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REPORT OF THE SURVEY COMMISSION IX

DEGREES CONFERRED BY THE UNIVERSITY OF MINNESOTA, 1873 TO 1926

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LETTER OF TRANSMITTAL

President L. D. Coffman,
University of Minnesota.

DEAR SIR: I am transmitting herewith a report on the degrees which have been conferred by the University of Minnesota from 1873 to 1926, inclusive, together with an analysis of the tendencies shown by the distribution of the degrees of the last twelve years.

I am recommending that this be published as Number IX of the Survey Series.

Respectfully submitted,

R. M. WEST, *Registrar*

DEGREES CONFERRED BY THE UNIVERSITY OF MINNESOTA, 1873 TO 1926

I. INTRODUCTION

Since the organization of the University of Minnesota more than 25,000[1] degrees have been conferred upon its graduates. Over half of this number have been conferred in the last twelve years. In the last year (from July 1, 1925 to June 30, 1926) the University granted 1790 degrees to graduates from the colleges, the professional schools, and the Graduate School.

The increase from 2 bachelors of arts in 1873 to 1790 degrees of 44 different designations conferred on candidates from 12 different administrative units in 1926 reflects the development in size and complexity of the institution and the multiplication of courses of study which have taken place during a little more than a half century of institutional existence.

In the course of this period some 115 different degrees have been offered to students in the University for the completion of various curricula. Ninety-nine of these have been conferred for one or more years.

It seems appropriate, at this time, to assemble such facts regarding these degrees as can be gathered from the records, the conditions under which they were conferred and the variations in requirements which they represent from year to year. For the more recent years, in particular, an analysis of the degrees in terms of the major fields they represent should have significance. Such an analysis is the purpose of this survey.

II. HISTORICAL

The University of Minnesota was established by act of the Territorial Legislature of 1851. Section 10 of this act provided that:

> The immediate government of the several departments (of the University) shall be intrusted to their respective faculties but the regents shall have power ..... to confer such degrees and grant such diplomas as are usually conferred and granted by other universities.

The *Revised Laws, 1860,* section 10, provided that:

> .....The method and course of instruction in each department (of the University) shall be prescribed by the Board of Regents, who shall also confer such degrees, and grant such diplomas as are usually conferred by universities, or such others as they may deem proper.

A further slight modification of wording with reference to the degree conferring power of the Board of Regents appears in the *Revised Laws, 1868,* chapter 1, section 6, which reads:

> The Board of Regents ..... shall have power to regulate courses of instruction and prescribe the books and authorities to be used, and also confer such degrees and grant such diplomas as are usual in universities in their discretion.....

[1] The number of alumni is, of course, considerably less than 25,000, since many have received more than one degree.

Finally, the *Revised Laws, 1905*, provide that:

> The Board (of Regents) shall ..... in their discretion confer such degrees and diplomas as are usual in universities.....

That the board did exercise their "discretion" and were not always governed by what was "usual in universities" is apparent on reading from Table III the titles of the various degrees which at times were offered or conferred. The significant feature, however, of the excerpts that have been quoted lies in the fact that the conferring of degrees at the University of Minnesota has never been vested in the faculties of the several schools or colleges but in the University as a whole through its Board of Regents.

The degrees which have been conferred since 1873 have varied in type and designation and, naturally, with the development of the University the same degree at times has come to represent different degrees of accomplishment. It is no part of the purpose of this survey to attempt an outline of the many changes in curricular requirements, but a few of the major quantitative differences in the meaning of the various degrees require some comment and will be referred to in the following discussion.

The older and more generally recognized degrees, bachelor of arts, bachelor of science, bachelor of literature, master of arts, master of science, and doctor of philosophy, have always at the University of Minnesota had essentially the same significance. Their meaning, and the educational standards they represent had been well established by older colleges and universities. With the exception of the bachelor of literature which was last conferred at Minnesota in 1901, all of these are still offered and represent virtually what they represented a half century earlier—related, of course, to the increase in human knowledge and the changes in higher education processes and ideals which have taken place during that period.

Such uniformity, however, has not prevailed in the case of many of the degrees conferred on the completion of professional courses.

Engineering and Architecture.—In engineering and architecture, the degrees of bachelor of science and bachelor of science with designation of the engineering specialty have always represented a four-year college course, but the professional degrees of civil engineer, electrical engineer, mechanical engineer, and architect originally were offered for the completion of a fifth year of work following the Bachelor's degree. From 1900 to 1911, these degrees were conferred as first degrees on the completion of either four- or five-year curricula. In 1912 they were again elevated to the position of graduate degrees on the same status as had existed prior to 1900. In 1921 candidates for these degrees became registrants in the Graduate School, and since 1924 the degree has been conferred only on candidates who hold a Bachelor's degree, who have had a minimum of three years of practical experience in positions of responsibility, and at least one additional year of resident study in the Graduate School.

Agriculture, Forestry, and Home Economics.—The first degree in agriculture was conferred in 1882 as bachelor of agriculture. For the years 1904 and 1905 the degree bachelor of science was conferred on graduates from essentially the same curriculum. This degree was modified in 1906 by adding the respective designations "in agriculture," "in forestry," and "in home economics."

In 1915 the college returned to the bachelor of science degree without designation and continued to use only this degree until recently (1925-26) when, in addition, the degree bachelor of science in agricultural engineering was offered for the completion of a joint course in the College of Agriculture, Forestry, and Home Economics and the College of Engineering and Architecture. No candidates for this last degree have as yet been presented.

Law.—The first law degree, bachelor of laws, conferred in 1889 represented a two-year professional course following high school graduation.[2] One year later the degree of master of laws was conferred for a year of work following that for the Bachelor's degree. In 1897 the bachelor of laws and master of laws degrees were conferred for three and four years of work, respectively. These degrees each represented an additional year in 1910 and 1911. The present requirement of two years of pre-legal academic preparation was made effective with the class of 1912 and the bachelor of laws degree since that time has represented five years of university work. The degree of master of laws has not been conferred since 1911.[3] In the 37 years, therefore, during which the University of Minnesota has conferred the degree of bachelor of laws, that degree has represented successively two, three, four, and five years of study after completion of the high school.

Medicine.—The first faculty of the Department of Medicine was organized solely as an examining body in 1883. Both the degrees of bachelor of medicine and doctor of medicine were offered by means of examinations but only the former was conferred on this basis from 1884 to 1887.

In 1889 a regular three-year course of study in medicine, leading to the degree of doctor of medicine, was established. This was extended to four years for the class of 1893; a year of pre-medical work was added for the class of 1903; the pre-medical period was extended to two years for the class of 1908; and in 1916 a year of interneship was added, making the total period of preparation for the doctor of medicine degree, seven years. In 1918 the degree of bachelor of medicine was re-established to be conferred at the end of the sixth year (fourth year in the Medical School).

Dentistry.—The College of Dentistry was first organized as a unit of the Department of Medicine. The degree of doctor of dental surgery was conferred on completion of a three-year course from 1889 to 1892 and later from 1903 to 1918. During the interim, 1893 to 1902, the degree was designated as doctor of dental medicine, and for the first few years of that period the degree of doctor of dental medicine *cum laude* was offered under the unique requirement of an additional year's work in residence. This degree was never conferred.

In 1919 the doctor of dental surgery degree was changed to represent four years of work and for the class of 1921 and those following the degree stands for a year of pre-dental academic work and four years of professional work in the College of Dentistry.

Mines.—The first courses in mining were organized in what was then known as the College of Engineering and Mechanic Arts and the degrees of bachelor of mining engineering and mining engineer were conferred for four and five years of work, respectively, on graduates from that college from 1894 to 1897. In 1898

[2] In fact, the records show that a high school course was only nominally and not actually a prerequisite.

[3] The degree of master of laws is now (1926-27) offered in the Graduate School.

the candidates appear as graduates from the School of Mines and thereafter those degrees are replaced by the degrees of engineer of mines and metallurgical engineer. During the period from 1899 to 1910 each of these represented a four-year curriculum. From 1911 to 1919 these same degrees were conferred for the completion of either a four- or five-year curriculum, and in 1917 a new degree, engineer of mines in geology, was conferred on the same dual basis. With the class of 1920 the five-year course was discontinued, and since that time the three degrees have each represented four years of university work.

Pharmacy.—The College of Pharmacy, like that of Dentistry, was originally established as a part of the Department of Medicine. The first degree was conferred in 1894 for the completion of a two-year course and was designated as doctor of pharmacy. The degree was conferred on this basis up to and including 1900. In 1900 three degrees were offered: pharmaceutical chemist, on graduation from the two-year course; master of pharmacy for the completion of one additional year; and doctor of pharmacy for the completion of two additional years. The first of these was discontinued after 1907, to be reintroduced for the three-year course in 1918 and continued until the present. The master of pharmacy was last conferred in 1914, and the doctor of pharmacy as an advanced degree was never conferred.

Two other degrees were used at various times for graduates of the two-year course in pharmacy: bachelor of pharmacy from 1908 to 1916, inclusive; and graduate in pharmacy from 1915 to 1920. The first bachelor of science in pharmacy was conferred in 1915. This degree represents one year of academic work in addition[4] to the three-year professional course in pharmacy. One year later the degree of master of science in pharmacy was given, and in 1917, the one degree of doctor of science in pharmacy.

Chemistry.—The first year, 1904, for which the records show graduates from the School of Chemistry as a separate unit, the degree of bachelor of science without designation was conferred following the custom of the preceding years when Chemistry was a department of the College of Science, Literature, and the Arts. Graduates from the two following classes received the degree of analytical chemist which apparently found little favor and was abandoned in 1907 for the better established degrees of bachelor of science in chemistry and bachelor of science in chemical engineering. From 1912 to 1920 the bachelor of science without designation was reintroduced to be conferred upon the completion of the first four years of a five-year course in chemical engineering. The degree of chemical engineer was awarded in 1897 to four graduates of the College of Engineering and Mechanic Arts who had completed a year of work following the Bachelor's degree. From 1912 to 1920 this degree represented five years of work in the School of Chemistry and in 1921 it was taken over by the Graduate School in company with and under the same conditions as the other professional engineering degrees referred to on page four.

Education.—Prior to the establishing of a separate College of Education, students of the University of Minnesota who were preparing to enter the teaching

[4] In theory the year of academic work is expected to precede the professional course in pharmacy, in practice, the recipient of the degree of phamaceutical chemist frequently returns for a fourth year in the College of Science, Literature, and the Arts, on the completion of which he becomes a candidate for the degree of bachelor of science in pharmacy.

profession, found this preparation in the College of Science, Literature, and the Arts, and on graduation received the degree, bachelor of arts, bachelor of science, or bachelor of philosophy. In 1907, for the first time, a small number of graduates received the degree of bachelor of arts in education. The following year the first group was officially recorded as graduating from the College of Education and this same degree was conferred up to and including the class of 1920. In 1921 of the 119 graduates from the College of Education, 2 received the degree of bachelor of arts in education, 9 received the degree of bachelor of science in education, and the degree of bachelor of science without designation was conferred on the balance of the class. The last named degree has been used since that time.

