuing this standard an attempt was made to keep him with us, he being offered an assistant professorship. Owing to reasons not connected with the University he was not able to accept. It is earnestly hoped that such promotion may be forthcoming to any man filling this position satisfactorily, for it is evident that a change of men for such a position must interfere with the work, especially if it is necessary to fill the position with a less experienced man.

Much of our work is done at a disadvantage owing to lack of facilities and equipment. One of the great needs of the department is a hydraulic laboratory. The State of Maine is noted for her water power resources, and although much is being done to acquaint the students

with water power development, it is impossible to present some of the subjects in hydraulic engineering as they should be presented, owing to the lack of laboratory facilities. It is surely unfortunate if this State can not afford to appropriate the funds necessary for the installation of a fully equipped power house and laboratory where fundamental principles of hydraulics as well as advanced research may be suitably presented.

The congested condition, spoken of in my last report, of the building in which this department is located has not yet been relieved. It is very necessary that new quarters should be provided for the departments of Physics and Latin, thus allowing the entire building to be devoted to the two departments of Civil Engineering, and Mechanics and Drawing.

The Junior Civil Society has continued to prosper and each year several lectures have been given before the society by men of reputation. The thanks of the society are due these men for giving their time to us, the only expense charged being that actually incurred by travel. These expenses have been met by the students. I would again call attention to the need of a small annual fund for this purpose.

The library is very well supplied with engineering magazines and reports. It is not well equipped with books on engineering subjects. This defect should be remedied.

During the past two years additions in the way of equipment have been made as follows: One Berger transit theodolite, two Curley transits, two Gurley wye levels, one Johnson movement plane table, one Gurley pentameter, one Gurley large Price meter, and one K. & E. planimeter.

Last year it was decided to impose a field fee to cover breakage and repairs, and also to be used as a fund to cover deterioration of instruments. Students taking field work now pay \$2.50 per man per field course. This allows about one instrument to be purchased yearly.

In closing this report I wish to state that I consider the department to be in excellent condition, and that the courses, with the exceptions noted, compare very favorably with those of other institutions. I also wish to thank the members of the department for their energy and faithfulness.

Respectfully submitted,

H. S. BOARDMAN,

Professor of Civil Engineering.

REPORT OF THE DEPARTMENT OF MECHANICAL, ENGINEERING

To the President of the University:

I have the honor to submit the following report.

The past few years have seen many changes and improvements in the engineering departments and as an accompanying result a considerable increase in the amount of work which must be done by this department. For one who follows the development of the courses at this institution the catalog will show what these changes have been, but one notable instance is the addition of mechanical engineering laboratory work as a requirement for all students in Civil and Electrical, as well as in Mechanical Engineering. This is as it should be, but it has necessitated a class in the laboratory every afternoon throughout the year. This class requires the presence of two instructors for effective work to be done. The laboratory reports from students in this work will average fifty per week. These require about one-half hour each, of the instructor's time, to indicate corrections and recorections.

The conditions of our equipment and its limited amount entail much time from one or two instructors in its preparation for the various laboratory experiments. Such in fact are the demands of this and other work that this department should have an additional instructor and a graduate assistant to make it possible to properly handle the work. Inasmuch as the writer, a few years ago, recommended and caused a decrease in the number of the instructors in the department, when a change in the work made that possible, it seems only just that, now that more help is required, it should be provided, so far as our means will allow. Mr. E. C. Cheswell, who is at present devoting one-half of his time to this work, is wanted by the Electrical Department, and has not been considered in the above, it being assumed that he will devote his entire time to the Electrical Department when proper help is obtained for the mechanical laboratory.

Mr. Cheswell is a valuable man in the work he is doing for the two departments and it is only his unstinted activity that has enabled us to keep our laboratory courses going the past year.

This department has to contend with an unfortunate arrangement as respects the shop-work instruction because of a division of authority. Both Mr. Carter and Mr. Davee devote only that time which is scheduled for classes to instruction and its allied matters, the balance of their time being given to the oversight of repairs and other work in connection with power, heat, light and water installations. Both men are effective instructors, but it is likely they could do better in either line of

work if there were not this division between two lines. I would suggest that an arrangement be made by which these men could devote all their time to the shopwork instruction and to constructing and repairing, under the direction of this department, apparatus for any of the various laboratories.

One of the great difficulties which a college like ours must contend with is the large number of varied technical subjects which should be taught by the small number of instructors available to teach them. So great is this difficulty that many of the more professional subjects which should be presented in the senior year must of necessity be left out.

To remedy this condition a small sum of money, say about what would be paid an instructor or assistant professor, should be devoted annually to engaging men of professional standing to come here and deliver a short series of lectures upon professional topics to the seniors of the engineering departments. Such a system is used to some extent in our College of Law. In hardly any other way could a greater benefit be derived for so small a cost. Such an arrangement would strengthen the reputation of our school and that of its graduates.

There should be provided a separate workshop for the carpenters, plumbers and others having work to do upon the campus so as to take such work and its accompanying annoyance and interference from the room devoted to class instruction.

So far as equipment is concerned, the needs of the department are many. While it is realized that the likelihood of attaining even a majority of our requirements is remote, it is nevertheless thought wise to state them, and to work consistently toward the development they represent.

A torsion testing machine has already been approved and once appropriated for, but owing to shortage of funds the appropriation was not forthcoming when the machine should have been ordered. This was to cost about \$800. It should be purchased. About \$300 should be expended for tools to equip our existing testing machines. We will then be fairly well fitted out for testing materials of construction.

No attempt is being made at present to develop a hydraulic laboratory. We now deal with the mere rudiments of hydraulic measurements, such as the use of weir, orifice and nozzle, and meter calibration. More should be done along this line when the other laboratory work is in better condition.

A steam engineering laboratory is more needed than anything else in the laboratory line. Owing to the abandonment of the "old power station" for the new heating plant we have come very near to having no laboratory at all in which to deal with one of our most important branches. It has even been very difficult to protect the valuable apparatus left in the "old power station" from rapid deterioration. This apparatus has now been put into fair condition and closed up, but, as we need this apparatus for demonstration and laboratory practice work, steps should at once be taken to provide a suitable housing for the steam and gas engines and boilers which are there, so as to make these

pieces of apparatus available the year around and to permit of an economic and efficient development of the power side of laboratory work. Lord Hall is not a suitable place for the installation of heavy engines and allied machinery and I think we should look forward to the time when it may be devoted wholly to drawing rooms, lecture rooms, offices and shops.

In the spring of 1910 I submitted to President Fellows sketches for a building suitable for a laboratory and for housing the apparatus now in the old plant. This was a neat and inexpensive plan and it is understood that it had the approval of those who saw it. It consisted essentially of a one-story, brick building, with side galleries and a saw-tooth roof, so-called, which would permit of indefinite extension of the building in any direction without interfering with the lighting. The sketch is again submitted, herewith, and its adoption cannot be too strongly urged. If funds are not otherwise available our next legislature should be asked to provide this building. It should be remembered that the apparatus which this building is to protect is worth several thousand dollars and that it cannot be cheaply or well cared for in the present worn-out frame shed, nor can it be used for laboratory work when most needed, in the winter. Furthermore, other steam apparatus cannot be installed until we have a suitable place, such as this building, for it.

