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MSS. intended for publication and books, etc., intended for review should be sent to the Editor of SCIENCE, Garri-son-on-Hudson, N. Y.

## UNIVERSITY REGISTRATION STATISTICS.

A COMPARISON of the enrolment at the institutions indicated in the table for the fall of 1905 with the figures for the previous year will show that on the whole the gains in the different institutions are not so marked as they have been in previous years; indeed, a number of prominent institutions show a decrease in attendance compared with 1904. Among these are the University of California, Columbia, Harvard, Johns Hopkins, Northwestern and Princeton. The most consistent gains have been made by the University of Pennsylvania, Syracuse and Yale in the east, and by Chicago, Illinois, Michigan and Ohio State in the west. The most pleasing feature of the development is the general desire all along the line to advance the standard of requirements for entrance, particularly in the professional schools, and in a considerable number of institutions the decrease in registration may be attributed to this factor. The daily press is still commenting upon the growth of the western institutions and calling attention to a loss in the number of students from the west attending higher institutions of learning in the east. As was pointed out by the writer in an article on the geographical distribution of the student body at a number of American universities,<sup>1</sup> there has in reality been no ap-

<sup>1</sup> Cf. SCIENCE, N. S., Vol. XXII., No. 562, October 6, 1905, pp. 424-428.

FACULTIES	California	Chicago	Columbia	Cornell	Harvard	Illinois	Indiana	Johns Hopkins	Stanford, Jr.	Michigan	Minnesota	Missouri	Nebraska	Northwestern	Ohio State	Pennsylvania	Princeton	Syracuse	Virginia	Wisconsin	Yale
College Arts, Men.....	532	750	557	694	1898	352	493	188	907	886	470	319	263	368	266	305	629	1213	246	881	1323
College Arts, Women.....	943	893	371	1499	356	376	299	.....	488	641	843	281	640	463	254	608	624	391	110	653	.....
Scientific Schools*.....	764	.....	566	.....	507	880	.....	.....	.....	1152	576	562	566	.....	766	608	624	391	110	771	1028
Law.....	76	133	277	220	709	144	178	.....	140	868	455	199	186	214	147	323	.....	160	189	149	277
Medicine.....	72	153	424	362	290	540	26	293	.....	334	191	94	105	486	.....	580	.....	151	121	.....	137
Graduate Schools.....	271	420	804	200	456	145	.....	160	68	123	125	92	93	49	37	287	108	65	30	258	372
Agriculture.....	111	.....	.....	222	27	350	.....	.....	.....	800	97	154	.....	.....	208	123	.....	44	.....	142	.....
Architecture.....	12	.....	167	81	27	110	.....	.....	.....	.....	.....	.....	49	.....	10	.....	.....	.....	.....	.....	.....
Art.....	165	.....	.....	.....	.....	14	.....	.....	.....	130	181	.....	.....	391	.....	325	.....	107	.....	.....	49
Dentistry.....	76	177	.....	.....	36	144	.....	.....	.....	.....	.....	.....	.....	256	.....	.....	.....	.....	.....	.....	.....
Divinity.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Forestry.....	**	.....	.....	.....	.....	88	.....	.....	.....	.....	.....	**	320	336	17	.....	.....	618	.....	.....	88
Music.....	.....	.....	32	.....	.....	.....	.....	.....	.....	.....	.....	207	.....	.....	.....	.....	.....	.....	.....	.....	57
Pedagogy.....	.....	163	792	.....	.....	172	.....	.....	.....	69	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	85
Pharmacy.....	82	.....	353	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Veterinary.....	.....	.....	.....	88	.....	38	.....	47	.....	82	14	.....	200	114	114	621	.....	.....	.....	.....	.....
Other Courses.....	.....	168	.....	199	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Deduct Double Registration.....	.....	168	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	3104	2682	4017	3564	4350	3353	996	688	1603	4084	3730	1625	2504	2749	1914	3302	1361	2723	696	2745	3239
Summer Session (1905).....	795	2293	1018	619	1076	423	622	.....	33	690	210	396	211	194	296	214	.....	88	.....	531	288
Deduct Double Registration.....	(268)	(418)	(280)	(312)	(143)	(141)	(241)	.....	(30)	(253)	.....	(134)	(80)	(152)	(153)	(86)	.....	(35)	.....	(193)	.....
Grand Total, 1905.....	3631	4557	4755	3871	5283	3635	1377	688	1606	4521	3940	1887	2635	2791	2057	3430	1361	2726	696	3083	3477
“ “ 1904.....	3738	4035	4833	3833	5392	3369	1206	740	1424	4000	3886	1704	2728	2856	1758	3027	1385	2452	691	3370	3008
“ “ 1903.....	3690	4146	4557	3438	6013	3239	1614	694	1370	3926	3550	1540	2513	2740	1710	2644	1434	2207	.....	3221	2990
“ “ 1902.....	3676	4296	4156	3281	5468	.....	1648	669	1378	3764	3505	1408	2560	2875	.....	2549	1345	2020	.....	2884	2804
Officers.....	364	316	573	480	569	396	80	173	145	305	231	148	168	345	160	345	157	207	83	271	414