By mutual agreement between the two colleges students in agricultural education and home economics education are considered to be registrants in, and graduates from, both the College of Education and the College of Agriculture, Forestry, and Home Economics. The joint recommendation from these two colleges is required for the conferring of a degree.[5]

Graduate.—Concerning the various graduate degrees, little comment is necessary. The degree doctor of science was conferred for a brief period, first in 1909 and last in 1917. The apparent changes in requirements for the professional engineering degrees since responsibility for them was assumed by the Graduate School is due not to a change in Graduate School policy but to the necessity of allowing a period for adjustment following the transfer of responsibility to that school.[6]

For more detailed information regarding the degrees conferred by the University of Minnesota, reference may be made to Tables I, II, and III in the Appendix. Table I shows by years the numbers of each degree conferred. Table II summarizes the degrees by colleges and shows the total number of degrees conferred on the graduates of each college up to and including the class of 1926. Finally, Table III lists alphabetically the various degrees offered and conferred since 1873 and gives in each instance the college from which the recipients of the degree graduated, the number of years of university work represented, the years in which the degree was first and last conferred, and the total number of each degree.

III. CLASSIFICATION OF DEGREES

The increase in number of degrees conferred annually from 1873 to 1926 is far from constant. There were years in which practically no increase occurred, years in which the number of degrees in comparison with the preceding year showed decreases, and years in which the increases were far larger than can readily be explained after this lapse of time. It seems doubtful whether the variation from one year to the next can be accorded any special significance. Interruptions of college courses are so numerous and deferred graduations so com-

[5] In Table II which summarizes the numbers of degrees conferred by colleges, these students have been included both in the total for the College of Agriculture, Forestry, and Home Economics, and the total for the College of Education. In the total for all colleges, however, the duplicates have been deducted.

[6] At the close of the period covered by this survey of the degrees commonly recognized as graduate, only the master of science in pharmacy and the doctor of science in pharmacy are still offered outside the jurisdiction of the Graduate School, and represent requirements differing from the other Master's and Doctor's degrees. Beginning with 1927-28, however, graduate work in pharmacy will be transferred to the Graduate School.

mon, it is reasonable to assume that in addition to the effect of growing enrolment a very large increase may have included an unusually large proportion of deferred graduations and that a small increase or a decrease may have been partially due to an abnormally large number of cases of interrupted courses of study. The influence of these factors, however, is largely eliminated if the variation from year to year is disregarded and the average annual numbers of degrees for successive five periods are used for comparison.

Such a comparison may well be considered as representing the growth of the University. The curve in Chart I constructed on this basis shows constantly accelerated increases following the formative period of the first decade and a half and parallels in a general way the total enrolment curve.

A part of the increase in the later years represented by this curve is due to the development of combined professional and pre-professional courses leading to more than one degree. This, however, does not necessarily detract from the significance of the curve, either as an expression of past development or as a basis for predicting growth in the near future. It is true, in general, that the additional instruction required for the second degree in a combined course is not quantitatively equivalent to that required for the first degree. Furthermore, the degrees which represent a curriculum leading to two successive degrees when compared in number with those representing a single degree course of study may present a distorted picture. With these two facts in mind, however, there should be no serious misinterpretation of the comparative data given in the tables.

The degrees conferred by the University represent at least two distinct types of curricula. Those in law, medicine, nursing, dentistry, dental nursing, mines, and pharmacy represent preparation for these respective professions and require no further analysis. The bachelor of arts degree, on the other hand, and the Graduate School degrees may represent work in practically any field of collegiate or professional study, and the increase in their number from year to year has little significance without some analysis to show the fields they represent.

With somewhat narrower limitations, too, there is a third type such as the degrees in the various specialties of engineering, of education, and of agriculture. The graduate of the College of Education is preparing primarily for the teaching profession, but his subject-matter preparation may be in the field of mathematics, social science, biological science, or language. The student in agriculture may be fitting himself for the profession of agriculture, or on the other hand, he may be preparing to become a specialist in marketing, a biochemist, or an agricultural engineer. His primary field may be in biological science, social science, or mathematical and physical science.

This analysis and discussion would be simplified if it were possible to consider separately the degrees representing graduation from professional curricula and from such colleges as, Science, Literature, and the Arts and the Graduate School. Changing organization and policies within the University, however, make such a consideration of the problem impracticable. Altho students were graduated from the College of Education in 1908, many continued to prepare for teaching in the Arts College until 1921. The School of Business is first credited with graduates in 1920 but prior to that time and since many students have received bachelor of arts degrees with majors in economics. The professional degrees in

engineering have only recently been transferred to the Graduate School, and other minor changes have taken place. Furthermore, if, on the one hand, some analysis is necessary to show tendencies in the various fields represented by degrees in the College of Arts and the Graduate School, there is, on the other hand, an equal need of some classification of such highly specialized degrees as pharmacy, nursing, and dental nursing, which by themselves appear in too small numbers to afford conclusions of value.

It must not be assumed that any form of classification or analysis of degrees conferred will show facts as to the ultimate field of work of the institution's graduates. At best, these data will but reflect the interests, the desires, and the intentions of the graduates at the time of the selection of their major field of work. It does seem possible, however, that some classification of all the institution's degrees, arbitrary tho it must be, may make apparent certain tendencies in education and afford facts of significance for guidance in the development of the University's curricula.

For such a purpose it is clear that the early years of the University's existence can have little bearing and only the degrees conferred in the last twelve years have been considered in this analysis. During this period the annual number has more than doubled, increasing from 754 in 1915 to 1790 in 1926. This number is large enough to have fair statistical value.

Table IV shows the distribution of the degrees conferred from 1915 to 1926, by number and per cent, among the Arts College, the Graduate School, and the professional schools. During that period it is interesting to note that the percentage of Arts College degrees has decreased from approximately 35 to 19; the proportion of Graduate School degrees has remained fairly constant as approximately 10 per cent of the total; while the graduates from the professional schools have increased in proportion from approximately 55 per cent to 72 per cent.

It is a fairly simple task to classify the various major fields represented by the Arts College and Graduate School degrees as belonging to:

a. Biological science
b. Physical science and mathematics
c. Social science
d. Language and literature, or
e. Fine arts (music).

Tables V and VI show the results of such a classification of the degrees conferred in the last twelve years for these two units of the University. In order to establish a common basis for an analysis of all the degrees conferred by the University, those representing graduation from the professional schools have been arbitrarily distributed according to the same classification, as follows:

a. Biological sciences—
Agriculture, forestry, and home economics[7]
Medicine
Nursing
Dentistry
Dental Nursing
Pharmacy

b. Physical science and mathematics—
Engineering and architecture
Mines
Chemistry

c. Social sciences—
Law
Business
Agricultural economics
Education
Agricultural and home economics education

[7] Agricultural education, agricultural economics, and home economics education have been included under social sciences altho administratively a part of the Department of Agriculture.

Table VII gives the number and percentages of the degrees from the professional schools which fall in each class.

A summary of Tables V, VI, and VII, giving the totals for all degrees is presented in Table VIII and constitutes the basis for some further analysis of each group in the classification. A discussion of this analysis follows:

IV. DEGREES IN BIOLOGICAL SCIENCE

The degrees conferred on candidates with majors in biological science represent approximately 40 per cent of all degrees conferred. Comparatively little variation is noticeable from year to year since 1915, altho the proportion reached 52 per cent in 1918 and as low as 36 per cent in 1924. The average for the last five years is approximately 37 per cent. The average for the first five of the twelve years under consideration is approximately 45 per cent. This indicates only a slight relative loss of interest in these fields. Allowance, however, must be made for the addition of the degree of bachelor of medicine from 1918 and for the fact that all students in medicine also receive the bachelor of science or bachelor of arts degree.

A more detailed analysis of the degrees represented by this group is shown in Table IX and Chart III. Of the four fields of applied biological science: medicine, dentistry, pharmacy, and agriculture, forestry, and home economics, the largest proportional increase is found in the first; the largest proportional decrease in the last two. The addition of the bachelor of medicine degree in 1918 is responsible in large measure for this increase in number of degrees in medicine. A further factor has been the development of the graduate work in medicine at the Mayo Foundation. On the other hand it must be remembered that enrolment in the Medical School has been limited during the last few years and that only a part of the applicants for admission each year have been accepted. Referring to the actual numbers of degrees in each group as shown by Table IX, approximately six times as many degrees were conferred in medicine in 1926 as in 1915; the numbers in dentistry and the fundamental science departments were practically doubled; while in pharmacy and in agriculture, forestry, and home economics the number in 1926 is about the same as it was in 1915. The annual total number of degrees in the biological sciences as shown in the last column of Table IX has doubled in 1926 as compared with 1915.

Medicine.—The degrees grouped under this heading include, in addition to those conferred on candidates from the medical and nursing curricula, graduate degrees for which majors were presented in clinical medicine, as for example, medicine, surgery, obstetrics and gynecology, ophthalmology and oto-laryngology, etc. Graduate degrees representing majors in anatomy, bacteriology, and physiology were classed as fundamental science degrees.

Dentistry.—The degrees included in this group represent those conferred on graduates in dentistry and on graduate dental nurses. There are comparatively few of the latter. Graduate work in dentistry is just beginning in a tentative way and no graduate degrees are included. Altho during the course of the twelve years under discussion the proportion of these degrees as compared with other degrees in biological science has decreased from approximately 23 per cent to 16 per cent, the actual annual number conferred has increased from 70 to 100. This increase is

despite the fact that the curriculum has been materially lengthened during the same period.

Pharmacy.—In this group only graduates from the College of Pharmacy have been included. The number receiving this degree each year has remained approximately the same throughout the twelve-year period with occasional losses as in 1919 when the number dropped to 11; in 1921 when only 13 were graduated; and again in 1924 when there were only 16. The lowest percentage appears in 1921 when it reached 2.7 per cent of all degrees conferred in biological sciences. The largest percentage was 9.8 per cent in 1915. In general, however, the proportion of degrees in pharmacy may be considered to have been halved in the course of the twelve-year period, decreasing from approximately 10 to approximately 5 per cent of the total.

Agriculture, Forestry, and Home Economics.—The degrees included in this group do not correspond with the totals graduating from the college. Candidates for the degree of bachelor of science with majors in agricultural education and home economics education, since they are also counted as candidates from the College of Education have been classed as receiving degrees in applied social science. Furthermore, it has seemed proper to consider candidates with majors in agricultural economics and farm management as belonging to the social science rather than the biological science group. On the other hand there have been added graduate degrees with majors in agriculture, forestry, and home economics. It must be granted that the distribution of the graduate degrees is not wholly logical. A major in agricultural biochemistry may represent the fundamental science of chemistry as well as a major in organic chemistry, and a major in plant pathology may be as much a degree in fundamental science as botany or bacteriology. Nevertheless the practical difficulty of segregating the various degrees in agricultural sciences has led to an arbitrary assignment of all of them to the agriculture, forestry, and home economics group.

The maximum annual number of degrees for this group was conferred in 1917. This number, 141, was nearly halved two years later when only 75 degrees were conferred. Since 1920, however, the number has remained nearly constant and in 1926, Table IX shows 107 degrees, the same number as that conferred in 1915.

The fundamental science departments, include Animal Biology, Anatomy, Bacteriology, Botany, Physiology, and Psychology. In this group of degrees, also, are included the degrees of bachelor of science conferred at the close of the first two years in medicine. These represent work in all of the biological science departments except Botany and Psychology but cannot be considered as representing a major in any one of them.

Altho the annual number of these degrees has practically doubled since 1915, the percentage with reference to all degrees in biological sciences has remained fairly constant throughout the twelve-year period.

Table X shows a further analysis of the degrees in this group. In this table the bachelor of science degrees representing the first two years in medicine have been grouped with anatomy, bacteriology, and other medical sciences. Botany, animal biology, and psychology are given separately.

With these degrees as in the case of those representing all biological sciences, the principal increase appears in the medical group. The number conferred in 1926 is nearly treble that shown for 1915. In the individual sciences, animal biology, botany, and psychology, the number of degrees conferred each year is too small to show any significant trend. There appears to have been a decline in both animal biology and botany from 1915 to 1921, with a subsequent increase in interest in these fields, especially in botany. In the case of psychology the last half of the twelve-year period shows a higher average number of degrees than the first half.