About \$1,000 is needed for small measuring apparatus such as pyrometers, calorimeters, etc. The appropriation of \$400 for the current year is being used for measuring tanks for water, platform scales, a resistance pyrometer, pressure gages, a projecting lantern, and such apparatus as will enable our present equipment to be used to the limit of its usefulness. Two of the items are to be secured by cooperation with the Departments of Physics and of Electrical Engineering.

We have gradually developed the wood and iron working shops to a fair degree of completeness, but some of the old tools are in such condition that they must soon be replaced. In the machine shop we need a new shaper, a universal milling machine, universal grinder and a new planer. We can trade old tools toward these to good advantage. Aside from these tools mentioned being practically worn out, they are no longer representative of the best practice. We are this year getting a new drill grinder, center grinder, and water emery wheel which have been so long wanted.

Up to the present we have made little attempt to develop our foundry. We have an old cupola which no longer serves to melt iron owing to various difficulties due to age. It is now time that we fitted up this room in order that the foundry work, which is required of all mechanical and electrical engineers, may be representative of good practice. It is hoped that we may soon be able to make our own castings for shop work. A new cupola, core oven, pressure blower, and moulding benches will be needed for this part of our work.

All of these branches of our work are worthy of all our care and attention and it is desired that the trustees will adopt a definite plan of development which will allow us to progress at least a certain amount each year.

To sum up, this department should be given an additional instructor and a graduate assistant for the laboratory; a small building, such as is shown in the accompanying sketch, to form with the apparatus now in the "old power plant" the nucleus of a steam laboratory; an appropriation of about \$1,000 per year for the next two or three years for apparatus needed for the development of the laboratory and the shops; and to have repair work so rearranged that class-rooms will not need to be used by repair men and helpers, and that shop instructors will not be responsible for outside repairs.

Respectfully submitted,

A. C. JEWETT,

Professor of Mechanical Engineering.

REPORT OF DEPARTMENT OF ELECTRICAL ENGINEERING

To the President of the University:

Much of the equipment asked for in the last report of the Electrical Department is still urgently needed. What funds were received during the past two years have been spent in putting the laboratory equipment in a condition for more efficient work, and for a minimum cost for future maintenance, a small sum going to the purchase of instruments that were necessary to carry on a higher grade of work and for a larger number of students. These changes in the laboratory, which have proved to be of great value, and the introduction of a University of Maine laboratory manual that fits the needs of the student in a very efficient manner, have been possible only on account of the new ideas, energy, and ability of the assistants in the department.

At present, several new instruments are wanted at a cost of about \$750, a variable speed motor, \$350, an alternating current series motor, \$225, and for building special apparatus for testing purposes as well as material to carry on thesis work of a higher order, \$300 per year, at least, making a total of \$1,925 for the ensuing two years. This does not include anything elaborate, but plain working capital to keep our material equipment within sight of the ability of our students and the energy of the instructors of the department. More laboratory room, a large lecture room with demonstration equipment, and standardization instruments and room for the same, that go as a matter of course with the Electrical Engineering department in other institutions, appear to us as the cool summer sea-breezes to the poor of our great cities, a long distance away.

The department has had an assistant professor in the past; but, although one of the two largest departments in the University in the number of graduates each year, we have not an assistant or an associate professor at the present time; the force consisting of three instructors in all, one-half of the time of one belonging to the Mechanical Engineering Department, whereas similar departments in other institutions, with the same number of students as our own, have from three to eight instructors. Excellent work is being done by those assisting in the department, the best assistance that the department has had in its history; but some inducement must be offered appropriate to their ability and energy to keep such desirable men, who voluntarily spend all hours of the day or night to maintain the efficiency of the department and for the good of the University.

The department is heartily in sympathy with the plan for better facilities in steam engineering equipment, and a special building with a fully equipped thermodynamic laboratory; as an electrical engineer ought to be a mechanical engineer as well, it is very desirable that our equipment along this line of work be given the consideration that other technical institutions have given to it the past few years, with the resulting elaborately equipped laboratories and new buildings.

The nature of the work required of electrical engineering students after graduation has changed greatly in the past five or six years; the field at the top, that of the consulting engineer, will always be open for the best fitted for it, but with the standardization of electrical equipment, and power plants, a smaller proportion of the technical graduates is required for the consulting work; the increase in the manufacture and use of electrical machinery and apparatus has created a demand for technically trained men as sales engineers, managers and assistant managers of district offices, and men of executive ability for the individual department of the large manufacturing plants. Good men in this field of work are urgently needed, and well paid; and in the case of our own alumni, the demand for the technical business man has changed in the past six years from 16 to 36 per cent, as determined by the proportion of the electrical engineering graduates going into such work. A straight technical and mathematical course is not the best training possible for the technical business man: one who is not an excellent mathematician may make a good sales engineer, or have good executive ability, and such an one should have more of an economic training; it is planned to divide the electrical engineering course into two sections in order to meet this demand, one for the technical expert, and the other for the technical business man; the latter to have such a training that it will not cheapen the degree in electrical engineering, and the requirements for the technical expert can be increased in quality without shutting out some very desirable men from taking the Electrical Engineering curriculum. Such a change can be brought about with a little additional assistance in the department, and one of the present assistants, Mr. A. T. Childs, on account of his general ability and special fitness for the work, is admirably suited to carry the responsibility of one of these sections.

Respectfully submitted,

W. K. GANONG,

Professor of Electrical Engineering.

REPORT OF THE DEPARTMENT OF MECHANICS AND
DRAWING

To the President of the University:

No change of courses has been made in the department during the last two years but the methods of conducting the work in drawing have been systematized and materially improved during that time under the direct supervision of Mr. A. L. Grover, who was promoted from instructor to assistant professor at the beginning of last year. At the same time Mr. W. E. Farnham was promoted from tutor to instructor.

The drawing room has recently been supplied with a complete outfit of drawing boards and tee squares and a filing case for drawings has been provided, but there is yet a very urgent need for an adequate system of artificial lighting.

Instruction in drawing is given to about 200 students, working in five divisions,—a total of thirty hours of instruction per week for the department,—and each division is large enough to require the constant attention of two instructors. I make this statement to emphasize the need for an additional instructor or tutor to do the work now done by student assistants.

On account of the unusually large number of junior engineers last year, the course in technical mechanics had to be given to four divisions instead of three, as usual, necessitating the omission of the course in advanced theoretical mechanics, which is being given this year, however, to a class of twelve seniors and graduate students.

Respectfully submitted,

CHARLES P. WESTON,
Professor of Mechanics and Drawing.