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

† Included in college statistics. § Included in scientific schools.

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

\*\* Included in agriculture. †† Included in pedagogy. §§ 92 students included in other departments.

preciable falling off in the percentage of western students in attendance on eastern institutions, and this statement is borne out at Yale, for example, this year, the university reporting gains in the west and northwest, and the same increase holds true for Columbia. In the case of the latter institution, the erection of dormitories is no doubt partly responsible for this growth in the number of students hailing from the middle and far west. Unquestionably the low tuition fees at the western state institutions are responsible in large measure for the consistent gains made by most of these institutions in the matter of attendance.

The statistics given on page 730 are, with minor exceptions, approximately as of November 1, 1905, and relate to the registration at twenty-one of the leading universities throughout the country. I wish again to point out that the higher institutions here represented are not the twenty-one largest nor the twenty-one leading universities of the country. The figures have in every case been secured from the proper officials of the university concerned. At the majority of the institutions the final enrolment at the close of the year will no doubt be in excess of the figures given in the table, but changes of this nature made in the course of the academic year are as a rule not of sufficient magnitude to influence the general result. A number of newspapers have published comparative tables this fall which have been thoroughly misleading, inasmuch as they were based upon returns that were altogether too early. To mention just one illustration, an article in the *Boston Transcript* for October 14, 1905, enumerated the American universities having the largest student enrolment (exclusive of the summer session registration) in the following order: Michigan, Harvard, Minnesota, Columbia, Pennsyl-

vania, California, Yale, Cornell, etc.; whereas the later figures show that it should have been Harvard, Michigan, Columbia, Minnesota, Cornell, Illinois, Pennsylvania, Yale, etc.

According to the figures of 1904, the twenty-one universities included in the comparison ranked as follows: Harvard, Columbia, Chicago, Michigan, Minnesota, Cornell, California, Wisconsin, Illinois, Pennsylvania, Yale, Northwestern, Nebraska, Syracuse, Ohio State, Missouri, Leland Stanford, Princeton, Indiana, Johns Hopkins and Virginia. Comparing this with the 1905 order, we notice that there has been no change in the relative positions of the six universities having the largest total enrolment, that is, counting in the summer session registration. Illinois, however, has passed California, although the registration at the two universities is practically identical. The fact that Yale has passed the University of Pennsylvania is due to the establishment of a summer session at the former institution, but there is very little difference in the enrolment of the two universities. The Wisconsin figures for this year do not include the dairy students and short-course students in agriculture, which were included in previous years; this does not, however, affect the relative standing of the institution as to numbers. Northwestern occupies its old position and Syracuse has passed Nebraska. Ohio State, Missouri and Leland Stanford occupy the same relative positions as last year, while Indiana has passed Princeton, although the difference in enrolment of the two institutions is quite small. Omitting the summer session registration, the order would be as follows: Harvard, Michigan, Columbia, Minnesota, Cornell, Illinois, Pennsylvania, Yale, California, Northwestern, Wisconsin, Syracuse, Chicago, Nebraska, Ohio State, Missouri, Leland