It is interesting to observe that for the great majority of students who pursue work in the fields represented by these fundamental biological sciences, these departments are primarily service departments preliminary to some applied field or profession. Comparatively few students are interested in becoming specialists in the fundamental fields. This, without doubt, is due largely to the relative rewards offered in the fields of pure and applied sciences, but it represents a serious situation from the standpoint of the preparation of properly qualified teachers and research workers.

V. DEGREES IN PHYSICAL SCIENCES AND MATHEMATICS

This group of degrees since 1915 has maintained approximately the same proportion of the total number of degrees conferred and represents about 15 per cent of the whole number each year. The smallest number, 80, were conferred in 1918; the largest number, 263, in 1923. In addition to majors in such fundamental departments as Mathematics, Astronomy, and Physics, the group includes degrees conferred on graduates of the College of Engineering and Architecture, the School of Mines, and the School of Chemistry. Table XI and Chart IV show the distribution of the group over the twelve-year period, 1915 to 1926.

Engineering and Architecture.—These degrees represent from a half to two thirds of all the degrees in the general group. They include the professional degrees in engineering, except the degree of chemical engineer which is included under Chemistry, and other graduate degrees as well as the first degrees in the several branches of engineering and architecture. The annual number of these degrees has increased from 85 in 1915 to 179 in 1925 and 171 in 1926. The low point, 36, was reached during the war period in 1918. From that time, however, a fairly constant annual increase is apparent.

Table XII shows the distribution of these degrees according to the several specialties in engineering. The large proportion of degrees in engineering without designation of specialty which were conferred from 1915 to 1920, inclusive, upon graduates of the general course in engineering make it difficult to draw any significant conclusions from the table. The data are presented, however, for such information as they may add as to the relative interest in the several engineering specialties. Since the discontinuance of the general course in 1921, the total number of degrees in engineering and architecture have practically doubled. There has been no significant change in proportion between the various branches of engineering. Such change as appears has been toward electrical engineering at the expense, chiefly, of mechanical engineering. This has been particularly true during the last few years.

Chemistry.—This group of degrees includes those representing majors in the various fields of chemistry, both theoretical and applied, and chemical engineering. Objection may be raised to the failure to include organic chemistry with the biological sciences. Agricultural biochemistry was so classed, but as an applied science under agriculture, forestry, and home economics because of the difficulty of making a definite separation of those degrees representing theoretical chemistry from those representing some applied phase of biochemistry. For similar reasons all majors in chemistry, both organic and inorganic, physical and technological, have been grouped together with chemical engineering as belonging to the physical sciences. This is in accord with the administrative relationship existing at the University of Minnesota rather than with a logical classification based on the subject-matter of these fields.

During the last three years of the twelve-year period approximately 12.5 per cent of the total degrees representing physical science and mathematics have been conferred each year for majors in chemistry. This does not differ materially from the situation in 1915. During the war period this proportion rose to nearly 24 per cent and in 1921 to about 25 per cent. Since the latter date it has steadily decreased.

Mines and Geology.—Degrees representing majors in geology and mineralogy have been included with those conferred on candidates from the School of Mines. This has been done chiefly because the interests of the graduate in the applied phases of geology and the engineer of mines in geology are similar. Altho the proportion of these degrees rose to a maximum of 20 per cent in 1918 and again to 21.3 per cent in 1923, for most of the twelve years from 1915 to 1926 it has ranged from 11 to 13 per cent. A separation of these two fields which can be made by comparing with the figures for the School of Mines in Table II would show an increasing interest in geology during the later half of the period.

Fundamental science departments in this group include mathematics, physics, and astronomy. Together they constitute from 4.2 to 15.5 per cent of the annual total of all degrees classed as representing physical sciences and mathematics. In general the last half of the twelve-year period has shown a markedly smaller proportion of majors in these fields than during the first half. The average since 1920 is 5.3 per cent as compared with the earlier years which show an average of 16.0 per cent. The actual number of degrees each year in these fields shows no marked tendency, remaining with occasional exceptions as in 1917 and 1920 about the same throughout the period under consideration.

Table XIII shows the distribution of the degrees representing majors in the fundamental departments of this group. The number involved, however, is too small to be of any special significance. Since 1920 there appears to be an increasing interest in physics at the expense of majors in mathematics.

VI. DEGREES IN THE SOCIAL SCIENCES

In Table VIII, under the heading Social Sciences, there have been included degrees in law, education, and business, as well as in the fields more commonly understood as belonging to this group.

Reference to that table will show that here appears the largest and most constant increase throughout the twelve years under consideration until in 1926. Nearly half the graduates of the institution are classed as belonging to this group.

Table XIV presents a further analysis of the degrees in the social sciences and permits a consideration of the fundamental departments, except economics, independent of the related professional schools of Law, Education, and Business.

Education.—The number of degrees in education has increased from 48 in 1915 to 461 in 1926—nearly tenfold. The large difference between those preparing to teach during the last half of the twelve-year period, as compared with those of the first half, is more apparent than real. Prior to 1921 a considerable proportion of the graduates of the College of Science, Literature, and the Arts were granted the university teacher's certificate altho their majors were clearly in the field of some subject-matter other than education. Nevertheless there has been a distinct increase in the number and proportion of those receiving the teacher's certificate. Since 1921 the proportion of all degrees in social science has grown more than 18 per cent and the social sciences as a whole have increased from 32.2 to 44.1 per cent of all degrees conferred during the same five-year period.

Law.—This group contains in addition to degrees in law those receiving the bachelor of arts degree as a result of three years of academic work and one year of law. Altho the annual number has nearly doubled, the proportion in 1926, 11.7 per cent, is less than half that in 1915 (25.8 per cent). For some years no graduate work in law has been offered and the enrolment has not altered materially from year to year.

Business and Economics.—These two groups of degrees have been classed together since they largely represent preparation in the same field. Degrees were first conferred on graduates of the School of Business in 1920. The proportion of this group as compared with all degrees representing the social sciences has not altered greatly from 1915 to 1926 and has been nearly constant since 1920. The number of graduates has increased steadily since the organization of the School of Business from a minimum of 25 in 1919 to a maximum of 152 in 1926. These degrees represent approximately one fifth of all the degrees in the social sciences and related professions. A comparison of Table XIV with Table II will show that while the opportunities for specialized curricula in the School of Business have resulted in an increase in the number of degrees for the group, the number representing majors in economics has not been decreased.

The fundamental departments in the social sciences include Anthropology, History, Philosophy, Political Science, and Sociology. From 1915 to 1919 the proportion of these degrees showed a fairly constant increase each year. Since that time the percentage has diminished until in 1926 only about 10 per cent of all degrees in social science represent majors in these departments. The annual number of these degrees since 1919, however, has been fairly constant.

Table XV shows a more detailed distribution of the group. The occasional degree which has been granted in anthropology, Americanization, and social and civic work, in each case has been grouped with those in sociology.

In sociology, too, is to be found a more specific preparation for a closely correlated profession, the "social worker," than appears in the cases of either history, political science, or philosophy. It is not surprising, therefore, in view of the tendencies shown in the previous tables, that Table XV should present from year to year an increasing proportion of majors in the field of sociology

and that the percentages for history and philosophy should show decreases. Political science, on the other hand shows some increase. Whether the large increase in philosophy for 1926 represents more than a temporary condition, cannot be told at the present time.

VII. DEGREES IN LANGUAGES AND LITERATURE

During the twelve-year period from 1915 to 1926 the number of degrees representing the languages and literature has decreased from approximately 120 to 75. The largest number, 126, was conferred in 1916; the smallest number, 64, in 1922. Since 1922 there has been a noticeable increase particularly for 1926 when the numbers reached 95. The percentage in terms of all degrees conferred by the University in 1926 is approximately one third of the corresponding figure for 1915.

English.—Under this head, in Table XVI, have been grouped all degrees in English, rhetoric, public speaking, comparative philology, and comparative literature.

Altho the number of degrees has not changed materially during the twelve years there has been an increasing proportion of majors in this group. The average annual percentage of about 45 for the earlier years is increased to approximately 70 per cent for the later years of the period. The major portion of these degrees is in English literature. Only occasional degrees represent majors in comparative philology and comparative literature.

Romance Languages.—This group includes French, Spanish, and Italian. Like the foregoing group it shows an increase in proportion as compared with the total degrees in languages and literature. The largest numbers and percentages appear immediately following the war period in 1919 and 1920. This is at least partially due to the reaction against German as a foreign language study during the war.

Greek and Latin.—The figures given for this group in Table XVI clearly show the continued trend away from the classical languages which was well under way prior to the twelve years under discussion. This loss is more particularly marked following the war period and may be considered a further expression of the growing tendency to select majors from those fields of work more closely related to some specific vocation.

German.—The decrease in the number of majors in German is even more marked than in the case of Latin and Greek. During the last few years only an occasional degree has been conferred for a major in this field. Strangely enough the increased registration in German in the last four or five years since the war has not as yet been reflected in the numbers of students majoring in this field.

Scandinavian Languages.—In spite of the fact that Minnesota lays claim to being a center of Scandinavian interests, a comparison of the majors in the Scandinavian languages for the last five years with the figures for the earlier years of the twelve-year period shows a marked decrease. The significance of this comparison is of course doubtful on account of the small number of degrees involved but in no year since 1918 have more than three degrees been conferred on graduates majoring in this field.

VIII. SUMMARY

The more significant facts and conclusions from this survey may be summarized as follows:

1. In the course of the 54 years ending in June, 1926, the University of Minnesota, through the Board of Regents, has conferred 25,148 degrees and has grown to the point where the annual number of degrees granted exceeds 1,750. These degrees represent 12 distinct administrative units and majors in practically every field of academic and professional education.

2. In order fully to visualize the development of the University as represented by the increase in numbers and kinds of degrees conferred, it is necessary to take into consideration such factors as the lengthening of curricula, the establishing of new curricula, the increase in number and changing character of combined courses, and administrative readjustments of responsibility for various courses of study within the University.

3. Despite certain inconsistencies inherent in a common classification of academic, professional, and graduate degrees, such a classification is essential to any further analysis of the majors which these degrees represent. An analysis serves two purposes. In the first place, it affords information concerning trends of interest within the University in the past. In the second place, it furnishes data for comparisons with future graduating classes on the basis of field of work rather than the administrative unit of the University.

4. Such a classification and analysis of the degrees granted during the past twelve years shows in general a shift toward the professional schools and away from majors in the fundamental academic fields of study. Within the latter class, interest appears to be turning more and more to those fields which are most closely allied to some specific profession. Apparently the present trend is definitely toward those professions and vocations which may be considered as basically sociological in their nature.

5. The underlying reasons for the selection of majors and professions by the undergraduate are, of course, impossible of determination through such a study as this. Aside from the students' peculiar interest in one field or another there are such factors as expense, parental influence, outstanding personalities on the staff, difference in departmental scholastic standards, and probable opportunities at graduation, all of which, with others less readily apparent, undoubtedly have their part in the selection.

There is, however, one outstanding feature of the data presented in the tables which cannot be overlooked.

It will be noticed, if the tables are compared with each other, that the years 1919 and 1920 mark in nearly every instance a decided change in interest as evidenced by the proportional distribution of graduates in the various major fields. If curves were drawn to represent the variation in figures from year to year, it would be found that for each field of work a fairly uniform proportional distribution existed from 1915 to 1919 and that a fairly uniform but *different* proportional distribution appears after 1920.

