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UNIVERSITY REGISTRATION STATISTICS.

THE statistics given on page 798 are, with few exceptions, approximately as of November 1, 1906, and relate to the registration at twenty-three of the leading universities throughout the country. Two new institutions have been added to the list, the University of Kansas and New York University. The figures have in every case been secured from the proper officials of the university concerned; wherever detailed information has been furnished with reference to causes of increase or decrease in registration, changes in equipment, etc., the material is set off by smaller type. At the majority of institutions, additional registrations during the remainder of the academic year will increase somewhat the figures given in the table. This is especially true in the case of an institution like Columbia, which admits new students to its academic department in February, as well as in September.

Comparing the figures for 1906 with those for 1905, it will be seen that a number of institutions show a loss, which, in the case of California (—10.61%) and Leland Stanford (—4.73%), may be traced to external causes. The other universities that have suffered a decrease in attendance are Johns Hopkins (—10.17%), Northwestern (—5.59%) and Columbia (—2.21%). The greatest gains have been made by Pennsylvania (14.69%), New York University[1] (12.74+%), Indiana

[1] The Kansas and New York University figures for 1902 to 1905, and the Nebraska figures for

(10.02%), Missouri (9.75%), Syracuse (8.21%), Virginia (7.04%), Nebraska (6.52%), Ohio (5.98%), Cornell (5.27%), Illinois (4.81%), Chicago (3.59%) and Michigan (3.38%). Harvard (1.14%) and Wisconsin (0.52%) show slight gains, while the registration at Kansas,[1] Minnesota, Princeton and Yale has, to all intents and purposes, remained stationary.

If we compare the registration of 1906 with that of 1902, we shall find that every university, with five exceptions, has increased its registration during the intervening period, the exceptions being California (−11.71%), Northwestern (−8.35%), Indiana (−8.07%), Johns Hopkins (−7.62%) and Harvard (−2.29%). The largest gains during this period have been made by Pennsylvania (54.34%), New York University (49.16+%), Missouri (47.09%), Ohio State (36%), Kansas (30.60+%) and Virginia (27.13%). Next come Cornell (24.20%), Michigan (24.18%) and Yale (24%), and these are followed by Minnesota (12.52%), Stanford (11.03%), Chicago (10.13%), Nebraska (9.65+%), Columbia (8.09%) and Wisconsin (7.46%). The enrollment at Princeton has remained stationary, the increase being one of only 0.52%. In the case of several institutions the large gains may be ascribed to the establishment of summer sessions.

According to the figures for 1905, the twenty-one universities included in the table ranked as follows: Harvard, Columbia, Chicago, Michigan, Minnesota, Cornell, Illinois, California, Yale, Pennsylvania, Wisconsin, Northwestern, Syracuse, Nebraska, Ohio State, Missouri, Leland Stanford, Indiana, Princeton, Virginia and Johns Hopkins. Comparing this with the order for 1906, we notice that for reasons to be discussed more in detail later, several changes have occurred. Harvard still has the largest registration, but is followed by Chicago, with Michigan third and Columbia fourth. Cornell has this year a larger registration than Minnesota, Pennsylvania and Yale have passed California, and the former has made other gains, the order this year—after Cornell—being Minnesota, Pennsylvania, Illinois, Yale, New York University, California, Wisconsin, Syracuse, Nebraska, Northwestern, Ohio State, Missouri, Kansas, Indiana, Princeton, Virginia and Johns Hopkins. Omitting the summer session registration, the order would be as follows: Harvard, Michigan, Columbia, Chicago, Pennsylvania, Cornell, Minnesota, Illinois, Yale, New York University, Syracuse, California, Wisconsin, Nebraska, Northwestern, Chicago, Ohio State, Missouri, Kansas, Stanford, Princeton, Indiana, Virginia and Johns Hopkins.

I desire at this place to express the hope that this article will not be interpreted by the reader as desiring in any way to place undue emphasis upon mere numbers as the most important factor in the development of a higher institution of learning; at the same time it will no doubt be of interest to notice where and how gains and losses have been experienced. No sensible person will regard the number of students in attendance at a university as the sole criterion of the advantages that one institution has over another.

Examining the different faculties, we notice that most of the institutions this year show an increase in enrollment in the academic department. This is true as far as men are concerned of every institution in the table, with the exception of Johns Hopkins and Wisconsin, and it is a rather remarkable fact, since several universities for a number of years have registered continual losses in their academic departments—these losses being in many cases due to corresponding gains in the scientific schools. A reaction has apparently set in in this direction, at least at a number of institu-

1902, are those for the close of the respective academic years.

tions. At Princeton, for example, the number of academic students has increased from 629 to 758, at Yale from 1,323 to 1,350, at Columbia from 557 to 606; whereas the number of scientific students at the same institutions has decreased from 624 to 484 in the case of Princeton, from 1,028 to 929 in the case of Yale and from 566 to 524 in the case of Columbia. At Harvard the discrepancy is even greater, the reason for which will be given later. The only other institution, in addition to those mentioned above, which shows a loss in the enrollment of the scientific schools is the University of California, and there the decrease is scarcely worthy of mention. The largest gain in the number of scientific students has been made by Illinois (from 880 to 1,020). As far as the number of women in academic courses is concerned, there has been a decrease at California and Stanford, while in all of the other institutions there has been a noticeable gain, particularly at Indiana, where the number has increased from 299 to 397; at Missouri, where a gain from 281 to 354 may be noted, and at Wisconsin, where the number of women has grown from 653 to 718.