Stanford, Princeton, Indiana, Virginia and Johns Hopkins. It is to be hoped that none of the universities included in the table is entering into competition with its fellows for mere numbers, and I trust that this article will not be interpreted by the reader as desiring in any way to lay stress upon the factor of numbers as the most important item in the development of a higher institution of learning. Nevertheless, the figures reflect certain important features of the manner of expansion of prominent American universities, and viewed from this standpoint, they are no doubt of value.

Examining the different faculties, we are struck at once by the continued decrease in attendance at the medical schools throughout the country, a loss that can not be explained by increased admission requirements alone. Unquestionably the reasons stated in a previous article must also be taken into consideration.<sup>2</sup> Numerous reports indicate that in France especially the supply of physicians is far in excess of the demand. The only increase of note at any of the medical schools enumerated in the table is at that of the University of Pennsylvania, where the faculty of medicine shows a gain of 33 students, making the Pennsylvania medical school the largest in the list, Illinois being second, Northwestern third and Columbia fourth. One half of the law schools show a gain, whereas the other half have experienced a loss in attendance. The law school of the University of Michigan is by far the largest of those mentioned in the table, Harvard still being second, Minnesota third and Pennsylvania fourth. Columbia and Yale are apparently equal in size, but the Columbia figures do not include 24 college seniors, which would

bring its total law registration to 301. The scientific schools continue to increase all along the line. At Princeton the number of scientific students is practically equal to the number of academic students, while only three years ago there were 264 more academic than scientific students. At Yale, too, the number of scientific students is increasing rapidly, and the difference between the number of academic and scientific students has been reduced from 445 to 295 during the past three years. At the same time, it should be pointed out that the increase in the scientific schools is not quite as marked in a number of institutions as it has been in previous years, yet if the present rate of increase should continue, the time will no doubt come when the supply of students equipped for technological work will exceed the legitimate demand. The Massachusetts Institute of Technology shows a falling off in enrolment this year compared with the corresponding date last year. The statement occasionally made, sometimes more in jest than in earnest—especially in connection with the coeducational institutions in the middle west—that the large increase in the number of women students in the academic department is causing men to flock to the scientific schools in these institutions, is no doubt founded upon fact in more than one instance. Cornell still leads in the number of scientific students, Michigan being second, Yale third and Illinois fourth, and Harvard continues to have the largest academic enrolment. Its summer session was also the largest last year (leaving Chicago out of consideration), Columbia's being second, California's third and Indiana's fourth. The Columbia figures are exclusive of the scientific students registered for summer work in surveying, geodesy, etc., away from the university. Columbia, with an enrolment of 804 stu-

<sup>2</sup> Cf. SCIENCE, N. S., Vol. XVIII., No. 467, December 11, 1903, p. 741.

dents in the graduate faculties, easily maintains the lead in this department which it has held for several years, Harvard, Chicago and Yale following in the order given. Northwestern has the largest dental school, with Pennsylvania second, and the former institution possesses the largest divinity school. The greatest number of music students is enrolled at Syracuse, and the Columbia school of pharmacy is more than twice as large as that of its closest numerical competitor, Illinois. The largest veterinary college is at the Ohio State University, and by far the largest school of agriculture is found at the University of Minnesota, the number of agricultural students at the University of Illinois being 100 less than one half the number of those at Minnesota. The gains that have been made by the schools of agriculture all over the country are worthy of especial mention. As far as is known, instructors in summer schools who are not also counted in the regular academic year of 1905-06 are not included under officers. Of these there were no less than 47 in the Harvard summer school, which would bring the Harvard officers' total to 616.