Two important factors have contributed to this change. First, the transfer of all teacher training to the College of Education was practically complete in 1921. From that date majors in the field of education are definitely assigned to

the social science group. Prior to 1921 it was frequently impossible to determine whether the major represented by a degree in the Arts College was in the subject-matter field or in education. In such cases it was credited to the former.

Second, the college years 1919-20 and 1920-21 apparently mark more than the turning point in size of student enrolments which was so noticeable throughout the entire country at that time. The large increases in registration, due partly to deferred enrolment during the war, partly to increased interest in higher education following the war, have been accompanied by a new *distribution* of interests in education for which it may be assumed that the changing social and economic conditions following the World War are primarily responsible.

This, at least, is true at the University of Minnesota. How widespread the reaction has been can only be determined as the result of similar studies at other institutions.

CHART I

AVERAGE ANNUAL NUMBER OF DEGREES CONFERRED
BY FIVE-YEAR PERIODS

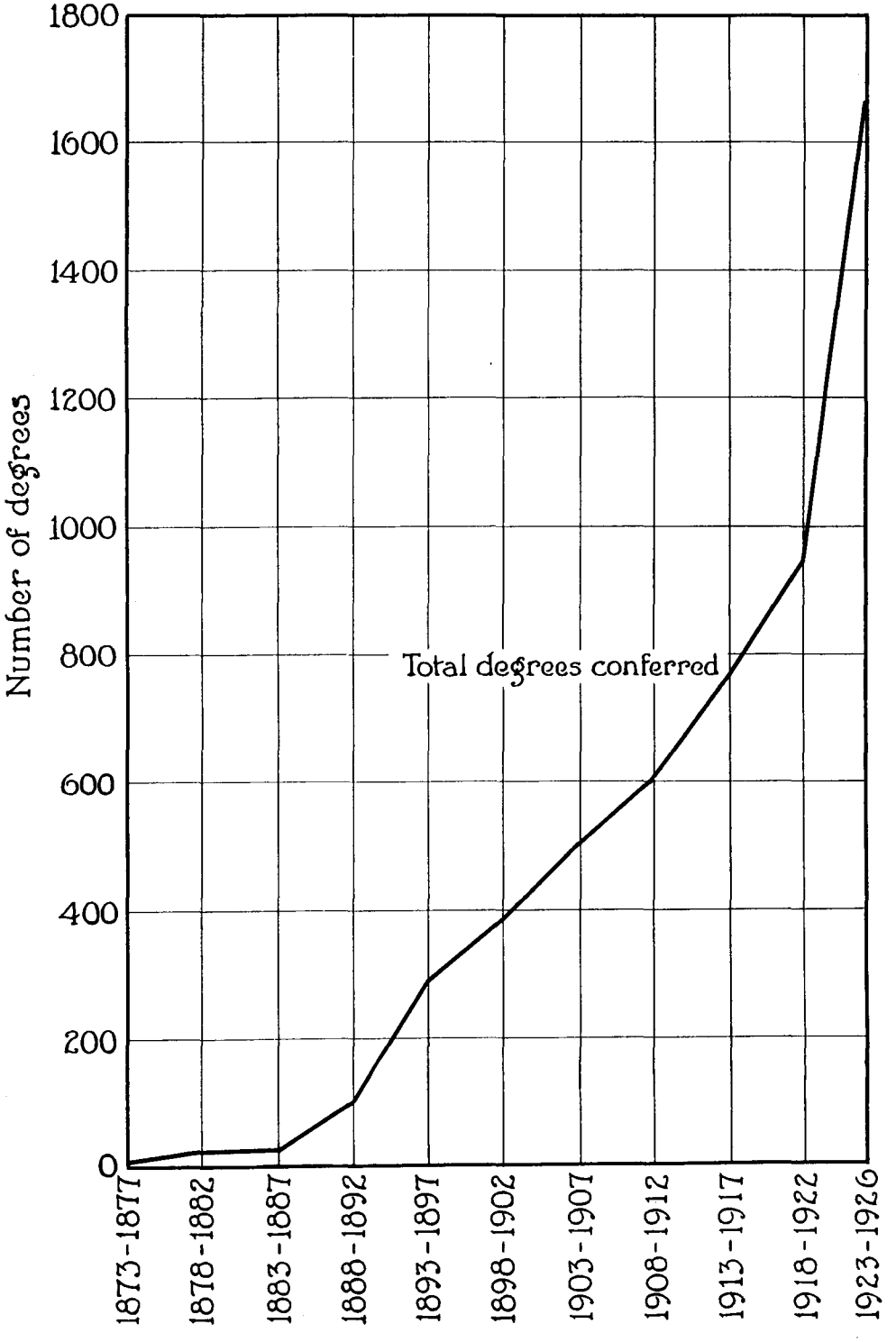

CHART II

PERCENTAGE DISTRIBUTION OF ALL DEGREES CONFERRED FROM 1915 TO 1926

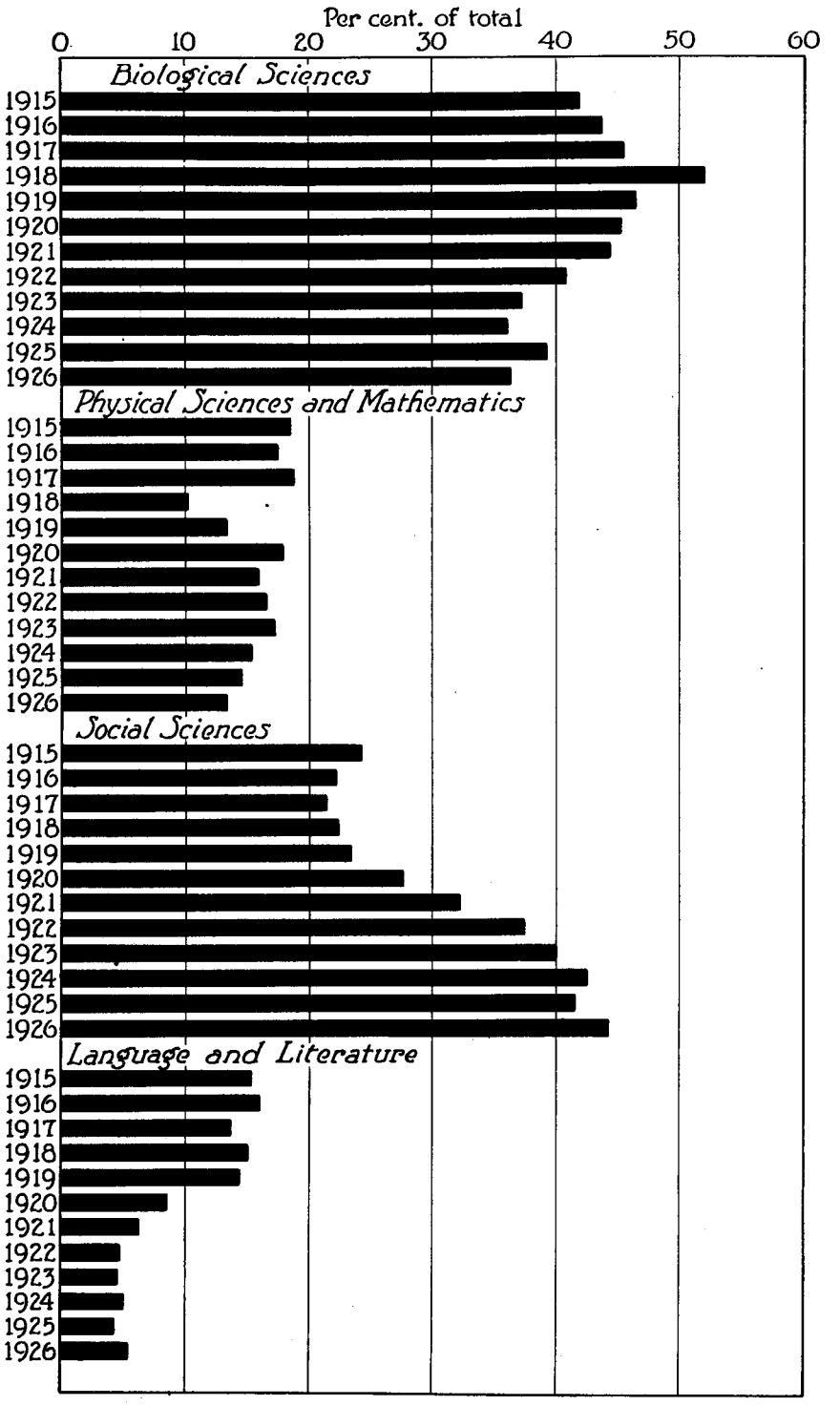

CHART III

DISTRIBUTION OF DEGREES IN THE BIOLOGICAL SCIENCES CONFERRED FROM 1915 TO 1926

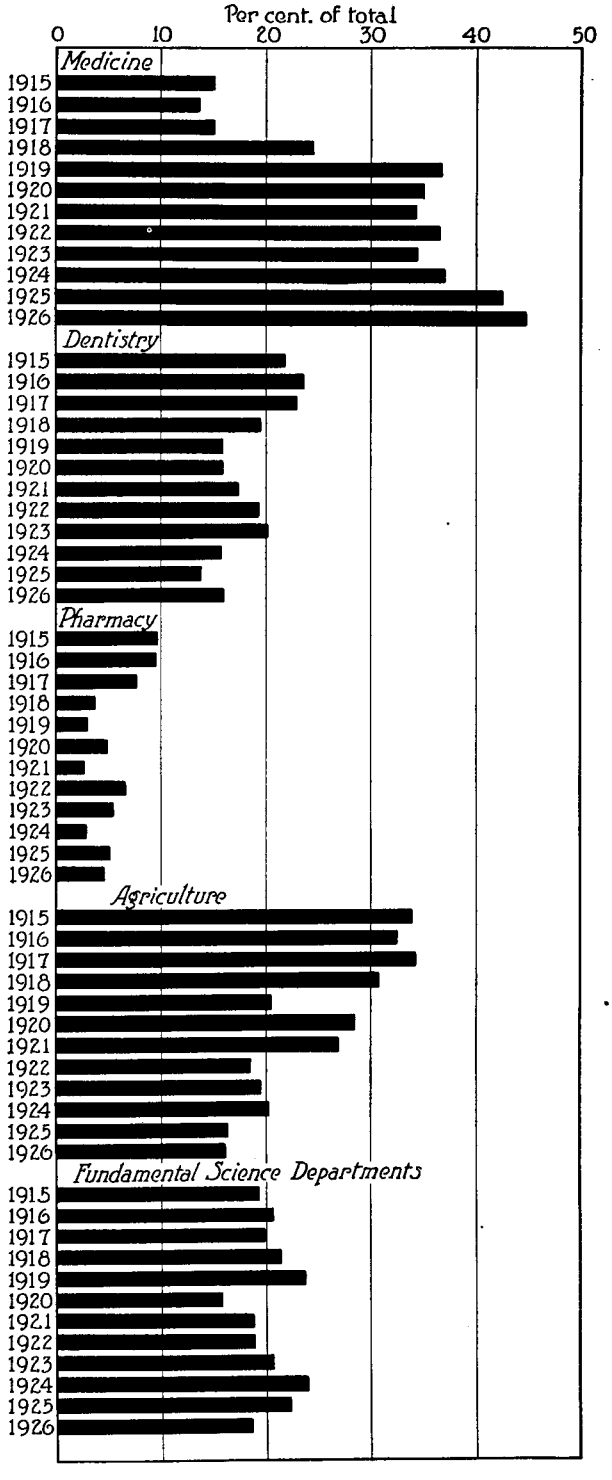

CHART IV

DISTRIBUTION OF DEGREES IN THE PHYSICAL SCIENCES AND MATHEMATICS CONFERRED FROM 1915 TO 1926

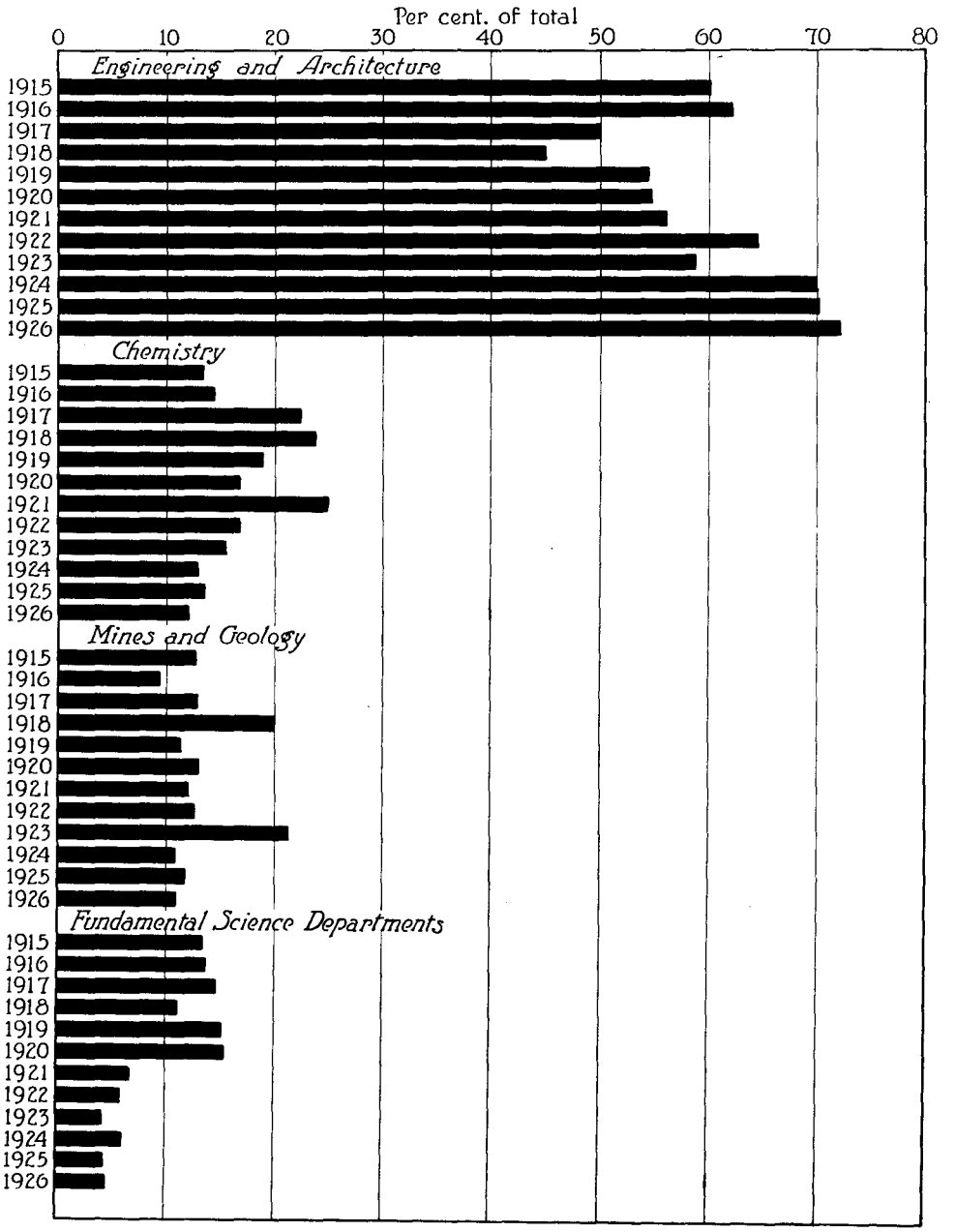

CHART V

DISTRIBUTION OF DEGREES IN THE SOCIAL SCIENCES CONFERRED FROM 1915 TO 1926

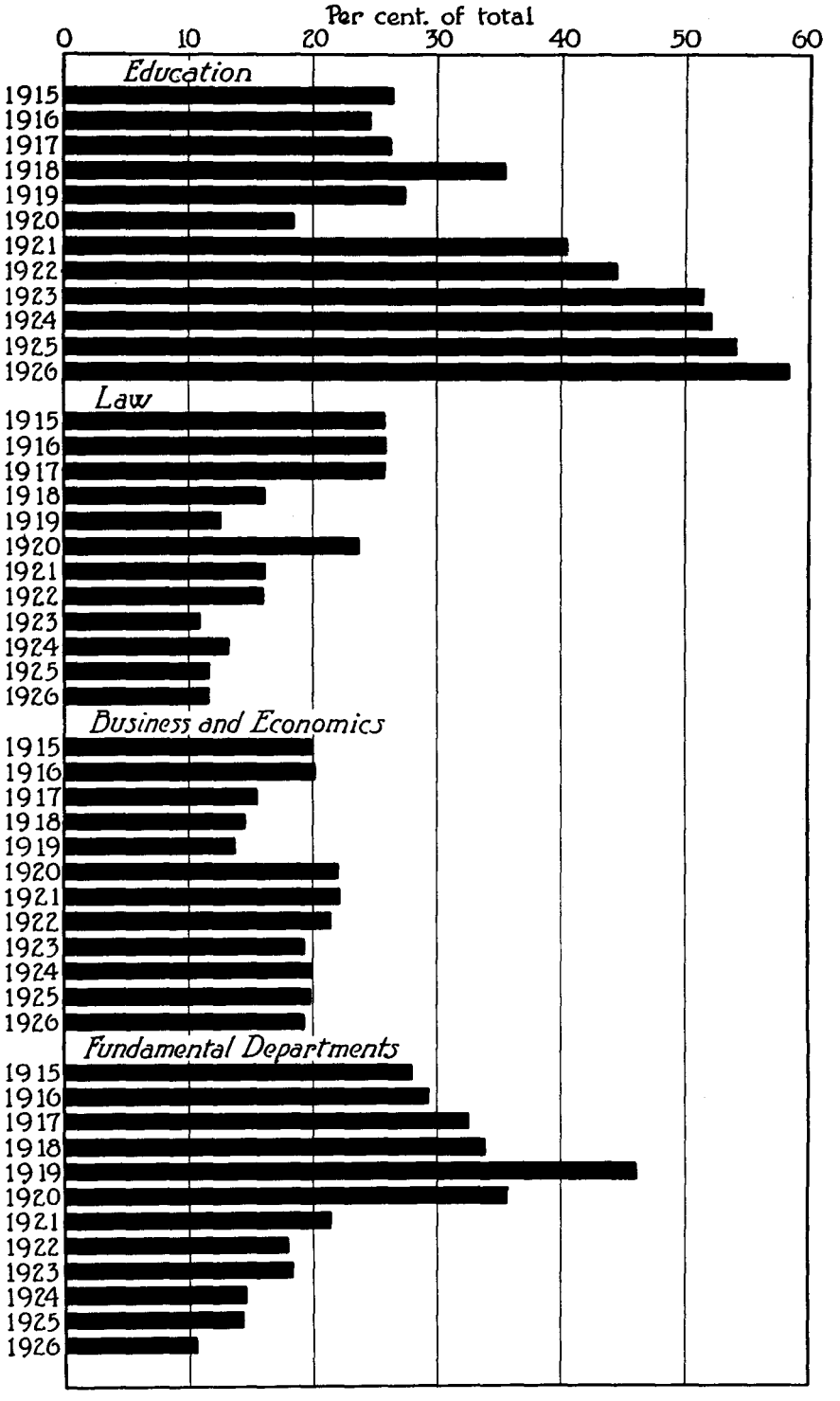

CHART VI

DISTRIBUTION OF DEGREES IN LANGUAGES AND LITERATURE CONFERRED FROM 1915 TO 1926

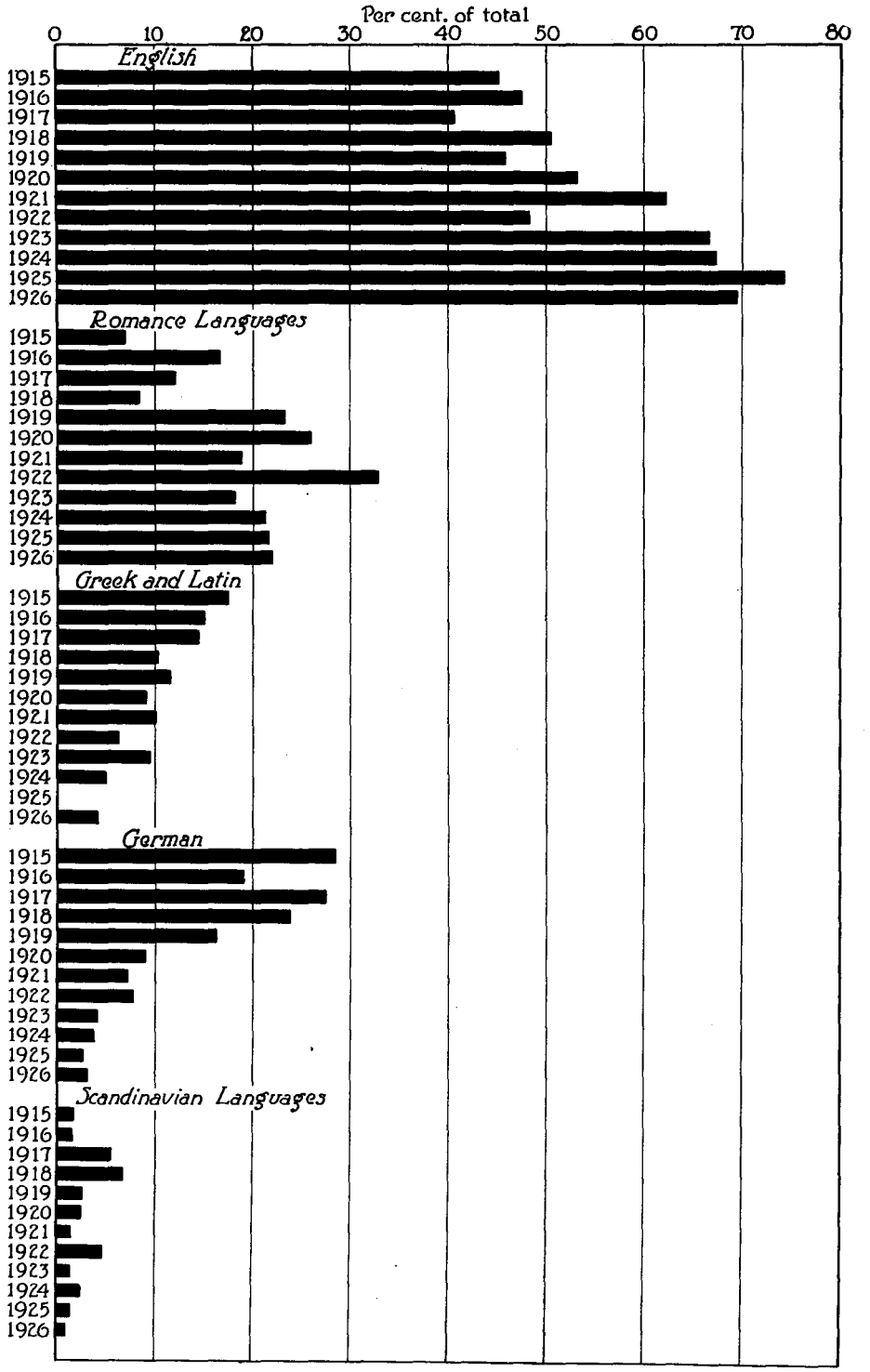

TABLE II

NUMBER OF DEGREES CONFERRED BY THE UNIVERSITY OF MINNESOTA

1873 TO 1926

SUMMARY BY COLLEGES

Year	S. L. & A.	E. & A.	Agr., For., & H.E.	Law	Medicine	Dentistry	Mines	Pharmacy	Chemistry	Education	Business	Graduate	Total
1873.....	2	...	...	...	...	...	...	...	...	...	...	...	2
1874.....	2	...	...	...	...	...	...	...	...	...	...	...	2
1875.....	6	3	...	...	...	...	...	...	...	...	...	...	9
1876.....	9	3	...	...	...	...	...	...	...	...	...	...	12
1877.....	15	1	...	...	...	...	...	...	...	...	...	...	16
1878.....	15	1	...	...	...	...	...	...	...	...	...	...	16
1879.....	24	2	...	...	...	...	...	...	...	...	...	...	26
1880.....	18	...	...	...	...	...	...	...	...	...	...	...	18
1881.....	28	...	...	...	...	...	...	...	...	...	...	...	28
1882.....	33	...	1	...	...	...	...	...	...	...	...	...	34
1883.....	22	3	...	...	...	...	...	...	...	...	...	...	25
1884.....	21	3	...	...	2	...	...	...	...	...	...	...	26
1885.....	13	3	1	...	2	...	...	...	...	...	...	...	19
1886.....	18	1	...	...	3	...	...	...	...	...	...	...	22
1887.....	25	2	1	...	2	...	...	...	...	...	...	...	30
1888.....	34	4	...	...	...	...	...	...	...	...	...	...	38
1889.....	27	1	...	3	20	1	...	...	...	...	...	...	52
1890.....	45	12	...	40	17	6	...	...	...	...	...	...	120
1891.....	46	6	...	49	23	7	...	...	...	...	...	...	131
1892.....	54	10	...	62	32	4	...	...	...	...	...	...	162
1893.....	84	14	...	94	45	13	...	...	...	...	...	...	250
1894.....	80	10	1	105	41	6	...	6	...	...	...	...	249
1895.....	108	16	2	92	54	12	...	12	...	...	...	...	296
1896.....	119	15	1	129	55	14	...	15	...	...	...	...	348