The professional schools of law and medicine show a general falling off in attendance, appreciable gains in law having been made only by Chicago, Illinois, Indiana, Missouri, Northwestern, Syracuse, Virginia and Yale; and in medicine only by Indiana, Northwestern, Pennsylvania, Virginia and Yale. Strange to say, a number of the institutions show a decrease also in the enrollment in the graduate schools, appreciable gains having been registered only in the case of Cornell, Missouri, Virginia and Wisconsin. In pharmacy some of the institutions have made slight gains, while others show a loss. None of the institutions has lost veterinary students and the same holds true for forestry, although the gains are in no case large. The only dental schools that show an increase are those of Michigan and Pennsylvania. Architecture and music exhibit gains all along the line, with few exceptions. Minnesota and Ohio are the only institutions which have experienced a loss in students of agriculture. The divinity school at Harvard is practically as large as it was last year, while at Northwestern there is a loss of forty-six, at Yale of six and at Chicago of four students. Pedagogy shows a healthy increase in all but one of the institutions (Wisconsin).

Harvard still maintains the large lead that it has had for a number of years in the academic department. Inasmuch as a number of universities do not separate men from women in the academic statistics, it is difficult to determine the exact order for men only, but taking both men and women into consideration, the order would be Harvard, Michigan, Wisconsin, California, Leland Stanford, Minnesota, Yale, Chicago, Syracuse, Columbia. It will thus be seen that of the ten universities having an enrollment of over one thousand academic students, six are situated in the west. Cornell still leads in the number of scientific students, Michigan occupying second place, as was the case last year. Illinois comes third, followed by Yale, Wisconsin, Ohio State, California, Pennsylvania, Nebraska, Minnesota, Missouri and Columbia. Of the twelve institutions in the table with an enrollment of over five hundred scientific students, eight are located in the western states. New York University has the largest law school among the institutions in the list, with Michigan second, Harvard third and Minnesota fourth, Harvard being the only one of these four requiring a baccalaureate degree for admission. Pennsylvania has the largest medical school, with Northwestern second and Illinois third. As for the graduate schools, Columbia with an enrollment of 808 students

is by far the largest, Harvard with 437, Chicago with 358 and Yale with 357 following in the order named. Minnesota has by far the largest school of agriculture, while Pennsylvania leads in the students of architecture and Syracuse in those of art; Pennsylvania also has by far the largest school of dentistry, Northwestern leads in divinity and Yale in forestry (although some of the western institutions that include forestry under agriculture may actually have more forestry students than Yale); Syracuse has the largest school of music, Columbia the largest teachers' college, as well as the largest school of pharmacy, Ohio State the largest number of veterinary students. As far as the summer session of 1906 is concerned, Harvard and Columbia attracted more than one thousand students, Michigan, California, Indiana and Cornell following in the order named.

Taking up the different institutions included in the table in alphabetical order, we come first to the *University of California.*

The total number of undergraduates in the colleges of letters and science (including engineering) is 2,365, a gain of just three as compared with November 1, 1905. This is the largest number of undergraduates ever enrolled at this period of the academic year. The number of graduate students is 204, a loss of 67. This loss, however, is more apparent than real. Last year there was an unprecedented increase in the enrollment of graduate students, due to a new regulation which made it necessary for the graduates of 1905 who were applicants for the teachers' certificate to return to the University for at least a half-year of graduate study. For various reasons due to local conditions, this regulation was temporarily suspended for the class graduating in the summer of 1906. As a result very few of the graduates of last summer who were aiming at teachers' certificates have found it necessary to come back to the University for work in the graduate department. Hereafter, by action of the State board of education, high school teachers in California are not to be certificated on University credentials without a year of professional study following the baccalaureate degree.

Turning now to the professional colleges, in San Francisco, it will be noticed that the school of art has been temporarily discontinued. The building and the equipment of the school were totally destroyed by fire, though a few of the most valuable paintings in the gallery were rescued. As regards the loss of students in the other professional colleges, it is to be said that existing conditions in San Francisco are only in part responsible. Some of these colleges have been losing heavily during recent years and others have been barely holding their own. As was reported a year ago, the college of medicine has revised its admission requirements and demands, in addition to the equivalent of a four years' high school course, at least two years of properly selected university work. Eight or ten years ago the colleges of law, dentistry and pharmacy began to decline in number of students. During the last four years the enrollments of law and pharmacy have been practically stationary, and that in dentistry has continued to decline.