REPORT OF THE DEPARTMENT OF PHYSICAL CULTURE
AND ATHLETICS

To the President of the University:

As Director of Physical Culture and Athletics, I have the honor to submit the following report from 1908 to 1910:

There have registered for required work in physical training each year 150 to 170 students; 50 to 100 have used the gymnasium yearly for voluntary exercise.

The gymnasium at the present time is in fair condition, with the exception of the ventilating apparatus, which I understand will be repaired.

I would estimate the cost of equipment and repairs yearly at \$250.

Respectfully submitted,

EDGAR R. WINGARD,

Director of Physical Culture and Athletics.

REPORT OF THE DEPARTMENT OF MILITARY SCIENCE AND TACTICS

To the President of the University:

This department was under the direction of Captain Walter S. Brown, 25th Infantry U. S. Army, as Professor of Military Science and Tactics during the year 1908-1909. The course outlined in the catalog, of five hours per week, required of freshmen only, was continued during that year.

To more fully comply with the requirements of the War Department, the course was changed to three hours per week, and sophomores were required to take the course. As 1909-10 was the first year after the change, only freshmen (required) and upper classmen, by election, took the course, three hours per week during this year, the Cadet Battalion consisting of four seniors, one junior, fourteen sophomores, and one hundred and eighteen freshmen.

Captain Brown was relieved from duty at the University in June, 1909, and the undersigned was detailed for duty here, by orders from the War Department dated September 25th, 1909, but he was not retired from duty in Idaho until October 10th and joined here October 15th.

The students had been organized into three companies by Mr. G. E. Springer, a student of the senior class, before my arrival, and the officers selected and assigned, but no arms or equipments had been issued.

I approved the organization and appointed him Major of the Battalion and issued arms and equipments, but it was not until after November 1st that this was accomplished and regular instruction begun. I wish here to express my appreciation of Mr. Springer's efficient work in organization and preliminary drill.

As the new requirements would necessarily about double the number of students to be instructed, application was made for additional arms and equipments to make enough to equip three hundred men, also for two gallery practice rifles. These have been received since the close of the scholastic year.

Instruction was handicapped, to a considerable extent, for want of room for so many students at one time, and this will be much more the case another year, with two classes to handle. The drill hall or gymnasium, is only large enough for company movements of one organization at a time, and I was forced to divide the hour between two companies, allowing each one half time for manual of arms, etc., and the other half for company movements while the third company had gallery practice in the baseball cage with target rifles owned by students. I could be with only one organization at a time and the

discipline and instruction of the other two had to be intrusted to students of the upper classes who had elected Military Science and had some knowledge of military drill.

An assistant instructor is badly needed. By the Act of Congress of April 21st, 1904, the detail of a non-commissioned officer for duty at educational institutions is authorized, "provided that no detail shall be made unless it shall pay the cost of commutation of quarters of the retired non-commissioner officer, and the extra-duty pay to which they may be entitled by law by reason of the performance of special duty."

Such a non-commissioned officer could be had for about forty dollars per month, and in addition to his duties as an instructor, could act as ordnance and quartermaster sergeant, and care for the arms, and equipment, and keep it in proper repair. Such a detail is very much needed.

The store room for the Military Department is inadequate, it will hardly hold the military stores when packed in boxes, and with the new arms and equipments to come, additional storage must be provided. When anything is packed in the store room, it is impossible, even now, to enter it and get at any of the stores without removing the property, thus preventing examination or repair work during the summer recess.

A new drill hall at least (65) sixty-five feet by (200) two hundred feet should be provided, with an office, or recitation room, and a store room with arm racks and lockers in the building. This would allow of two companies drilling at once, and it could probably be arranged to give the Military Department two hours instead of one, so the professor could divide the Battalion and properly supervise all the work. Under these conditions a full field equipment could be issued to the Cadets and the Battalion paraded ready for active service. This done, I see no reason why the Battalion should not form part of the National Guard, and receive its uniforms from the Adjutant General of the State, at first cost to the United States, as is the case at present with the students of Norwich University, Vermont.

I am, sir,

Very respectfully,

CHARLES A. VARNUM,

Lieut. Col. U. S. Army, Professor of Military Science and Tactics.

REPORT OF THE DEPARTMENT OF HORTICULTURE

To the President of the University:

In accordance with your request I have the honor to submit the following report of the Horticultural Department for the two years ending July 1st, 1910.

During this time the department has made a substantial growth. The increase in the number of students to whom instruction has been given has paralleled the increase in the number of agricultural students. There has been a considerable re-arrangement of the curriculum so that now a larger number of students get the fundamental training in the more important branches of Horticulture earlier in their course than formerly. The time devoted to one subject, plant breeding, has been doubled so that students may now receive a much more satisfactory introduction to it. Another elective subject, systematic pomology, has been added to the course of study. This is something which has been badly needed. Heretofore students have had no opportunity to study the fruits and fruit industry of the country as a whole, together with this State's relation to them.

A limited amount of new equipment has been obtained. Two years ago the department did not possess a single lantern slide or photograph for class use. Beginnings of a series of lantern slides illustrative of landscape gardening and orchard practices have been made. A large number of small reprints of famous landscape paintings have been secured, together with a good many photographs. Minor articles of laboratory, garden, and orchard equipment, such as dissecting microscopes, pruning shears, saws, and grafting knives, have been obtained as needed.

A small apple and plum orchard of about 250 trees, has been planted on suitable soil on the Stillwater farm. These trees will soon afford excellent laboratory facilities for orchard work of various kinds. Incidentally, they should be a source of income. Small-fruit plantations that already afford laboratory facilities and a small income have been established on the home farm.

During the two years over fifty fruit growers' meetings have been attended and addresses given. The value of this kind of work cannot be measured exactly but without question much has come from keeping the fruit growers, florists, and gardeners of the State in touch with what is being done along these lines at the University and elsewhere, and in turn, with acquainting students at the University with the status of these industries through the State. The first short course in fruit

growing, to be given by the University, was held in February, 1910. It was a success in every way. Twenty-two, the largest number to register for any short course offered by the University, were registered for it. Quite a large part of this number are among the largest fruit growers of the State.

Within the period covered by this report the University greenhouses have been turned over to the Department of Horticulture for instructional purposes. While this has greatly facilitated its work along this line, the total amount of income derived from them has remained materially the same.

No small amount of this growth has been possible only because of the fact that during the past year the department has been given an assistant and I wish here to express my appreciation of the high class of work done by Mr. W. R. Palmer, Instructor in Horticulture.

While the department has appreciably grown during the past two years, only a beginning has been made. Much must be done if it is to meet the increasing demands that are being made upon it. Funds should be provided for greatly increasing the collections of lantern slides and photographs. The increased number of students makes necessary the purchase of many minor articles of orchard and garden equipment, such as planting, pruning, grafting, and spraying accessories. For the same reason the present large and small fruit plantations should be increased. It is very desirable that an outdoor collection of the different wild species and sub-species of fruit trees and shrubs, from which cultivated varieties adapted to this climate have sprung, should be started.