Taking up the different institutions given in the table in alphabetical order, we note that there has been a slight decrease in the enrolment at the *University of California*, a decrease affecting the summer session as well as the regular term. In the academic department there has been a slight gain and in the scientific schools a slight loss. In the undergraduate departments of the university advanced matriculation requirements were put into effect for the first time this fall. The chief of these new requirements was the addition of French and German to the requirements for admission to all of the engineering colleges and the addition of geometrical drawing to the regular requirements of these colleges. This year,

also, the university for the first time required that all candidates for teachers' recommendations shall spend at least one half-year in the graduate school (after receiving a baccalaureate degree) before receiving their recommendations as teachers. This latter requirement has resulted in a considerable increase in the number of graduate students (from 194 to 271), and it may also have resulted in some loss in the number of undergraduate students, by reason of the fact that prospective teachers may have gone directly from the high schools to the normal schools for their professional training. The professional schools of law and medicine both show a falling off, which is especially marked in the school of medicine, where the decrease has been one from 106 to 72. A year ago there were 33 first year men in medicine, as against 9 this year, the large falling off in their number being due to the fact that beginning with this year no students were admitted to the medical school who did not possess the equivalent of two full years of regular work in a college or university. Although the requirements for matriculation in the college of agriculture were this year advanced so as to equal the requirements for the other schools of the university, there has been a decided gain in the number of new students, an increase that we shall note in connection with all of the other institutions on the list, with a single exception. The dental school shows a slight loss and the school of pharmacy a small gain. The summer session shows a falling off from 913 to 795. Of the 3,631 students at the University of California, 1,872 are men and 1,759 are women.

The fall enrolment at the *University of Chicago* shows a considerable increase over that of last year, whereas the gain in the summer term of the university is not so marked. The college department shows a

considerable increase in the number of students, both men and women, and there have been gains also in law, medicine, divinity, pedagogy and in the graduate schools. The 168 students mentioned under 'other courses' are enrolled in the course in railway instruction, which was begun during the winter of 1904-05. Through an oversight, the number of officers of the university was incorrectly stated last year. The total number given this year includes the actual administrative officers and instructors, but no officers engaged merely in extension work or in affiliated institutions. Of the 4,557 students, 2,332 are men and 2,225 are women.

*Columbia University* shows a slight decrease in enrolment over the previous year, due largely to increased requirements in the professional schools of law, medicine and pharmacy. The academic department shows a considerable gain over the preceding year and reports the largest entering class (157) in its history. This increase may be attributed to several causes, the chief of which is the adoption of a new program of studies, which provides for the degree of B.S. as well as for the degree of A.B. Among the important innovations in the new program the following may be mentioned: Beginning with September, 1905, one half year instead of the whole year is made the unit of credit, the term 'point' signifying the satisfactory completion of work requiring attendance one hour a week for one half year, and the requirement for graduation being 124 points; at least 9 points, exclusive of prescribed work, must be made before graduation under some one department; in any half-year not more than one course in which the student is marked D (poor) may be counted towards a degree; a failure in any prescribed course calls for a repetition of the course; the mark A (excellent) in any two courses

entitles the student to one point of extra credit, provided he has not fallen below the mark B (good) in any of the courses pursued by him during the half-year; a candidate for the degree of A.B. or B.S. must fulfil all requirements for the degree within six years from the time of his first matriculation as a freshman, whether at Columbia or elsewhere; every recipient of the degree of A.B. or B.S. must have made at least 84 points in actual college residence, of which no less than 24 points must have been made in Columbia College; when 72 points (including all prescribed work) have been made, a student may—under certain conditions—take the studies of the first year of the schools of applied science, of the college of physicians and surgeons, of the professional course of Teachers College or in the school of fine arts, and receive the degree of A.B. or B.S. upon the satisfactory completion of two years' work in the professional course; when 94 points, including all prescribed work, have been made, and of these not less than 72 in Columbia College, the student may take the studies of the first year of the school of law, and receive the degree of A.B. or B.S. upon the completion of one year's work in this school. A detailed statement of the new program of studies can be found in the article contributed by Professor Calvin Thomas to the *Educational Review*, April, 1905, and to the *Columbia University Quarterly*, June, 1905. It will be seen from the brief summary given above that students graduated from the public high schools of the city in February are now enabled to enter Columbia College at once, instead of waiting until the following September. The new regulations will also permit a student to graduate in three or three and one half years, instead of in four years, which has been the normal time heretofore. The summer session is becoming more and more