The principal additions to our equipment during 1905–6 were as follows: California Hall was completed and occupied. The administrative offices and the departments of history, economics, political science and education as well as the Bancroft library are housed in this building. The cost of the building, including equipment, was $292,000. In the men's gymnasium, new dressing rooms and showers were added at a cost of $30,000. In the women's gymnasium similar improvements were installed at a cost of $8,100. Temporary accommodations were provided for the departments of architecture and entomology at a combined cost of about $7,000. The university has established on the campus a students' infirmary. For the present, a wooden building upon the campus, formerly used as a dwelling-house, will be refitted and equipped as an infirmary and dispensary. For the maintenance of the infirmary the students here at Berkeley (colleges of letters and science, including engineering) are assessed two dollars and a half per half-year.

I have recently taken some pains to investigate the precise result of the San Francisco disaster upon the living accommodations of the students. It will help in understanding the questions at issue if the reader be reminded that the University of California has never maintained dormitories for the students; and that in 1894–95 only 51% of the students attending the colleges at Berkeley had their lodgings in Berkeley dur-

ing the university sessions. The remainder of the students found their lodgings in Oakland, San Francisco, and other nearby cities and towns. During the past twelve years the proportion of students lodging in Berkeley has increased steadily. In 1905–6, 78.6% of the undergraduate students and 75.4% of the graduate students had their lodgings in the University town. This great increase took place in spite of the fact that during these twelve years there were remarkable improvements in the means of interurban transportation in this vicinity. One might have supposed that this increased convenience in transportation would have induced a relatively larger number of students to live in Oakland or San Francisco or Alameda. Happily for the solidarity of university life and spirit, no such result has come about.

During the weeks following the earthquake and fire in April last, many thousands of people from San Francisco made their homes in the suburban towns, including Berkeley. For a time it seemed as if the students of the summer session would not be able to find lodgings in Berkeley. Even more strongly it was feared that accommodations for the 2,500 or more students who were to be registered during the regular session beginning in August, would be far from adequate. There were not wanting prophets who declared that it would be necessary for the students to live in tents or portable houses or to find rooms in Oakland or in settlements miles from the university. It is found, however, that the number of undergraduate students who have taken lodgings here in Berkeley this year is two per cent. greater than one year ago. As for the graduate students, the relative increase in Berkeley residents is 5.1%.

For the student who finds it necessary to economize, the cost of comfortable board and lodging in Berkeley is estimated to have increased not to exceed 10%, which increase is doubtless a temporary condition following the influx of San Francisco residents in and after April last. In many of the students' clubs and fraternities there has been no increase at all in living expenses.

Perhaps the most distinctive new feature of our university life during the past year has been the series of university symphony concerts, given in the Greek theater under the direction of Professor J. Frederick Wolle, who began his work in the university as professor of music in September, 1905. The first series of symphony concerts was begun in February and continued until May. The maximum attendance at any one performance reached 7,000 and at no time fell below 4,000. A second series is now being given and will be continued until late in November.

One of the most notable acquisitions of the past year is the Bancroft historical library of 50,000 volumes and 125,000 manuscripts, which has recently become the property of the university. Following the installation of this library, there has been established an academy of Pacific Coast history.

As for the *University of Chicago*, attention has been called to the fact that it is very difficult to compare the enrollment at Chicago with that of other institutions, on account of the four-quarter system in vogue at the former institution, during each or all of which a student may be in residence. To quote from the *Boston Evening Transcript* of October 20:

To enable an exact comparison of student attendance with that of other institutions having the customary three-quarter (equal to nine months) system, the attendance of students is usually reduced to the three-quarter system. A student in residence one-quarter equals one-third of a unit; in residence two-quarters equals two-thirds of a unit; in residence three-quarters equals one unit; and in residence four-quarters equals four-thirds of a unit. On this three-quarter basis the total enrollment for 1905–6 would be 3,205. The attendance during the summer quarter of 1906 was the largest in the history of Chicago summer quarters. The total registration for the first term of the summer of 1906 was 2,385, as against 1,999 in 1905, showing a gain of 19.3%. The attendance the second term was 1,583, as against 1,347 last year, a gain of 17.5%. The total number of different students for the entire summer of 1906 is 2,702; the total number of different students in both terms in 1905 was 2,293, showing a gain of 17.8%. Gains were distributed rather uniformly through the different schools and colleges, the largest percentage of gain, however, being in the divinity school; the college of education also showed a large increase in attendance. Of the total number of students in the different schools, 2,702, it may be added that 1,308 were men and 1,394 were women.