Special mention should again be made of the University greenhouse. This is a house of old style wooden construction, and in such a bad state of repair that it is impossible to grow many of the regular greenhouse crops in it. It is too far out of date and too nearly worn out to be repaired. It should be replaced with a modern iron frame structure to cost in the neighborhood of six thousand dollars. It would be desirable to build in connection with it some kind of a bulb storage room. This need not require more than two hundred dollars additional.

It is only through a gradual increase in the number of small horticultural tools and accessories, in the size of the orchard, the collections of lantern slides and photographs, by erecting a new range of greenhouses, and starting an outdoor collection of our more important horticultural species of plants, that the department will be able to keep pace with the increasing numbers of students and teach modern horticultural practices in an efficient manner.

Respectfully submitted,

V. P. GARDNER,

Professor of Horticulture.

REPORT OF THE DEPARTMENT OF AGRONOMY.

To the President of the University:

In accordance with your request, I present herewith the report of the Department of Agronomy.

On January 1st, 1910, I took charge of this department and found it organized as follows: The Agronomy Department consisted of the farm crops division, soils division, and farm mechanics division, and also included the management of the university farms. The work of the farm crops division has proceeded along the lines already established by my predecessor with some additions such as courses in crop breeding, marketing, and judging, and also a research course. Laboratory material was obtained from crops grown upon the university farms and from crops raised upon representative farms of the State. In all, a comprehensive course has been given in the production, marketing, and judging of the small grains, corn, potatoes, forage crops, and root crops. It is our aim also to present a study of the weeds common to the farms of the State with practice in their identification, and instruction as to the methods of eradicating them. In the study of methods of breeding for the improvement of corn, small grains, and potatoes, the systems employed by representative American and European stations were carefully studied.

The soils work comprises a study of the representative types of soil and methods of their identification; a study of the principles of physics underlying the methods of tillage of the soil, and a careful study of the maintenance of the fertility of Maine soils. In this course was included a comprehensive course in fertilizer manufacture; the relative cost of home mixed fertilizers vs. branded fertilizers was considered, and careful instruction in the home mixing of fertilizers was given. The general principles of fertility maintenance by crop rotation have formed a large part of this course.

In farm mechanics the principles underlying draft and the strength of building materials were carefully studied. This was followed by a careful study of the implements of soil tillage including plows and cultivators, also farm power including horse power, wind power, water power, gasolene power, steam, and electricity as applied to farm operations. Harvesting, threshing, and grading machinery were given very careful consideration also. To assist the department in the work carried on in the division of farm mechanics machinery has been very kindly loaned by the implement firms as per last year's report. The machinery is gone over annually and is replaced by up-to-date types of the several machines.

The teaching force of the department was seriously handicapped by my assistant—Professor M. E. Sherwin—leaving to take the position of Associate Professor of Soils at the North Carolina Agricultural College.

In reference to laboratory equipment, the department is fairly equipped. The enrollment of students has outgrown both the capacity of the soils and farm crops laboratories. We would like to ask for special consideration as to the accommodations in the soils laboratory.

During the year the department has been called upon frequently for extension work, and has gladly rendered such assistance as was possible. Such work is not only beneficial to the people of the State, but is exceedingly valuable to the corps of the department in that they get into personal touch with the problems of the State and are able to speak with greater certainty as to the application of instruction in crop growth and soil tillage suitable to different parts of the State. It is evident, however, that the demand for such work has far outgrown the supply, and that the time has arrived when another assistant could be used to exceedingly good advantage in the department. During the summer of 1910 the Agronomy Department took part in the train, run by the Maine Central Railway under the auspices of the University of Maine throughout several parts of the State. Three speakers from the department took part in the demonstration programs and half of one car was fitted up with demonstrations in crops and soils, and one and a half flat cars were equipped with modern farming machinery, the operation of which was explained by a demonstrator in charge.

The management of the university farms comes under the direction of the Department of Agronomy. When the present head of the Agronomy Department took charge, no fall plowing had been done upon either of the farms, which fast left the farm operations for this year seriously handicapped. However, considerable land was plowed as early as possible during the spring and the usual types of crops, including oats, corn, potatoes, and roots were planted. Although the season was very backward and the seeding was handicapped by the late preparation of the soil, yet it was possible for us to harvest nearly 150 tons of hay, about 900 bushels of potatoes, about 500 bushels of oats, about 300 bushels of roots, and about 100 tons of silage from the crops grown.

At the Stillwater farm a system of three years rotation has been established, consisting of the following units: 1st year:—a grain crop seeded to clover and timothy; 2nd year:—clover and timothy with the second crop plowed under in the fall; 3rd year:—a hoed crop such as corn, potatoes, or roots. The application of fertilizer is made as follows: lime is applied when the ground is seeded to oats at the rate of about 800 to 1000 pounds per acre, commercial fertilizer is applied to the potatoes at the time of planting, and barn dressing is applied to the land used for corn. It is our ambition and expectation to maintain and build up the fertility of the soil by this system of operation. During the summer considerable work has been done upon the Stillwater farm and as soon as the crops were harvested the fall plow-

ing was undertaken. At present all of the land we desire to plow for next year's crops has been fall plowed and is in good shape. The Stillwater farm is in need of considerable drainage as is also the home farm.

The Department of Agronomy wishes to thank the Board of Trustees, through the President, for the hearty support which it has enjoyed throughout the past year. It urges that attention be given to the scarcity of laboratory space, and to the need of new horse barns wherein to stable the horses of the farm. The fact that the great call for extension assistance has far exceeded the possibility of supply will, we think, deserve careful consideration, and we urge that more assistance be allotted to the department so that it may make this part of the work more effective to the farmers of the State.

It is the plan of the department, during the coming year, to establish a comprehensive system of demonstration plots. In this system of demonstration plots will be included the growing and comparative testing of varieties of oats, wheat, barley, corn, rye, potatoes, roots, clovers, and grasses, and also comparative tests will be made of the different methods of maintaining soil fertility and of carrying on crop cultivation. A division of this work will illustrate and demonstrate systems of breeding small grains, corn, and potatoes. It is deemed that such work will not only be of great value to the student body in their studies at the University, but will be of great interest and equally great advantage to the visiting public as they come to view their State institution. It is our aim to make this of the utmost value to the State.

Respectfully submitted,

HENRY G. BELL,

Professor of Agronomy and Farm Manager.

SUPPLEMENTAL REPORT ON FARM MANAGEMENT AND AGRICULTURAL ENGINEERING

ORONO, MAINE, November 22, 1910.

To the President of the University:

This work has so recently been organized that it is as yet in its formative period. The advisability of development along some of these lines has been set forth in former reports to the Board of Trustees.