1897.....	129	25	2	62	67	28	...	8	...	...	...	...	321
1898.....	140	20	1	115	17	14	6	12	...	...	...	...	325
1899.....	152	12	4	81	43	20	2	21	...	...	...	...	335
1900.....	144	19	6	130	53	36	8	17	...	...	...	...	413

TABLE II—*Continued*

Year	S. L. & A.	E. & A.	Agr., For., & H.E.	Law	Medicine	Dentistry	Mines	Pharmacy	Chemistry	Education	Business	Graduate	Total
1901.....	158	16	4	112	73	35	7	16	...	...	...	...	421
1902.....	208	26	2	99	66	32	2	20	...	...	...	...	455
1903.....	184	34	3	91	79	37	12	8	...	...	...	...	448
1904.....	198	25	4	115	76	25	12	14	4	...	...	...	473
1905.....	215	50	8	107	78	52	15	16	7	...	...	...	548
1906.....	247	48	12	113	50	41	13	17	1	...	...	...	542
1907.....	238	51	10	92	45	30	18	17	6	...	...	...	507
1908.....	224	76	7	92	35	43	15	18	7	11	...	26	554
1909.....	190	74	24	105	52	51	10	24	9	16	...	43	598
1910.....	227	52	27	96	31	46	26	19	14	30	...	34	602
1911.....	226	64	37	116	19	49	26	23	13	34	...	34	641
1912.....	235	65	37	55	45	62	23	12	18	41	...	34	627
1913.....	268	75	52	53	49	63	11	25	15	37	...	35	683
1914.....	256	79	73	35	37	86	9	30	11	54	...	45	715
1915.....	261	85	92	43	47	69	13	31	7	44	...	62	754
1916.....	286	86	104	30	46	81	11	33	4	42	...	62	785
1917.....	316	84	133	34	54	95	17	32	18	38	...	84	905
1918.....	295	36	115	18	95	80	14	15	10	44	...	57	779
1919.....	335	56	71	13	122	58	6	11	14	37	...	59	782
1920.....	279	88	103	49	131	65	15	20	21	43	14	72	900
1921.....	296	87	115	44	151	84	16	13	19	119	37	110	1,091
1922.....	312	134	107	61	175	104	21	36	18	206	59	133	1,323*
1923.....	341	137	150	45	170	116	44	31	19	301	90	155	1,530*
1924.....	359	169	147	67	195	91	16	16	12	340	94	156	1,600*
1925.....	376	170	161	60	275	96	14	35	19	376	100	165	1,770*
1926.....	332	163	139	67	268	104	16	28	18	438	112	176	1,790*
TOTAL..	8,275	2,216	1,757	2,774	2,940	1,856	418	651	284	2,251	506	1,542	25,148*

* These totals are net after deducting the number counted both in the College of Education and the College of Agriculture, Forestry, and Home Economics.

TABLE III

NUMBER OF DEGREES CONFERRED BY THE UNIVERSITY OF MINNESOTA
1873 TO 1926

SUMMARY BY DEGREES

Degree	College*	Years† of College Work Represented	Conferred		Number of Degrees
			From	To	
Analytical chemist	Chem.	4	1905	1906	8
Architect (announced in 1876-77, never conferred)					
Architectural engineer (announced from 1910-11 to 1915-16, never conferred)					
Bachelor of agriculture	Agr., F., & H.E.	4	1882	1904	31
Bachelor of architecture	Eng. & Arch.	4	1877	1893	5
Bachelor of arts	S., L. & A.	4	1873	1926	5,765
Bachelor of arts *cum laude*	S., L. & A.	4	1923	1926	87
Bachelor of arts *magna cum laude*	S., L. & A.	4	1923	1926	38
Bachelor of arts *summa cum laude*	S., L. & A.	4	1923	1926	6
Bachelor of arts in education	S., L. & A.	4	1907	(only)	4
Bachelor of arts in education	Educ.	4	1908	1921	473
Total B.A. in Education					477
Bachelor of arts in music	S., L. & A.	4	1914	1923	56
Bachelor of chemistry (announced in 1892-93, never conferred)					
Bachelor of civil engineering	Eng. & Arch.	4	1875	1896	49
Bachelor of electrical engineering	Eng. & Arch.	4	1891	1896	23
Bachelor of laws	Law	2	1889	1896	529
Bachelor of laws	Law	3	1897	1909	1,165
Bachelor of laws	Law	4	1910	1911	192
Bachelor of laws	Law	5	1912	1926	674
Total LL.B.					2,560
Bachelor of literature	S., L. & A.	4	1875	1901	466
Bachelor of mechanical engineering	Eng. & Arch.	4	1878	1896	22
Bachelor of medicine	Med.	(Exam. only)	1884	1887	9
Bachelor of medicine	Med.	6	1918	1926	712
Total M.B.					721