An inspection of the accompanying table will show that there has been a slight decrease in the total registration of *Columbia*

COMPARATIVE REGISTRATION FIGURES, NOVEMBER, 1906

Faculties	California	Chicago	Columbia	Cornell	Harvard	Illinois	Indiana	Johns Hopkins	Kansas	Leland Stanford, Jr.	Michigan	Minnesota	Missouri	Nebraska	New York	Northwestern	Ohio State	Pennsylvania	Princeton	Syracuse	Virginia	Wisconsin	Yale
College Arts, Men	566	702	606	} 731	2236	362	503	166	352	993	} 1528	515	371	290	263	368	268	307	755	} 1332	278	785	1350
College Arts, Women	929	647	398		399	395	397	—	364	476		871	354	669	152	479	266	—	—		—	718	—
Scientific Schools*	758	—	524	1544	242	1020	—	—	400	—	1197	615	577	619	194	—	770	636	484	407	118	782	929
Law	40	146	261	206	689	156	189	—	170	140	748	441	232	171	806	235	149	297	—	180	206	150	290
Medicine	54	145	352	336	296	488	65	264	107	—	423	196	65	132	448	500	—	594	—	150	133	—	155
Graduate Schools	204	358	808	212	437	139	—	156	50	49	96	53	107	95	222	40	41	285	110	65	43	302	357
Agriculture	112	—	—	256	43	361	—	—	—	—	—	763	108	175	—	—	180	—	—	—	—	143	—
Architecture	†	—	87	83	‖	130	—	—	—	—	—	—	—	—	—	—	17	136	—	45	—	—	—
Art	‡	—	—	—	‖	13	—	—	16	—	—	—	—	59	—	—	—	—	—	77	—	—	40
Dentistry	35	—	—	—	65	85	—	—	—	—	168	162	—	—	—	325	—	356	—	—	—	—	—
Divinity	—	173	—	—	37	—	—	—	—	—	—	—	—	—	—	210	—	—	—	—	—	—	82
Forestry	**	—	—	—	‖	**	—	—	—	—	—	**	—	—	—	—	12	—	—	—	—	—	59
Music	†	—	26	—	‖	104	—	—	127	—	—	†	—	315	—	367	—	44	—	619	—	230	81
Pedagogy	†	178	726	—	‖	†	—	—	—	—	—	†	277	—	420	—	—	—	—	332	—	58	—
Pharmacy	45	—	254	—	—	171	—	—	80	—	92	71	—	—	—	120	66	—	—	—	—	34	—
Veterinary	—	—	—	88	—	**	—	—	—	—	—	—	—	—	36	—	125	111	—	—	—	—	—
Other Courses	—	247	—	248	—	42	—	32	—	—	—	—	—	200	544	131	62	1028	—	40	—	—	—
Deduct Double Registration.	—	(167)	(156)	(5)	(15)	—	(106)	—	(139)	(140)	(81)	—	(288)	(70)	(61)	(140)	(2)	—	—	(328)	(33)	(483)	(71)
Total	2743	2429	3886	3699	4429	3466	1048	618	1527	1518	4171	3687	1803	2655	3024	2635	1954	3794	1352	2919	745	2719	3272
Summer Session, 1906	707	2702	1041	642	1074	502	682	—	265	51	794	336	403	246	351	—	389	275	—	131	—	550	222
Deduct Double Registration.	(204)	(400)	(277)	(266)	(160)	(158)	(215)	—	(102)	(39)	(291)	(79)	(135)	(94)	(92)	(—)	(163)	(135)	—	(46)	—	(170)	(17)
Grand total, 1906	**3246**	**4731**	**4650**	**4075**	**5343**	**3810**	**1515**	**618**	**1690**	**1530**	**4674**	**3944**	**2071**	**2807**	**3283**	**2635**	**2180**	**3934**	**1352**	**3004**	**745**	**3099**	**3477**
" " 1905	3631	4557	4755	3871	5283	3635	1377	688	1706	1606	4521	3940	1887	2635	2912	2791	2057	3430	1361	2776	696	3083	3477
" " 1904	3738	4035	4833	3833	5392	3369	1206	740	1446	1424	4000	3886	1704	2728	2380	2856	1758	3027	1385	2452	691	3370	3008
" " 1903	3690	4146	4557	3438	6013	3239	1614	694	1319	1370	3926	3550	1540	2513	2177	2740	1710	2644	1434	2207	638	3221	2990
" " 1902	3676	4296	4302	3281	5468	—	1648	669	1294	1378	3764	3505	1408	2560	2201	2875	1603	2549	1345	2020	586	2884	2804
Officers	336	341	600	525	583	424	85	189	109	150	332	324	164	175	262	290	176	375	177	213	83	313	428

*Includes schools of chemistry, engineering, mining and related departments.

†Included in college statistics. ‡Temporarily discontinued.

‖Not a separate school; courses taken by undergraduate and graduate students in college or scientific school and graduate school respectively.