For the study of Farm Management there is need of charts, reference books, and illustrative materials. The work in these courses requires the study of plans of farms, laying out land for crop rotations, the study of different systems of farming, etc. These can best be effected by visiting some farms that would be representative of the different types of farming in the State and some that show the application of the principles of up-to-date scientific farming. This would necessitate the outlay of some money which would be fully repaid through the broadening of the experience and the addition of useful, practical information to the men in the agricultural course.

The work in engineering and farm mechanics is such that the student is instructed in the use of instruments necessary to lay out land, level for grade for roads, ditches and contour; to construct farm buildings, and roads; test the efficiency of machinery, try out draft and grade problems; and become familiar with the late designs of improved machinery that is being placed upon the market. The importance to the young man on the farm of the above and similar information cannot well be over-estimated.

Other institutions have appreciated the helpfulness of a thorough training in the operation of machinery, and are putting forth an effort in this direction. Many machine and agricultural implement companies are willing to place their best machinery at the disposal of the classes at the University. Room for these implements and facilities for operating the machines as laboratory work for the students is inadequate. The time of year that this machinery must necessarily be experimented with makes it almost imperative that comfortable, commodious quarters shall be provided. It is respectfully suggested that one floor and the basement of one of the proposed wings to the present Agricultural Building be set apart and equipped for this purpose.

The expenses attached to this part of the work in laboratory will be small in comparison to the advantages to the student body.

Respectfully submitted,

GEORGE E. SIMMONS,

*Assistant Professor of
Farm Management and Agricultural Engineering.*

REPORT OF THE DEPARTMENT OF ANIMAL INDUSTRY

To the President of the University:

I have the honor to submit the following report for the Department of Animal Industry.

During the past two years the character of the courses offered has not been changed as they seemed to be well adapted to the needs of the students and on a plane with those offered in similar institutions. Two new courses in cheese making have been added in order to make the dairy work more efficient.

In January of each winter a four weeks' course in dairying combined with general agriculture has been given.

The demand, by the Extension Division, for assistance in giving demonstrations and lectures has been greater than ever before and has required a large amount of time. Assistance has been asked for by dairymen and stock men and has been granted as far as possible, both by special appointments and through correspondence.

Mr. James R. Dice, a graduate of the Michigan Agricultural College, has assisted with the instructional work during the past year, and has proved to be a very efficient instructor.

During the past two years several cows have been sold and have been replaced by younger and more profitable producers that have been raised by the department. One American Cattle Club Jersey has been bought. The herd consists of fifty-two head—thirty-one cows, three herd bulls, ten yearlings, and eight calves. Six breeds and their grades are represented. As a producing herd it has a high average. The increased demand for dairy products has been met by increasing the production rather than by increasing the number of milking cows. With the larger number of students more animals are needed for judging purposes. More milk is needed for the dairy laboratory, and there is a gradually increasing demand for dairy products, the sale of which goes far towards paying the departmental expenses. It is the aim to replace most of the grades with typical pure bred animals. All surplus stock would find a ready sale as the demand for breeding stock now far exceeds the supply. It should be the desire to supply these demands as far as possible in order to assist in building up the stock industry of the State.

The flock of sheep contains fifty pure bred animals, most of them being Horned Dorsets. It is our desire to add some of the other more prominent breeds in order to have them for instructional purposes.

The herd of swine consists of eight pure bred sows, representing three breeds, and two herd boars, besides fattening stock.

Through the courtesy of the manufacturers most of the machinery in the dairy building has been loaned to the department and is frequently changed so that the dairy students have the advantage of the latest improvements.

As yet no work in horse breeding is being conducted by the department. The breeding of draft horses especially should be encouraged as the neglect of this industry is costing the State large sums annually. The College should have some brood mares and a stallion of one of the draft breeds. This would facilitate the work of horse judging by the students and avoid adverse criticism by the horsemen.

The most urgent needs of the department at the present time are a remodeling and enlarging of the stables and barns. It will be impossible to expand under the present conditions. The horse stable, in which the farm horses are kept, is anything but a model. The cattle barns are a source of disappointment to visitors who come here to get ideas in erecting a modern structure. When the cattle are all in the barn the stalls are all full. The barns are not planned for economy of labor, nor are they what would be called sanitary at the present time. The upper barn can be remodeled into a very satisfactory horse stable that would supply sufficient stalls and box stalls for all the work and breeding stock that will be needed. The larger or main barn can be utilized as a storage barn for hay and other feeds, and wings built for the cattle stables. There should be room for eighty head of milch cows, besides the young stock.

Respectfully submitted,

P. A. CAMPBELL,

Professor of Animal Industry.

REPORT OF THE DEPARTMENT OF POULTRY HUSBANDRY

To the President of the University:

I have the honor to submit the following report of the Department of Poultry Husbandry.

The Poultry Department is being gradually developed along lines best suited to the improvement of instructional work. The following breeds and varieties have been added since the last report: Barred Plymouth Rock, Buff Orpington, Partridge Wyandotte, Brown Leghorn, Single Comb Rhode Island Red, Pekin Ducks, and Embden and Toulouse Geese.

Three new colony houses have been built by students; one of them an open front house of the Tolman type is being tried out for the first time this season. The laying house built last fall has greatly facilitated the practical work of instruction. At the present time six of the regular students are feeding pens of birds, studying the different feeds and finding out the actual cost of production. This work is optional with them. A number of students are also taking thesis work in subjects that have to do with practical management of flocks.

A great many inquiries are being received in connection with the short courses. These come both from within and without the State. It appears that with proper advertising of this department many more students would come to the University.

Many of the other universities and colleges offer a three months' course in Poultry Husbandry. It would seem advisable to do the same here as it is impossible to provide any amount of valuable practical work in a three weeks' course. This would be practically impossible at present, however, as I am alone in the instructional work of the department. Such a course combined with the regular teaching work of the department would necessitate between thirty-two and thirty-four hours of actual class room work beside the general supervision of the practical work outside and the handling of the correspondence which has increased greatly in this department within the past year. Further, the increasing demand for extension work throughout the State in the form of attendance at grange meetings, fairs, and poultry shows, beside the work entailed in assisting in the formation of Poultry Producers' Associations in the State of Maine seems to make it imperative that an assistant be appointed in this department. There is also a demand for advanced courses which can only be met in the same way.

The work of the department is also rather seriously handicapped by the lack of a satisfactory feed room. The present building is a

part of the old No. 1 house which belonged to the Experiment Station. It is very inconvenient and infested with rats. We are forced to buy our grain in small quantities weekly. There would be a great saving if we could buy in quantity and store it. It would seem advisable to construct a building twenty-five feet square, which would be rat-proof, and have a cellar underneath for the storage of roots and cabbage. This could be done at a cost of about one thousand dollars. It seems advisable also to either construct a building or to so remodel the present building that it will serve as a machinery room in which to install our bone cutter and clover cutter. We need also a feed crusher to prepare some special feeds that are difficult to procure on the local markets, and also to prepare our own chick feeds and mashes. In such a building some form of power would be necessary, either a small dynamo or a gasolene engine.