Bachelor of metallurgy (announced in 1892-93, never conferred)					
Bachelor of mining engineering	Eng. & Arch.	4	1894	1896	6
Bachelor of music (announced 1920-21 to 1921-22, never conferred)					
Bachelor of pharmacy	Pharm.	2	1908	1916	156
Bachelor of philosophy	S., L. & A.	4	1901	(only)	10
Bachelor of science	S., L. & A.	4	1874	1926	1,557
Bachelor of science	Eng. & Arch.	4	1900	1912	10
Bachelor of science	Chem.	4	1904	(only)	4
Bachelor of science	Chem.		1912	1920	45
Total B.S. (Chemistry)					49
Bachelor of science	A., F. & H.E.	4	1904	1905	7
Bachelor of science	A., F. & H.E.		1915	1926	1,113
Total B.S. (A., F., & H.E.)					1,120

* The present title of the college or school is used in each case altho changes in title have been made from time to time.

† In those cases in which the course of study has been lengthened or shortened it has been impossible to determine how much overlapping has occurred without reference to each individual candidate's record. The requirement indicated is the *class* requirement.

TABLE III—*Continued*

Degree	College*	Years† of College Work Represented	Conferred		Number of Degrees
			From	To	
Bachelor of science	Educ.	4	1921	1926	1,366
Bachelor of science	A., F. & H.E. & Ed.	4	1922	1926	313
Bachelor of science with distinction.	A., F. & H.E.	4	1926	....	2
Bachelor of science with distinction.	Educ.	4	1925	1926	81
Bachelor of science with distinction.	A., F. & H.E. & Ed.	4	1925	1926	9
Total B.S. and B.S. with distinction					4,507
Bachelor of science in agriculture..	A., F. & H.E.	4	1905	1914	119
Bachelor of science in agricultural engineering	A., F. & H.E. & Eng. & Arch.	4	1926	(not conferred)	
Bachelor of science in architectural engineering	Eng. & Arch.	4	1923	1926	14
Bachelor of science in architecture.	Eng. & Arch.	4	1916	1926	89
Bachelor of science in business	Bus.	4	1920	1926	506
Bachelor of science in chemical engineering	Chem.	4	1907	1911	10
Bachelor of science in chemical engineering	Chem.		1921	1926	74
Total B.S. in Chem. E.					84
Bachelor of science in chemical engineering with distinction	Chem.	4	1926	....	2
Bachelor of science in chemistry	Chem.	4	1907	1926	122
Bachelor of science in civil engineering	Eng. & Arch.	4	1921	1926	226
Bachelor of science in civil engineering with distinction	Eng. & Arch.	4	1926	....	1
Bachelor of science in education	Educ.	4	1921	(only)	9
Bachelor of science in electrical engineering	Eng. & Arch.	4	1921	1926	343
Bachelor of science in electrical engineering with distinction	Eng. & Arch.	4	1926	....	1
Bachelor of science in engineering..	Eng. & Arch.	4	1908	1923	478
Bachelor of science in forestry	A., F. & H.E.	4	1906	1914	70
Bachelor of science in home economics	A., F. & H.E.	4	1906	1914	89
Bachelor of science in interior decoration	Eng. & Arch.	4	1925	1926	8
Bachelor of science in mechanical engineering	Eng. & Arch.	4	1921	1926	181
Bachelor of science in pharmacy	Pharm.	4	1915	1926	29
Chemical engineer	Eng. & Arch.	5	1897	(only)	4
Chemical engineer	Chem.	5	1912	1920	19
Chemical engineer	Grad.	5	1921	1923	28
Chemical engineer	Grad.	5 & exp.	1924	1926	1
Total Chem. E.					52
Chemical technologist (announced in 1904-5, never conferred)					

* The present title of the college or school is used in each case altho changes in title have been made from time to time.

† In those cases in which the course of study has been lengthened or shortened it has been impossible to determine how much overlapping has occurred without reference to each individual candidate's record. The requirement indicated is the *class* requirement.