**Included in agriculture.

University in comparison with last year, the decrease being due primarily to losses in several of the professional faculties. Columbia College shows a considerable increase over last year, the registration in this faculty having reached the high-water mark. There will no doubt be forty or fifty new students in February, which would bring the total registration at the close of the year to about 650, as against 589 for 1905–6. The entering class in the College is the largest in its history. Barnard College continues to show an increase and the figures will probably pass the 400 mark before the close of the year. The graduate faculties of political science, philosophy and pure science all have practically as many students as they had last year. This year for the first time the period of registration was reduced considerably, and as a result a number of students who did not report at the university in time failed to register altogether. The faculty of applied science again shows a decrease over the preceding year, although the number of new students is equal to that of last year. The requirements for advancement in this faculty have been increased considerably, and as a result a number of students who were unable to maintain their standing found it desirable to leave the institution. There has, accordingly, been a considerable improvement in the quality of the material, from the standpoint of scholarship. Under the faculty of fine arts, the school of architecture shows a decrease, due to the increased requirements for entrance—two years of college preparation—to the course leading to the degree. The law school shows a slight falling off this year, although the entering class is much larger than that of 1905. To the 92 students in the first-year class should be added 22 men from Columbia College enrolled also under the law faculty. The requirements for advancement in the law school have been strengthened considerably, and this accounts to a certain extent for the decrease in the second-year and third-year classes. All four classes of the medical school are classes that entered under the increased requirements, whereas last year there were only three such classes. The probabilities are, therefore, that the attendance at the medical school has reached its minimum this year, and from 1907 on there should be a gradual increase in the size of the entering class. Conditions at the College of Pharmacy are similar to those in the medical school, inasmuch as both of the present classes entered under the increased admission requirements, whereas last year one large class which had entered the year before the strengthened requirements became operative still remained. The increase in the number of graduate students at the College of Pharmacy is very encouraging. In spite of the fact that the first-year class at Teachers College has been abolished, this school shows an increase in primary registration of fifty-one over last year. In 1905 and the years preceding, Columbia and Barnard students who were also candidates for a diploma in teaching were included under Teachers College, but if the primary registration only is counted, it would show an increase from 667 in 1905 to 718 in 1906.

In connection with the development of material equipment, attention may be called to the fact that the Chapel and Hamilton Hall (a half-million-dollar building for the use of the undergraduate college for men) are ready for occupancy and that the corner-stone of Brooks Hall, a dormitory for Barnard College—the undergraduate department for women—has been laid. Among other important developments may be mentioned the establishment of a faculty of fine arts, comprising schools of architecture, design and music, the courses in design to be conducted in

cooperation with the National Academy of Design. In connection with the faculty of fine arts a course of study is offered for the first time leading to the degree of bachelor of music, and several students have become enrolled as candidates for this new degree. The Theodore Roosevelt professorship of American history and institutions in the University of Berlin and the Kaiser-Wilhelm professorship of German history and institutions at Columbia University were founded during the past year, Professor John W. Burgess, dean of the faculty of political science, being the first incumbent of the chair at Berlin, and Hermann Schumacher, of the University of Bonn, being the first incumbent of the Columbia chair. President Arthur T. Hadley, of Yale, has been appointed second Theodore Roosevelt professor. Columbia and Yale have cooperated in the establishment of courses in preparation for foreign service, and several Columbia students have become candidates this year for the consular certificate. The joint course of study is intended for the benefit of young men preparing for work in foreign countries, whether in the service of the United States government, in business enterprises, or as missionaries or scientific investigators. Barnard College has established a course leading to the degree of bachelor of science. The work of the first two years of the collegiate course of Teachers College will be transferred from Teachers College to Columbia College, for men, and to Barnard College, for women. In other words, a candidate for the B.S. degree in education spends the first two years at Columbia or Barnard College, respectively, and the last two years at Teachers College. In accordance with this arrangement the first-year class at Teachers College has been abolished this year; the second-year class will fall out in 1907.

At *Cornell University* there has been a noticeable gain in the academic department, as well as in the scientific schools. Under 'scientific schools' are included only those of mechanical engineering (with an enrollment of 1,084 students) and civil engineering (with an enrollment of 460 students), the students in chemistry being included under the academic department, and not under the scientific department. Practically all of the gain in the scientific schools has been made in the department of civil engineering, the enrollment of Sibley College (the department of mechanical engineering) having remained stationary. The schools of law and medicine show a decrease, the graduate schools and the school of agriculture an increase, while the school of architecture and the veterinary college have practically the same enrollment as in 1905. The summer session shows a gain from 619 to 642, although the number of summer-session students who returned for work in the fall has decreased from 312 to 266.

The total attendance at *Harvard University* shows an increase, to which the academic department particularly has contributed. The law school and the graduate schools, as well as the school of dentistry, show a falling off, while divinity has the same enrollment as last year. Medicine shows an increase of six.

The increase in Harvard College (from 1,898 to 2,236) and the noticeable reduction of the Lawrence Scientific School (from 507 to 242) is due to changes of classification and also to new plans of study adopted by scientific undergraduates in connection with the establishment this year of the new graduate school of applied science. This year students formerly registered in the Lawrence scientific school were given their choice of remaining in the four-years prescribed programs leading to the degree of B.S. in a designated field of study, such as mining engineering or architecture, or of shifting their registration to Harvard College, there to receive the plain degree of B.S. on an elective course of study. Those who have chosen the latter alternative will in many cases take a more liberal course of study than would have been open to them in the Law-

rence scientific school, postponing their advanced professional work until they enter the graduate school of applied science, where they will spend two or three years. Owing to these changes, the body of students corresponding to that which has heretofore been catalogued as scientific, that is, in the sense that they are actually working toward a professional degree in science, can only be found by adding to the students in the old undergraduate four-year programs in science, all those students now in Harvard College who, while candidates for the elective B.S. or the A.B., are continually pursuing such elementary or introductory studies in science as shall most effectively advance their subsequent candidacy for one of the degrees of the graduate school of applied science.