Certain equipment, such as models of houses, appliances, charts and plans, is urgently needed for class room purposes. Certain books and periodicals must be added to the poultry section of the library to keep the students in touch with the current topics of the work. A few books for the nucleus of a reference library in the incubator building would be appreciated.

Respectfully submitted,

W. A. BROWN,

Assistant Professor of Poultry Husbandry.

REPORT OF THE DEPARTMENT OF BIOLOGICAL AND AGRICULTURAL CHEMISTRY.

To the President of the University:

The work of this department is of a somewhat diverse character, since it involves the teaching of biological and agricultural chemistry in both laboratory and class-room; general geology; economic geology to students in civil engineering; elementary chemistry to two-year students in agriculture; lectures on the chemistry of feeding to eight-weeks students, and a special course in chemistry to advanced students intending to teach agriculture. It might be supposed that the course in elementary chemistry might be given by the Department of Chemistry, but none of the courses now offered by that department meet the requirements of these students, who need a course that shall be extremely practical, and which shall have from the beginning a distinctly agricultural trend.

The equipment of the bio-chemical laboratory in the new Agricultural Building has made it possible to greatly improve and extend the courses offered. A Sartorius balance, a steam oven, filter pumps, and a Jewell water still, are among the most important additions to the apparatus of this laboratory. Two years ago a course in agricultural quantitative chemical analysis was offered for the first time, and a single student registered for the work. Last year eight students registered for the same course, and the small laboratory was taxed to the utmost. To better provide for this course, condensers have been placed against the wall for Kjeldahl nitrogen determinations and for ether extraction apparatus, and steam cups have been placed in one of the hoods.

The equipment for teaching geology is lacking in some very important particulars. At present it includes a fairly large, but poorly balanced collection of rocks and minerals, a stereopticon, and between 300 and 400 slides. The stereopticon is a recent purchase and is a very satisfactory instrument. But the collections have been accumulating through many years and the results are such as might be expected: they include considerable material originally good, but badly damaged through lack of proper care and storage cases, while they are lacking in some of the more common and important types, many of which could be had by a small and judicious expenditure. The educational series of rocks, presented several years ago by the United States Geological Survey, is a very good and useful one, and is now supplemented by a loan collection which is available for purposes of study. During the past year

the University has received valuable accessions from the United States National Museum, consisting of 150 specimens. The museum cases installed two years ago are dust-proof and are proving satisfactory. More display space will, however, be needed in the immediate future.

Since geology is taught in the new Agricultural Building, while the geological museum is located upon the third floor of Coburn Hall, much time and labor are expended in carrying illustrative material to and from the class-room. To minimize this work as far as possible a duplicate series of specimens for the class-room is being built up. Considerable progress has already been made in this direction, especially with such specimens as illustrate the more common building stones, rock types, rock-forming minerals, and specimens illustrating dynamical and structural geology. A case of thirty-six drawers has recently been placed in the storage room adjoining the recitation room, and the arrangement and storage of these collections is thus greatly facilitated.

The immediate wants for teaching geology are a globe, a few additions to the mineral collections, more stereopticon slides, and several wall maps and charts.

In view of the great importance of geology, it seems eminently desirable that the University should devote more attention to it. Few institutions of the size and standing of the University of Maine are without a full chair of geology. The numerous inquiries received here are sufficient indication of the usefulness of such a department, and of the general expectation that the State University is the one reliable source of information upon such points. The mineral resources of the State are destined to play a very important part in our future. Our granite output will be greatly increased. We have valuable deposits of feldspar and more are to be discovered. We need more lime, more gypsum, and there seems no reason why Maine would not produce at least as much cement as she uses, since she has within her limits all the materials required for the manufacture of this increasingly important product. These matters will come within the province of geology and would prove sufficient to engage the entire time of the geologist.

Respectfully submitted,

L. H. MERRILL,

Professor of Biological and Agricultural Chemistry.

REPORT OF THE DEPARTMENT OF BACTERIOLOGY AND VETERINARY SCIENCE.

To the President of the University:

During the early part of last year this Department moved into new quarters in Agricultural Hall. In this building we have a conveniently arranged laboratory devoted exclusively to work in bacteriology and animal histology, a small veterinary laboratory, a recitation room, and an office. We also have the use of the stock judging pavilion for clinics on large animals.

Two more advanced courses in Bacteriology and a course in veterinary materia medica have been introduced. Until this year, students majoring in Chemistry have found it difficult to elect work in bacteriology because of conflicts in time schedule. This year a change has been made so that in the future an elementary course in bacteriology will be required work for chemistry students.

According to previous arrangements, all students in Agriculture take courses in veterinary science, and all Pharmacy students and those majoring in Chemistry, and in the four year curriculum in Agriculture take some work in Bacteriology. The principal and most urgent needs of the department are at least six new microscopes, a large incubator, an inspissator for coagulating blood serum, a large autoclave, a refrigerator, a separate model of the horse. This apparatus will cost about \$2200.

Respectfully submitted,

F. L. RUSSELL,

Professor of Bacteriology and Veterinary Science.

REPORT OF THE DEPARTMENT OF FORESTRY

To the President of the University:

It gives me pleasure to present herewith a report on the status of the Forestry Department at the University of Maine.

THE PAST

Eight years ago, when the forestry course was first instituted at the University (thanks to the efforts of a few far-sighted and public-spirited men and women in the State), there were only three other institutions in the United States offering instruction in forestry. Today more than twenty educational institutions offer more or less complete courses in the subject. These figures are given simply to emphasize the fact that in order to keep up with the general growth of the movement, that is to hold a place well up in the front ranks and to maintain the position and prestige which are the natural result of priority in the field, it is necessary to move forward. In other words, the equipment and the funds that were at one time sufficient are no longer adequate for the demands now made upon them, which have been increasing regularly and steadily from year to year. This has been occasioned both by the increased number of students taking this course and also by the more advanced work necessary to prepare these students properly for their future work in their chosen profession.

The objects of this course at the University of Maine are two fold: first to promote forestry in the State, and second to prepare young men for the profession of forestry. The first is accomplished by means of lectures given at granges, at clubs, and at schools, and also by correspondence; the second by means of a well regulated curriculum which provides for a thorough general education as well as a training in the more technical branches of forestry proper. That the first object has been successfully attained is evidenced by the general interest shown by the increased correspondence and by the greater demands for this kind of work. That the second purpose has been accomplished is shown by the fact that during the past year two of the men from the department passed the Civil Service examinations for the position of Forest Assistant, and were appointed to positions in the United States Forest Service at salaries of \$1200 per annum.

This speaks well for the department, and for the training that its students received during the time that Professor Tower was in charge, for it is not usual for men to pass this examination unless they have had either a year or two at some post-graduate forest school, or else

have had some exceptional advantages in the way of practical field work. In this examination, 20% of the total credit is given to "training and experience," and under this heading the school courses and the practical field work that the candidate has had are taken into consideration. This means, of course, that unless the school at which he received his training is a first-class one in the eyes of the Forest Service, he does not get full credit for this part of his examination. This in itself, should be enough to make it clear to everyone that the standard of the school must be maintained.