TABLE III—*Continued*

Degree	College*	Years† of College Work Represented	Conferred		Number of Degrees
			From	To	
Civil engineer	Eng. & Arch.	5	1888	1899	15
Civil engineer	Eng. & Arch.	4 or 5	1900	1911	179
Civil engineer	Eng. & Arch.	5	1912	1920	66
Civil engineer	Grad.	5	1921	1923	10
Civil engineer	Grad	5 & exp.	1924	1926	2
Total C.E.					272
Doctor of civil laws	Law	5	1902	1911	3
Doctor of dental medicine	Dent.	3	1893	1902	210
Doctor of dental medicine *cum laude* (announced from 1894-95 to 1897-98 for the completion of an additional year's work with merit, never conferred)					
Doctor of dental surgery	Dent.	3	1889	1892	18
Doctor of dental surgery	Dent.		1903	1918	910
Doctor of dental surgery	Dent.	4	1919	1920	123
Doctor of dental surgery	Dent.	5	1921	1925	546
Total D.D.S.					1,597
Doctor of laws (honorary)	.....	..	1925	(only)	1
Doctor of medicine	Med.	3	1889	1892	92
Doctor of medicine	Med.	4	1893	1902	514
Doctor of medicine	Med.	5	1903	1907	328
Doctor of medicine	Med.	6	1908	1915	286
Doctor of medicine	Med.	7	1916	1926	663
Total M.D.					1,883
Doctor of medicine *cum laude*	Med.	7	1923	(only)	4
Doctor of medicine with distinction.	Med.	7	1922	1926	8
Doctor of medicine in homeopathy (announced in 1909-10 and 1910-11, never conferred)					
Doctor of pharmacy	Pharm.	2	1894	1900	75
Doctor of philosophy	S., L. & A.	7	1888	1907	39
Doctor of philosophy	Grad.	7	1908	1926	228
Total Ph.D.					267
Doctor of philosophy in nervous and mental diseases	Grad.	7	1921	(only)	2
Doctor of philosophy in obstetrics and gynecology	Grad.	7	1919	1926	4
Doctor of philosophy in pediatrics	Grad.	7	1921	1925	2
Doctor of philosophy in surgery	Grad.	7	1917	1923	4
‡Doctor of science	Grad.	7	1909	1917	3
‡Doctor of science in neurology	Grad.	7	1917	(only)	1
‡Doctor of science in pediatrics	Grad.	7	1917	(only)	1
Doctor of science in pharmacy	Pharm.	6	1917	(only)	1
Doctor of veterinary medicine (announced 1890-91 to 1891-92, never conferred)					

* The present title of the college or school is used in each case altho changes in title have been made from time to time.

† In those cases in which the course of study has been lengthened or shortened it has been impossible to determine how much overlapping has occurred without reference to each individual candidate's record. The requirement indicated is the *class* requirement.

‡ The degrees of doctor of science conferred in 1917 were later exchanged for the degree of doctor of philosophy.

TABLE III—*Continued*

Degree	College*	Years† of College Work Represented	Conferred		Number of Degrees
			From	To	
Electrical engineer	Eng. & Arch.	5	1896	1899	23
Electrical engineer	Eng. & Arch.	4 or 5	1900	1911	213
Electrical engineer	Eng. & Arch.	5	1912	1918	69
Electrical engineer	Grad.	5	1921	1923	10
Electrical engineer	Grad.	5 & exp.	(never conferred)		
Total E.E.					315
Engineer of mines	Mines	4	1899	1910	136
Engineer of mines	Mines	4 or 5	1911	1919	112
Engineer of mines	Mines	4	1920	1926	92
Total E.M.					340
Engineer of mines in geology	Mines	4 or 5	1917	1919	10
Engineer of mines in geology	Mines	4	1920	1926	28
Total E.M. in Geology					38
Graduate dental hygienist (announced 1920-21 and 1921-22, never conferred)					
Graduate dental nurse	Dent.	2	1922	1926	49
Graduate in nursing	Med.	3	1912	1926	324
Graduate in pharmacy	Pharm.	2	1915	1920	98
Master of agriculture	A., F. & H.E.	5	1903	1905	3
Master of arts	S., L. & A.	5	1880	1907	163
Master of arts	Grad.	5	1908	1926	701
Total M.A.					864
Master of forestry	A., F. & H.E.	5	1910	(only)	1
Master of forestry	Grad.	5	1912	1914	2
Total M.F.					3
Master of laws	Law	3	1890	1896	45
Master of laws	Law	4	1897	1909	147
Master of laws	Law	5	1910	1911	19
Total LL.M.					211
Master of literature	S., L. & A.	5	1890	1901	21
Master of pharmacy	Pharm.	5	1901	1914	5
Master of science	S., L. & A.	5	1882	1907	61
Master of science	Eng. & Arch.	5	1904	(only)	1
Master of science	Grad.	5	1908	1926	379
Total M.S.					441
Master of science in agriculture	Grad.	5	1910	(only)	3
Master of science in architectural engineering (announced in 1923-24, never conferred)					
Master of science in architecture	Grad.	5	1924	(only)	1
Master of science in business (announced 1919-20, never conferred)					
Master of science in chemical engineering	Grad.	5	1923	1926	12
Master of science in civil engineering	Grad.	5	1924	(only)	1
Master of science in dermatology	Grad.	5	1923	1926	2
Master of science in dermatology and syphilology	Grad.	5	1922	(only)	1

* The present title of the college or school is used in each case altho changes in title have been made from time to time.

† In those cases in which the course of study has been lengthened or shortened it has been impossible to determine how much overlapping has occurred without reference to each individual candidate's record. The requirement indicated is the *class* requirement.

TABLE III—*Continued*

Degree	College*	Years† of College Work Represented	Conferred		Number of Degrees
			From	To	
Master of science in electrical engineering	Grad.	5	1925	(only)	4
Master of science in engineering	Grad.	5	1922	(only)	1
Master of science in experimental surgery	Grad.	5	1919	(only)	1
Master of science in mechanical engineering	Grad.	5	1924	1925	6
Master of science in medicine	Grad.	5	1917	1926	13
Master of science in nervous and mental diseases	Grad.	5	1925	(only)	1
Master of science in neurology	Grad.	5	1919	1926	5
Master of science in obstetrics and gynecology	Grad.	5	1920	(only)	1
Master of science in ophthalmology	Grad.	5	1920	1926	7
Master of science in ophthalmology and oto-laryngology	Grad.	5	1921	1926	3
Master of science in orthopedic surgery	Grad.	5	1918	1926	4
Master of science in oto-laryngology	Grad.	5	1920	1923	2
Master of science in oto-laryngology and rhinology	Grad.	5	1922	(only)	1
Master of science in pathology	Grad.	5	1922	1925	5
Master of science in pediatrics	Grad.	5	1919	1924	2
Master of science in pharmacy	Pharm.	5	1916	1923	3
Master of science in physiologic chemistry	Grad.	5	1921	(only)	1
Master of science in radiology	Grad.	5	1924	(only)	1
Master of science in roentgenology	Grad.	5	1924	(only)	1
Master of science in surgery	Grad.	5	1918	1926	61
Master of science in urology	Grad.	5	1922	1926	10
Mechanical engineer	Eng. & Arch.	5	1894	1899	16
Mechanical engineer	Eng. & Arch.	4 or 5	1900	1911	122
Mechanical engineer	Eng. & Arch.	5	1912	1920	48
Mechanical engineer	Grad.	5	1921	1923	13
Mechanical engineer	Grad.	5 & exp.	(not conferred)		
Total M.E.					199
Metallurgical engineer	Mines	4	1901	1904	4
Metallurgical engineer	Mines	4 or 5	1916	1919	8
Metallurgical engineer	Mines	4	1921	1926	22
Total Met.E.					34

* The present title of the college or school is used in each case altho changes in title have been made from time to time.

† In those cases in which the course of study has been lengthened or shortened it has been impossible to determine how much overlapping has occurred without reference to each individual candidate's record. The requirement indicated is the *class* requirement.

TABLE III—*Continued*

Degree	College*	Years† of College Work Represented	Conferred From	Conferred To	Number of Degrees
Mining engineer	Eng. & Arch.	5	1895	1897	4
Mining engineer	Mines	5	1898	(only)	6
Total Min.E.					10
Municipal engineer (announced 1903-4 to 1906-7, never conferred)					
Pharmaceutical chemist	Pharm.	2	1900	1907	122
Pharmaceutical chemist	Pharm.	3	1918	1926	162
Total Phm.C.					284
Total all degrees conferred..					25,146

* The present title of the college or school is used in each case altho changes in title have been made from time to time.

† In those cases in which the course of study has been lengthened or shortened it has been impossible to determine how much overlapping has occurred without reference to each individual candidate's record. The requirement indicated is the *class* requirement.

TABLE IV

DISTRIBUTION OF DEGREES CONFERRED

1915 TO 1926

Year	Sci., Lit. & Arts		Graduate School		Professional Schools		Total
	No.	Per cent	No.	Per cent	No.	Per cent	
1915.....	261	34.6	62	8.2	431	57.2	754
1916.....	286	36.4	62	7.9	437	55.7	785
1917.....	316	34.9	84	9.3	505	55.8	905
1918.....	295	37.9	57	7.3	427	54.8	779
1919.....	335	42.9	59	7.5	388	49.6	782
1920.....	279	31.0	72	8.0	549	61.0	900
1921.....	296	27.1	110	10.1	685	62.8	1,091
1922.....	312	23.6	133	10.1	878	66.3	1,323
1923.....	341	22.3	155	10.1	1,034	67.6	1,530
1924.....	359	22.4	156	9.8	1,085	67.8	1,600
1925.....	376	21.2	165	9.4	1,229	69.4	1,770
1926.....	332	18.5	176	9.8	1,282	71.7	1,790

TABLE V

CLASSIFICATION OF ARTS COLLEGE DEGREES, 1915 TO 1926

Year	Music		Biological Sciences		Physical Sciences and Mathematics		Social Sciences		Languages and Literature		Total
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	
1915	..	..	54	20.7	29	11.1	78	29.9	100	38.3	261
1916	4	1.4	65	22.7	26	9.1	79	27.6	112	39.2	286
1917	5	1.6	70	22.1	34	10.8	104	32.9	103	32.6	316
1918	2	0.7	77	26.1	14	4.7	99	33.6	103	34.9	295
1919	19	5.7	72	21.5	24	7.2	118	35.1	102	30.5	335
1920	5	1.8	55	19.7	28	10.0	126	45.2	65	23.3	279
1921	13	4.4	75	25.3	19	6.4	129	43.6	60	20.3	296
1922	5	1.6	92	29.5	21	6.7	139	44.6	55	17.6	312
1923	10	2.9	107	31.4	20	5.8	143	42.0	61	17.9	341
1924	16	4.4	121	33.7	15	4.2	141	39.3	66	18.4	359
1925	12	3.2	135	35.9	17	4.5	150	39.9	62	16.5	376
1926	17	5.1	108	32.5	8	2.4	124	37.4	75	22.5	332

TABLE VI

CLASSIFICATION OF GRADUATE SCHOOL DEGREES, 1915 TO 1926

Year	Biological Sciences		Physical Sciences and Mathematics		Social Sciences		Languages and Literature		Total
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	
1915	23	37.1	7	11.3	17	27.4	15	24.2	62
1916	14	22.6	11	17.7	23	37.1	14	22.6	62
1917	28	33.3	17	20.2	18	21.5	21	25.0	84
1918	24	42.1	6	10.5	13	22.8	14	24.6	57
1919	31	52.5	5	8.5	14	23.7	9	15.3	59
1920	34	47.2	9	12.5	17	23.6	12	16.7	72
1921	46	41.8	32	29.1	23	20.9	9	8.2	110
1922	69	51.8	26	19.6	29	21.8	9	6.8	133
1923	67	43.2	43	27.8	34	21.9	11	7.1	155
1924	69	44.2	35	22.4	38	24.4	14	9.0	156
1925	70	42.7	35	21.3	47	28.7	12	7.3	165*
1926	75	42.6	32	18.2	49	27.8	20	11.4	176

* Includes one honorary degree not distributed in the classification.