To extricate these undergraduates so as to furnish a satisfactory comparison with last year is so complicated and futile a task, that it seems best to let the category 'scientific schools' stand with its apparently heavy loss. It may be predicted that the undergraduate portion of this category (212 in 1906) will disappear in a few years, while the graduate portion (30 in 1906) will slowly increase, until the scientific professional branches are completely established at Harvard on the graduate level on which its schools of divinity, law and medicine already stand.

As among the most important events of this period at Harvard should be mentioned the establishment of the medical school in its five great white marble buildings on land already arranged for the neighboring occupancy of a group of important hospitals—an equipment which is noteworthy not only for its present adaptation to medical instruction and research, but also for its generous and minutely elaborated allowances for future growth. The other important addition to Harvard's equipment of buildings is the new building for the law school, to be called Langdell Hall, in honor of the late dean of the school.

In the financial administration of the University an important feature this year is the establishment in the departments within the faculty of art and sciences of a new system of tuition fees, whereby each student is obliged to pay in addition to the lump sum of one hundred and fifty dollars a year, twenty dollars for each course beyond the minimum number required for a full year's work.

Harvard is offering this year for the first time a considerable group of afternoon and Saturday courses for teachers. The students thus enrolled are not counted in the table.

At the *University of Illinois* there has again been a good increase in the grand total, but the increase aside from the summer session is also quite marked. Gains have been made in every department, with the exception of medicine, dentistry and the graduate schools, the largest increase having been made (as was the case last year) by the scientific schools. The 42 students mentioned under 'other courses' are enrolled in the library school, which offers a five-year course leading to the degree of B.L.S.

The enrollment in *Indiana University* shows a satisfactory increase all along the line, the growth being noticeable especially in the academic department for women, where the enrollment has increased from 299 to 397, and in the school of medicine, which has increased from 26 to 65 students.

At *Johns Hopkins University* there has been a decrease in enrollment, the college registration having dropped from 188 to 166, that in medicine from 293 to 264, that in the graduate schools from 160 to 156, and in 'special courses for physicians' from 47 to 32.

As the figures of the *University of Kansas* for 1902 to 1905 are those for the close of the respective academic years, no accurate comparisons can be made. No doubt the final figures for 1906–7 will show a gain over last year. The large increase in 1905 was due to the merging of the university medical school and three medical schools in Kansas City, Mo. This university is at present erecting a $100,000 gymnasium, which is to be occupied in the fall of 1907.

Leland Stanford University shows a slight decrease, the reason for which is self-evident. This decrease has made itself felt in all departments but law, which has remained stationary. It should be noted in connection with the statistics of this university that the number of women is lim-

ited to 500, and that in future the number of men also will be strictly limited, probably on the following basis; about 500 in the general courses, 500 in the engineering and law courses and an unlimited number of graduate students.

The University of Michigan shows no such remarkable gains in attendance as was perceived last year at the same date; nevertheless, there has been a considerable increase everywhere except in the departments of law and homeopathic medicine, and in the graduate schools. The decrease in the professional schools mentioned may be due partly to the increased requirements for admission. While the number of women remains approximately the same, the number enrolled as first-year students is smaller and those coming with advanced credits from other colleges correspondingly larger. The attendance of women by departments is as follows: academic 655, medicine 22, homeopathic medicine 10, dentistry 5, pharmacy 2, engineering 1, graduate schools 25. The inability to secure absolutely accurate returns from the University of Michigan has somewhat marred the value of the figures from this institution.

The *University of Minnesota* shows a slight loss over last year in the fall registration, although an increase in the enrollment of the summer school brings the grand total four in advance of last year's figures.

The total of 3,944 does not show the complete registration for the year, as the law school is conducted on a term system, and students will enter late for work of the different terms. Also at the beginning of the second semester we shall have from fifty to one hundred students entering the various departments. The graduate registration will also be increased somewhat before the year is over. The other departments will remain almost exactly as stated. A conservative estimate therefore of the total enrollment for the current year will be something over 4,000, between 4,000 and 4,100. A comparison of the statistics of this year with those of last shows a slight increase in nearly all departments except the graduate school. The decrease there is due undoubtedly to the establishment of a graduate school with a dean at its head and a regular system of fees, and more rigid requirements regarding the registration of graduate students. The matter of conducting graduate work has been definitely systematized and the fees increased from $10 a year to $10 a semester. This will explain in part the difference in the two registrations. A falling off in the scientific schools, due to the increased standard for admission to the engineering college, was expected, but did not take place. On the contrary, there was an increase from 576 to 615. Entrance examinations are required for one year of elementary algebra, one half-year of higher algebra, one year of plain geometry and one half-year of solid geometry of all students entering this college, regardless of the standard of the schools from which they come. The college of medicine and surgery has increased its entrance requirements from one year to two years. This new requirement is to go into effect in 1907–8. A college of education has just been established with a dean at its head, but because of the newness of the organization, students are classed this year with the college of science, literature and the arts. A slight decrease is expected in the college of dentistry due to the increase in annual fees from $100 to $150. The college has all the students it can take care of and no more would be admitted.