Besides last year's graduates, there are now five other Maine Forest School men in Government service, and there are a number of others employed throughout the State by lumber and paper companies and in private forestry work.

THE PRESENT

The department is now provided with excellent quarters in Agricultural Hall. In addition to the office of the head of the department, there is a large, well-lighted class room, two drawing rooms, an instrument room, a storage room, and a room in the basement for timber testing which, however, has not yet been equipped with the necessary machinery, owing to lack of funds for the purpose.

All of the equipment in the way of instruments and implements has been furnished by the State and is of the best quality. It is being added to as rapidly as the very limited funds available will permit, and with the growth of the school, this must, of course, be continually increased.

The spirit of co-operation shown by the other departments of the University in which part of the curriculum is given, is admirable. This is particularly true in the biological and in the engineering departments where much of the fundamental work is given to the forestry students to prepare them for the more advanced forestry subjects.

The following students are now taking forestry courses:

| | |
|--|----|
| Students whose major subject is Forestry..... | 31 |
| Seniors | 6 |
| Juniors | 6 |
| Sophomores | 4 |
| Freshmen | 15 |
| Special students majoring in Forestry..... | 5 |
| Students taking special forestry courses | 4 |
| Total | 40 |

This represents just about 5% of the total enrollment at the University, and all these students pay the regular tuition fees to the University, though no instruction in forestry proper has been provided for at the expense of the University. This year, however, a field assistant was provided and paid by the University for assisting in the field work during the fall semester, but this arrangement was only a temporary one.

At present, the total fund available for the work of public instruction in forestry is the appropriation of \$2,500 per annum provided by the State Legislature. Not even the whole of this amount has been available for the work at the University, for a part of it must go for publications and for instruction in the public schools of the State.

There are other departments in the University with no greater number of students, that have funds of three or four times this amount to provide for equipment and instruction in their particular branches. Is it fair to the forestry students that they should have less opportunity for preparing themselves for the work of their chosen profession?

Besides this, there is a striking and lamentable deficiency in the section of the Library devoted to forestry literature.

THE FUTURE

Within the past decade, tremendous strides have been made in the progress of forestry in the United States; and this in turn has placed an increased responsibility on the technically trained men. This will necessitate a better preparation at the forestry schools throughout the country. The standard of the work at the University of Maine has been steadily and materially raised, and as many additional subjects have been added to the curriculum as the existing circumstances would permit, yet our progress is not commensurate with the development of the forestry movement nor with the higher standard of requirements that the work now demands.

More instructors are needed. We should at least have an assistant professor and a field assistant appointed permanently.

In the curriculum itself, more field-work is needed; that is, practical work in the woods under the supervision of competent instructors. To accomplish this, more money is needed for it is impossible for one man to give the whole forestry instruction at the University, attend to outside lectures, make examinations of wood-lots, answer all correspondence, and at the same time conduct a field party in the woods. We must have the practical work in the woods to make the department what it should be, and what all the good friends of forestry in this State would have it, if they could only be made to realize the exact conditions.

An earnest effort will be made to have the State appropriation increased. Can not the University also aid somewhat in increasing the efficiency of a department that represents one-twentieth part of its students?

Besides this, a permanent endowment fund should be started for the maintenance of the Forestry curriculum at the University. Nearly all of the forestry departments at the large universities in other states have large endowments. These are, as a rule, furnished by the lumber interests, corporations, or philanthropic individuals; and there is no good reason why this department should not have at least \$100,000 or more invested as a permanent fund, the interest from which could be used for the proper equipment and maintenance of a strictly first-class forest school such as would worthily represent the Pine Tree State.

There is no State in the Union that offers better natural facilities for the work of such a school; and besides this, the vast amount of land in this State that is, and for the most part always will be true forest land, makes it an economic necessity that steps be taken in time to provide a body of technically trained men who will be able to satisfactorily solve the many problems that arise as to the proper utilization and management of the Maine woods.

The forests of Maine have been the source of many millions of the public and private wealth of the State, and, under proper management, will continue to be for the generations yet to come. Does it not seem fitting that some recognition should be taken of the fact, and some provision made for the future welfare of the forests? And what better means could possibly be found for perpetuating a worthy name than by contributing towards the establishing of a permanent endowment for the conservation of these our greatest, but all too easily destroyed natural resources, "the woods and lakes of Maine."

Respectfully submitted,

JOHN M. BRISCOE,

Professor of Forestry.

REPORT OF THE DEPARTMENT OF DOMESTIC SCIENCE

To the President of the University:

I beg to submit the following report of the Domestic Science Department of the University.

As this department was assigned to the College of Agriculture after the new building was constructed, no special provision was made for its accommodation; therefore, it had to be placed where best it could. The laboratory occupies the room formerly devoted to the agricultural museum which is on the second floor of the Hall. This room does well; but the work is seriously handicapped by its being impossible to have a coal range, as there is no chimney connection; consequently the students of the department have no experimental knowledge in caring for a coal fire. The cooking can be done by using the gas and electrical appliances, but no Domestic Science department is satisfactorily equipped without making it possible for students to have experience in managing a range.

The store-room is an enclosed portion of this same room, without a window; therefore it has no means of proper ventilation, and is far from being a desirable, let alone an ideal place to store provisions.

A third division was made in this same room to accommodate a dining table and the furniture actually necessary to equip a dining room. Screens are used to separate this alcove from the main part. It should be a room with proper decorations and furniture so that the students might gain a right conception of a well-furnished dining room.

The laundry accommodations are the poorest of all. These are in the basement. Parts of three rooms are utilized for this work and it is simply impossible to require a high standard of work with such poor housing.

For a sewing and handwork room we have been privileged to use the faculty room of the building. It is light and airy, and well fitted for the needs and comforts of the students; but it is on the first floor far removed from the other rooms, and its use for this purpose deprives the College of its meeting room. Next year a room should be fully equipped with sewing machines and models.

From the foregoing it may be seen that temporarily the department may do its work, but not in the best form. Ideals are essential to the work of home economics and the highest can be gained only by being ideally situated. Therefore, it is to be urged that at the earliest possible moment the Domestic Science Department be provided with a suite of rooms suitably located and of proper dimensions to meet the requirements of the present day standards of a model home.

There is one other pressing need of the department, and this need should be so felt that it may be met this coming college year—it is that of an assistant. Right now it should be made possible to offer students majoring in this work opportunity of electing courses in simple design and art, millinery, and advanced dressmaking. This cannot be done without assistance.