TABLE VII

CLASSIFICATION OF PROFESSIONAL SCHOOL DEGREES

1915 TO 1926

Year	Professional Schools with Curricula Based Primarily On						Total
	Biological Sciences		Physical Sciences and Mathematics		Social Sciences		
	No.	Per cent	No.	Per cent	No.	Per cent	
1915.....	239	55.5	105	24.3	87	20.2	431
1916.....	264	60.4	101	23.1	72	16.5	437
1917.....	314	62.1	119	23.6	72	14.3	505
1918.....	305	71.4	60	14.1	62	14.5	427
1919.....	262	67.5	76	19.6	50	12.9	388
1920.....	319	58.1	124	22.6	106	19.3	549
1921.....	363	53.0	122	17.8	200	29.2	685
1922.....	379	43.2	173	19.7	326	37.1	878
1923.....	398	38.5	200	19.4	436	42.2	1,034
1924.....	387	35.6	197	18.2	501	46.2	1,085
1925.....	490	39.9	203	16.5	536	43.6	1,229
1926.....	468	36.5	197	15.4	617	48.1	1,282

TABLE VIII
CLASSIFICATION OF ALL DEGREES, 1915 TO 1926

Year	Music		Biological Sciences		Physical Sciences and Mathematics		Social Sciences		Languages and Literature		Total
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	
1915	..	..	316	41.9	141	18.7	182	24.1	115	15.3	754
1916	4	0.5	343	43.7	138	17.6	174	22.2	126	16.0	785
1917	5	0.6	412	45.5	170	18.8	194	21.4	124	13.7	905
1918	2	0.3	406	52.1	80	10.3	174	22.3	117	15.0	779
1919	19	2.4	365	46.7	105	13.4	182	23.3	111	14.2	782
1920	5	0.6	408	45.3	161	17.9	249	27.7	77	8.5	900
1921	13	1.2	484	44.4	173	15.9	352	32.2	69	6.3	1,091
1922	5	0.4	540	40.8	220	16.6	494	37.3	64	4.8	1,323
1923	10	0.7	572	37.4	263	17.2	613	40.0	72	4.7	1,530
1924	16	1.0	577	36.1	247	15.4	680	42.5	80	5.0	1,600
1925	12	0.7	695	39.3	255	14.4	733	41.4	74	4.2	1,770*
1926	17	1.0	651	36.4	237	13.2	790	44.1	95	5.3	1,790

* Includes one honorary degree not distributed in the classification.

TABLE IX

ANALYSIS OF DEGREES IN BIOLOGICAL SCIENCES, 1915 TO 1926

Year	Medicine		Dentistry		Pharmacy		Agriculture, Forestry, and Home Economics		Fundamental Science Departments		Total
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	
1915	48	15.2	69	21.8	31	9.8	107	33.9	61	19.3	316
1916	47	13.7	81	23.6	33	9.6	111	32.4	71	20.7	343
1917	62	15.1	95	23.0	32	7.8	141	34.2	82	19.9	412
1918	100	24.6	80	19.7	15	3.7	124	30.6	87	21.4	406
1919	134	36.8	58	15.9	11	3.0	75	20.5	87	23.8	365
1920	143	35.0	65	15.9	20	4.9	116	28.5	64	15.7	408
1921	166	34.2	84	17.4	13	2.7	130	26.9	91	18.8	484
1922	198	36.6	104	19.3	36	6.7	100	18.5	102	18.9	540
1923	196	34.3	116	20.3	31	5.4	111	19.4	118	20.6	572
1924	214	37.0	91	15.8	16	2.8	117	20.3	139	24.1	577
1925	296	42.6	96	13.8	35	5.0	114	16.4	154	22.2	695
1926	292	44.9	104	16.0	28	4.3	107	16.4	120	18.4	651

TABLE X

ANALYSIS OF DEGREES REPRESENTING MAJORS IN THE FUNDAMENTAL BIOLOGICAL SCIENCES, 1915 TO 1926

Year	Medical Sciences		Animal Biology		Botany		Psychology		Total
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	
1915	39	64.0	8	13.1	13	21.3	1	1.6	61
1916	50	70.0	8	11.3	11	15.5	2	2.8	71
1917	61	74.4	3	3.7	12	14.6	6	7.3	82
1918	62	71.2	7	8.1	11	12.6	7	8.1	87
1919	70	80.4	3	3.4	9	10.4	5	5.8	87
1920	44	68.8	8	12.5	7	10.9	5	7.8	64
1921	79	86.8	1	1.1	2	2.2	9	9.9	91
1922	93	91.2	..	...	5	4.9	4	3.9	102
1923	107	90.7	5	4.2	2	1.7	4	3.4	118
1924	121	87.0	3	2.2	6	4.3	9	6.5	139
1925	133	86.4	5	3.2	3	1.9	13	8.5	154
1926	99	82.5	3	2.5	9	7.5	9	7.5	120

TABLE XI

ANALYSIS OF DEGREES REPRESENTING MAJORS IN PHYSICAL SCIENCES AND MATHEMTICS, 1915 TO 1926

Year	Engineering and Architecture		Chemistry		Mines and Geology		Fundamental Departments		Total
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	
1915	85	60.2	19	13.5	18	12.8	19	13.5	141
1916	86	62.3	20	14.5	13	9.4	19	13.8	138
1917	85	50.0	38	22.4	22	12.9	25	14.7	170
1918	36	45.0	19	23.8	16	20.0	9	11.2	80
1919	57	54.4	20	19.0	12	11.4	16	15.2	105
1920	88	54.7	27	16.8	21	13.0	25	15.5	161
1921	97	56.1	43	24.9	21	12.1	12	6.9	173
1922	142	64.6	37	16.8	28	12.7	13	5.9	220
1923	155	58.9	41	15.6	56	21.3	11	4.2	263
1924	173	70.0	32	13.0	27	10.9	15	6.1	247
1925	179	70.2	35	13.7	30	11.8	11	4.3	255
1926	171	72.2	29	12.2	26	11.0	11	4.6	237

TABLE XII

DISTRIBUTION OF DEGREES IN ENGINEERING AND ARCHITECTURE 1915 TO 1926

Year	Specialty Not Designated		Civil Engineering		Electrical Engineering		Mechanical Engineering		Architecture		Total
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	
1915	48	55.5	11	12.9	26	30.6	..	..	..	..	85
1916	57	66.3	8	9.3	10	11.6	7	8.1	4	4.7	86
1917	50	58.9	8	9.4	15	17.6	4	4.7	8	9.4	85
1918	29	80.5	..	..	1	2.8	2	5.6	4	11.1	36
1919	45	78.9	..	..	..	..	3	5.3	9	15.8	57
1920	78	88.7	1	1.1	..	..	4	4.5	5	5.7	88
1921	18	18.6	26	26.8	29	29.8	15	15.5	9	9.3	97
1922	9	6.3	20	14.1	54	38.0	46	32.4	13	9.2	142
1923	2	1.3	49	31.6	58	37.5	34	21.9	12	7.7	155
1924	..	..	44	25.4	70	40.5	47	27.2	12	6.9	173
1925	..	..	56	31.3	71	39.7	29	16.2	23	12.8	179
1926	..	..	45	26.3	77	45.1	31	18.1	18	10.5	171

TABLE XIII

DISTRIBUTION OF DEGREES REPRESENTING MAJORS IN THE FUNDAMENTAL DEPARTMENTS OF THE PHYSICAL SCIENCES AND MATHEMATICS, 1915 TO 1916

Year	Mathematics		Physics		Astronomy		Total
	No.	Per cent	No.	Per cent	No.	Per cent	
1915	19	100.0	..	...	..	...	19
1916	16	84.3	3	15.7	..	...	19
1917	21	84.0	3	12.0	1	4.0	25
1918	8	88.9	1	11.1	..	...	9
1919	13	81.3	3	18.7	..	...	16
1920	22	88.0	3	12.0	..	...	25
1921	7	58.3	5	41.7	..	...	12
1922	6	46.3	6	46.3	1	7.4	13
1923	3	27.3	8	72.7	..	...	11
1924	12	80.0	1	6.7	2	13.3	15
1925	4	36.4	7	63.6	..	...	11
1926	4	36.4	6	54.5	1	9.1	11

TABLE XIV

ANALYSIS OF DEGREES REPRESENTING THE SOCIAL SCIENCES, 1915 TO 1926

Year	Education		Law		Business and Economics		Fundamental Departments		Total
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	
1915	48	26.4	47	25.8	36	19.8	51	28.0	182
1916	43	24.7	45	25.9	35	20.1	51	29.3	174
1917	51	26.3	50	25.8	30	15.5	63	32.4	194
1918	62	35.6	28	16.1	25	14.4	59	33.9	174
1919	50	27.5	23	12.6	25	13.7	84	46.2	182
1920	46	18.5	59	23.7	55	22.1	89	35.7	249
1921	142	40.3	57	16.2	78	22.2	75	21.3	352
1922	220	44.5	79	16.0	106	21.5	89	18.0	494
1923	317	51.6	66	10.8	118	19.3	112	18.3	613
1924	355	52.2	90	13.2	136	20.0	99	14.6	680
1925	396	54.1	86	11.7	146	19.9	105	14.3	733
1926	462	58.5	92	11.6	153	19.4	83	10.5	790

TABLE XV

DISTRIBUTION OF DEGREES REPRESENTING MAJORS IN THE FUNDAMENTAL SOCIAL SCIENCES, 1915 TO 1926

Year	History		Political Science		Sociology		Philosophy		Total
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	
1915	27	53.0	9	17.6	8	15.7	7	13.7	51
1916	31	60.8	9	17.6	8	15.7	3	5.9	51
1917	39	61.9	10	15.9	9	14.3	5	7.9	63
1918	34	57.6	1	1.7	18	30.5	6	10.2	59
1919	35	41.7	6	7.1	39	46.4	4	4.8	84
1920	34	38.2	12	13.5	40	44.9	3	3.4	89
1921	22	29.3	10	13.3	38	50.7	5	6.7	75
1922	23	25.8	20	22.5	40	45.0	6	6.7	89
1923	33	29.5	26	23.2	47	41.9	6	5.4	112
1924	16	16.2	32	32.3	44	44.4	7	7.1	99
1925	21	20.0	29	27.6	45	42.9	10	9.5	105
1926	20	24.1	17	20.5	29	34.9	17	20.5	83

TABLE XVI

ANALYSIS OF DEGREES REPRESENTING MAJORS IN LANGUAGE AND LITERATURE, 1915 TO 1926

Year	English		Romance Languages		Greek and Latin		German		Scandinavian		Total
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	
1915	52	45.2	8	7.0	20	17.4	33	28.7	2	1.7	115
1916	60	47.5	21	16.7	19	15.1	24	19.1	2	1.6	126
1917	50	40.4	15	12.1	18	14.5	34	27.4	7	5.6	124
1918	59	50.5	10	8.5	12	10.3	28	23.9	8	6.8	117
1919	51	46.0	26	23.4	13	11.7	18	16.2	3	2.7	111
1920	41	53.2	20	26.0	7	9.1	7	9.1	2	2.6	77
1921	43	62.3	13	18.9	7	10.1	5	7.2	1	1.5	69
1922	31	48.4	21	32.8	4	6.3	5	7.8	3	4.7	64
1923	48	66.6	13	18.1	7	9.7	3	4.2	1	1.4	72
1924	54	67.4	17	21.3	4	5.0	3	3.8	2	2.5	80
1925	55	74.3	16	21.6	..	..	2	2.7	1	1.4	74
1926	66	69.5	21	22.1	4	4.2	3	3.2	1	1.0	95