There is a slight decrease in the number of women in the college of science, literature and the arts, and quite a large increase in the number of men. This is explained in two ways. First, the rigid requirements in mathematics have turned some away from the college of engineering and they perforce enter the college of arts, where the bars are not so high. Secondly, the college of science, literature and the arts has made a slight change in the entrance requirements, which really lowers its standard for admission. Heretofore students were required to present a certificate of graduation from an accredited high school and in addition were held for fifteen year-credits. As the choice of these fifteen year-credits was somewhat limited, it was found that students taking the manual training and commercial courses in the high schools had not the proper credits for admission to the college of science, literature

and the arts, whereas those taking the general, scientific, or Latin courses were admitted without question. As the regulation now stands, students are admitted from any accredited school, provided the certificate of graduation shows the completion of four years of English and two years of mathematics, the other subjects being optional. This would naturally lead to an increase in the number of men in the college of science, literature and the arts.

The attendance at the *University of Missouri* continues to increase, the total gain in the fall registration (exclusive of the summer session) being no less than 178 this year, as against a gain of 89 last year. This gain is distributed over all the departments, with the exception of medicine.

In the department of medicine there has been an increase of two years work in the entrance requirements. For the session of 1905–6, three years of high school work was required. For the present session, students must have completed one year's college work in specified subjects in addition to the four years' high school work required for entrance to the college. This increase in entrance requirements is in large part responsible for the decrease in enrollment in the department of medicine. For the past eighteen months there has been considerable agitation for the removal of the work of the two last years in medicine to St. Louis or Kansas City. While no definite decision has been made, as yet, it is probable that the uncertainty contributed in some measure to the loss in this department.

The large increase in pedagogy is a continuation of the movement which commenced in 1904, as a result of the organization of the teachers college and the strengthening of the instruction in this department.

The increase in the academic department (college of arts) is partly due to the increased tendency of students to take the A.B. degree before beginning professional work. This has been promoted by the establishment of combined six-year courses. The increase in the entrance requirements to the department of medicine, referred to above, has also affected the increase in enrollment in the academic department. The large increase in the number of women in the university, too, has affected the enrollment in the academic department and teachers college. This marked increase commenced in 1903 with the opening of Read Hall, a dormitory for women. Of the 2,071 students, 1,483 are men and 588 are women as compared with 1,388 and 499 respectively, in 1905, at the same date.

The *University of Nebraska* shows an increase in every faculty, with the exception of law, and there has also been an increase in the summer session. The 200 students mentioned under 'other courses' represent the estimated enrollment in the short course in agriculture, which begins on January 2. It is rather difficult to make accurate comparisons for the earlier years, inasmuch as the figures for 1902, 1903 and 1904 represent the final figures for the respective academic years, while the 1905 figure represents the enrollment as of November 1 of that year. No doubt the total enrollment for the academic year 1906–7 will reach 2,900.

As *New York University* was not included in the table last year, no comparisons of individual faculties can be made, but there has been a considerable gain in the total over 1905. Among the changes which may have affected the enrollment should be mentioned the increase in the tuition fee in the schools of applied science from $100 to $125; the increase of the fee in the law school from $100 to $130, and the raising of the requirements for the Ph.D. degree in the graduate school from six to eight courses; the addition of a $5 matriculation fee, and the requirement of a seven-years' degree from graduates of the New York City Normal College. In the veterinary college, the entrance requirements have been raised from thirty-six regents counts to forty-eight.

Northwestern University shows a loss in attendance, which is partly due to the fact that there were no summer-session students in 1906, while there were 194 in 1905, although of the latter 152 returned for work in the fall. The gains in the college and the schools of law, medicine, music and oratory, are not sufficient to offset the losses

in the graduate school and the departments of dentistry, divinity and pharmacy. The students enrolled under 'other courses' are registered in the department of oratory.

Ohio State University shows an increase over last year, the only departments showing a loss being those of agriculture and forestry. Of the 180 students in the school of agriculture, 51 are enrolled in the so-called short course, which is two years in length. Of the 62 students under 'other courses,' 15 are registered in the so-called short course in domestic science, which is also two years in length.