Another reason for enlarging the teaching force is the great and growing demand of the work in the State called for through the Extension Division. The many calls from the State when accepted necessitate a temporary neglect of the duties to the students in the University, yet much good could be accomplished if proper time could be given to the correspondence courses and to the establishment of Domestic Science clubs among the farmers' wives and daughters. This work could be directed from the University with occasional visits to discuss matters of vital importance to every day living. The other departments of the College of Agriculture are doing all possible to raise the standard of work, suggesting and demonstrating improved methods, indicating means of lessening labor, and it is essential that the work in the home be given an equal opportunity. This can only be done by creating an interest in the process, and the best way to accomplish this end is by personal contact. Hence, it is of vital importance that the Department of Domestic Science be provided with an assistant so as to make possible this advance of work that the people of Maine may keep pace with those of other states in Household Economics as well as in agricultural matters.

Respectfully submitted,

LAURA COMSTOCK,

Assistant Professor of Domestic Science.

REPORT OF THE DIVISION OF AGRICULTURAL EXTENSION

To the President of the University:

The report of this division is largely based on the work of the past year. The change in Supervisors taking place September 13th, 1909, makes this necessary.

On account of the lack of one professor in the department of Agronomy, the Supervisor of the Extension Work devoted one-half time for the first semester of the year 1909-10 to teaching. This interfered somewhat with the work of the whole year. However, from July 1st, 1908, to July 1st, 1910, there were given under the direction of this department 320 lectures with a total attendance of 25,821, and an average attendance of 80. Beginning June 9, an agricultural train—the "Modern Farming Special"—was run on the Maine Central railroad, covering a distance of some 1,200 miles, and reaching 55 towns where members of the agricultural family delivered addresses before more than 13,000 people, besides demonstrating and illustrating practical operations of farm work. While this train was not run under the direction of the department, the work done was strictly extension work.

During the summer of 1910 a part of the time of those doing extension work was devoted to work in the Summer Term of the University.

In the correspondence courses there were 170 enrollments for courses made by 131 different persons, some having enrolled for more than one course. Books and other publications have been sent to these persons. A course in cookery was added this year to the list, making nine courses in all.

The demand for the "Timely Helps for Farmers" was such that the number printed was increased from 2,000 to from 2,500 to 3,000 at various times. The mailing list is growing to such an extent that further increase will soon be a necessity. Several hundred names were received for this list during the trip on the "Farming Special."

The department has in every way possible co-operated with and encouraged all worthy efforts to advance the interests of agriculture. Much of this work was done in conjunction with the State Department of Agriculture and the Granges of the State. A number of high schools and secondary schools were visited and the beginning of elementary agricultural training was encouraged where it seemed advisable.

Special short courses at the University were given at various times throughout the school year. The Supervisor of Extension work gave instruction in each of these short courses: Poultry Keeping, Fruit Growing, Dairying, General Agriculture, and Farmers' Week were

specially presented for the benefit of those who could not be in attendance for long time. Farmers' Week enrollment reached nearly 500. During Farmers' Week, 1910, an exhibit of corn was made and prizes awarded for the best ten ears grown by two classes of growers,—one of men and women, and one of boys and girls.

During the spring of 1910 more than two hundred lots of field corn of two ears each were sent out, the growers of which were expected to fill out a blank describing the method of cultivation of the corn, and to send in ten ears of corn for competition during Farmers' Week, 1910, and also to allow it to be sent to the New England Corn Exposition held at Worcester, Mass., from November 7th to 12th, 1910. The division has lent its support to this enterprise for the encouragement of corn growing in this section. The Supervisor of Extension Work served on the Executive Board of this Exposition Association.

During the year the following subjects were discussed in the "Timely Helps for Farmers," Vol. 3:

Rotation of Crops

Scoring Corn

Potato Improvement

Orchard Pruning

Maine Field Corn Growing

Swine—the Selection and Care of Breeding Stock

Egg Production

Attached to this report and supplemental to it is a statement of the needs of the division set forth by Dr. Leon S. Merrill, the present Director of Agricultural Extension Work.

Respectfully submitted,

GEORGE E. SIMMONS,

Supervisor of Agricultural Extension Work, 1909-10.

SUPPLEMENTAL REPORT OF THE NEWLY APPOINTED
DIRECTOR OF AGRICULTURAL EXTENSION WORK

To the President of the University:

In presenting this report, supplemental to that already prepared by Professor George E. Simmons, Supervisor of Agricultural Extension Work for 1909-10, and dealing entirely with the needs of the division and suggestions for future work, I do so with a feeling that perhaps my connection with the University has been too recently made and my insight into the work is yet too limited for me to recommend many changes or additions to the policy hitherto governing the department. Since coming to the University, I have endeavored, however, to get as clear an understanding of the needs of the department as possible.

My understanding of the purpose of the Agricultural Extension Division is a deliberate attempt on the part of the University to reach educationally the agricultural people of the State and to exercise its influence toward the betterment of rural communities.

Although briefly and crudely expressed, if this be anything like a true conception of its function, then an extension division should be well equipped with,—

1st—Instructors;

2nd—Working material such as printed matter, charts, demonstration outfits, etc.;

3rd—Funds with which to meet regular and extraordinary expenses such as may be incurred in the organization of co-operative associations among farmers when such associations have educational features as the basis of their effort; schools or short courses in Agriculture held in different sections of the State, and demonstrations carried on in co-operation with farmers.

I do not think there is danger of over-estimating the importance of demonstration work for it will undoubtedly be carried sometime to the extent of the establishment of demonstration farms.

In view of these conclusions I am recommending:

1st—That the several lines of extension work already undertaken by the department be continued;

2nd—That movable schools or short courses in Agriculture, at least a limited number, be held during the coming year, providing it is found that a desire for such schools upon the part of the farmers exists or can be aroused;

3rd—That the department be equipped with such charts and demonstration outfits as will meet the present requirements;

- 4th—That co-operative demonstration work upon a limited number of farms in the State be undertaken under proper supervision;
- 5th—That the organization of boys' and girls' clubs, farmers' associations of all kinds, which have for their ultimate purpose the dissemination of information and the advancement of agriculture, be encouraged and that such organizations be given such encouragement as will center their inquiries for advice and assistance toward the University and at the same time afford the University an opportunity to properly exercise its function toward the people at large;
- 6th—That sufficient funds be secured or made available for putting into operation the plans and lines of work above outlined.

It may not be amiss to call attention to the fact that more than 30 Agricultural Colleges have now well established Extension Divisions and that during the past year more than \$400,000 has been expended in this particular line of effort. In most, if not all of the states where Extension divisions have been established, they are supported by special appropriations made to the legislatures of those states. This plan has been found necessary in order to prevent Extension work from being seriously crippled at critical periods on account of lack of funds. On the other hand there will be constantly arising new and unlooked for fields for work and if the division has the true extension spirit these fields will be entered and the proper assistance rendered. This would also call for unlooked for expenditures of money. If a special appropriation is to be sought from the State, then that appropriation should not be less than \$5,000, to be used exclusively for Agricultural Extension work in addition to the salary of the Director.

Respectfully submitted,

LEON S. MERRILL,

Director of Agricultural Extension Work.