The *University of Pennsylvania* has made considerable gains, especially in the scientific schools, and the schools of medicine, architecture, dentistry and veterinary medicine. The academic department and the graduate schools have remained stationary, while the department of law shows a falling off. The greatest increase is to be found under 'other courses,' namely, one from 621 to 1,028. The students given here are enrolled in the courses in finance and commerce, both day and evening, and in the teachers' courses. Some of the latter no doubt fall in the category of extension students, which are omitted in the case of Harvard, Columbia and other institutions, and should therefore not be included here, but it was impossible to ascertain in time just how many of the students enrolled in the courses for teachers should be omitted. The largest increase was in the summer school, which grew from 214 in 1905 to 275 in 1906. The increase in the Towne scientific school is to be found chiefly in the departments of mechanical and electrical engineering. New requirements have been adopted for admission to the law school which exclude all but college graduates, unless the applicants are more than twenty years old, the law school having heretofore admitted all applicants who passed the college entrance examination, irrespective of age. A splendidly equipped engineering building has been occupied for the first time this fall.

The enrollment at *Princeton University* shows a slight decrease over that of 1905. As has already been pointed out, the academic department shows a gain of over 100, while the scientific schools show a similar decrease, the registration in the graduate schools having remained stationary. The entering class is not as large as it was last year, the loss being attributed to increased requirements and the more rigid enforcement of the same. There has been a marked increase in the number of students entering Princeton on advanced standing from other colleges, although this increase does not quite offset the loss in the entering class.

At *Syracuse University* the only department that shows a decrease is that of art, the schools of medicine, architecture and music, as well as the graduate schools, having remained stationary, while the remaining departments show considerable gains, the academic enrollment having increased from 1,213 to 1,332.

The new buildings at Syracuse University now in process of erection and nearing completion are: (1) The general library, the gift of Mr. Andrew Carnegie, with stack accommodations for three-quarters of a million volumes, a reading room to accommodate three hundred students, and twenty seminar rooms, besides ample accommodations in the first story for the school of library economy. (2) A hall of natural history, erected at a cost of about $200,000. (3) A $100,000 mechanical laboratory for the engineering courses in applied science. (4) A dormitory for men, with capacity for two hundred; cost about $150,000. (5) A chemical laboratory. (6) Fourteen acres of land adjoining the campus and a large structure known for many years as the Castle, the proportions of which are finely adapted to the work of the teachers college have been purchased. (7) A stadium is being built with a seating capacity of about twenty thousand people; it is an excavation and after the Athenian or ancient Syracuse style. The campus of Syracuse to-day comprises ninety-eight acres. The total number of educational buildings is twenty-one.

The *University of Virginia* shows a considerable increase all along the line, and its enrollment this year is the largest in the history of the institution. The department of engineering began with 58 students in the academic year of 1903–4, there were 88 the following year and 118 at the close of the academic year 1905–6. The final registration for this year will no doubt pass 125. Among recent material improvements and additions may be mentioned the repairing and better equipment of the anatomy hall; the provision and equipping of a histological laboratory; further equipment of bacteriological and pathological laboratory; provision and equipment of a laboratory for physiology and physiological chemistry; provision and equipment of an additional chemical laboratory; a residence for the president of the university; the university commons, and a north wing to the hospital.

The *University of Wisconsin* shows a slight decrease in the fall figures, which, however, is more than offset by the increase in the enrollment of the summer session. The chief decrease has been experienced in the number of men in the academic department, all of the other departments, with the exception of pedagogy, showing a gain or having remained stationary. Attention should be called to the fact that graduate students are assigned to the different colleges in which their work principally lies, the total number of graduate students indicated under the caption of 'graduate schools' having been included in the deduction made for double registration. The entrance requirements for admission to the college of engineering were increased this year, more mathematics being demanded than heretofore. No short-course students have been included in the summary. If the students enrolled in the winter course in dairying and in the short course in agriculture were included, it would increase the enrollment at this university considerably.

The fall registration at *Yale University* still continues to increase, although the grand total (on account of a decrease in the number of summer-session students) is exactly the same as it was last year. The departments that show a loss in their registration are those of art, divinity and music, and the graduate schools, although the decrease is in no case large. A striking fact is the slow but regular gain of the academic department during the last five years.

RUDOLF TOMBO, JR.,
Registrar.

COLUMBIA UNIVERSITY.

SCIENTIFIC BOOKS.

An Outline of the Theory of Organic Evolution, with a Description of some of the Phenomena which it explains. Second Edition, revised. By MAYNARD M. METCALF. New York, The Macmillan Company. 1906. 8vo.

Of popular treatises on the doctrine of organic evolution there is a goodly number, but in none is there such clearness in exposition combined with such abundance of well-chosen and well reproduced illustrations as is to be found in Professor Metcalf's volume. This is a sufficient explanation of early appearance of a second edition of the book, which, the author informs us, is 'not intended for biologists, but rather for those who would like a brief introductory outline' of the theory of evolution. To all teachers of biology, however, as well as to the general public, the book will be welcome, especially on account of the numerous excellent figures which serve to illustrate, almost without description, many of the facts upon which the theory is based. Especially valuable is the series of seventeen plates, several of them colored, illustrating variation in domestic animals and cultivated plants, and especial mention may also be made of the beautiful examples of color printing shown in the figures illustrating color in animals. The extent to which the author has relied on illustrations for the exposition of his subject may be gathered from the fact that