an integral portion of the regular course, and the number of students taking advantage of this medium to shorten the length of their course is constantly on the increase. Another factor that unquestionably entered into the growth of the college is the completion of the two dormitories, Hartley and Livingston Halls, which accommodate about 600 men and which will no doubt work a revolution in the life of the undergraduate student body. Five hundred thousand dollars has recently been presented by an anonymous donor for the erection of a building (Hamilton Hall) to be used by the college. This building is to be ready for occupancy in September, 1906, and will no doubt contribute its share to the growth of the college. Barnard College, the undergraduate faculty for women, shows a slight gain over last year. In the scientific schools there has been a small loss, due to the stricter enforcement of requirements for advancement, but this loss has been more than made up by the gain in the school of architecture, where there has been a considerable increase on account of the introduction of the *atelier* system and of a new course leading to a certificate in architecture instead of to the B.S. degree. All three classes in the law school are composed for the first time of holders of baccalaureate degrees (leaving college seniors out of consideration), and the result is that there has been a considerable falling off in the attendance. The enrolment in the first year class, counting college seniors, is 94. The school of medicine also shows a large decrease, due to the increased requirements that first became operative two years ago. The new requirements did not affect this year's graduating class, so that the attendance next year promises to be even smaller than it is this year. The entering class consists of 92 men, counting the college seniors. The college seniors are not in-

cluded in the figures for law and medicine given in the table. In the school of pharmacy there has been a loss of 82. Last year the attendance in this faculty was unusually large, on account of the desire to register as a student of pharmacy before the new statute increasing the requirements for admission to schools of pharmacy became operative. The increased requirements went into effect this fall, with the result that the entering class is considerably smaller than it was last year. The graduate schools show a growth from 709 to 804, and Teachers College has experienced a remarkable increase, namely, from 627 to 792. The summer session in 1905 was larger than the preceding one, but the increase was more than offset by a greater gain in the number of summer session students who returned for work in the fall, there being 280 this year as against 184 last year, thus emphasizing the statement made before, that the summer session is being regarded more and more as an integral portion of the regular course of study.

At *Cornell University* there has been a slight gain in the academic department and a considerable increase in the scientific schools. The law school has remained stationary, the medical school and the veterinary school show a decrease, while the graduate department and the school of agriculture show a gain, which is especially noticeable in the case of the latter faculty. The enrolment in the short winter course in agriculture has increased from 135 to 199. Of the 1,499 students enrolled in the scientific schools, 1,082 are registered in the department of mechanical engineering (Sibley College) and 417 in the department of civil engineering. The summer session shows a falling off compared with the previous year, and here, as at Columbia, there has been an increase in the number of summer

session students returning for work in the fall. Several new regulations covering students' fees have recently been adopted. For the first time a matriculation fee of \$5 was required of all new students this fall, and the graduation fee has been increased from \$5 to \$10 and the fee for advanced degrees from \$10 to \$20. The tuition fees in all courses in the colleges of mechanical and civil engineering have been increased from \$125 to \$150 per annum. The entrance requirements in engineering have been raised so as to include advanced work in both modern languages, or their equivalent, and this may have contributed to the fact that the departments in question do not show as large gains as they did last year. The number of women students in the university shows an increase for the first time in several years, and this increase probably explains in some measure the gain in attendance in the academic department, in which nearly all of the women students are enrolled.

The total attendance at *Harvard University* shows a decrease of 109, to which the summer session did not contribute. In the college department there has been a loss of 107 men, while Radcliffe College shows a slight increase. The scientific schools, as well as the professional schools of law, medicine, dentistry and divinity, show a falling off in enrolment, while the graduate schools and the department of agriculture show slight gains. The medical school of the university has again raised its standard for entrance by requiring a knowledge of organic chemistry. The full requirements now call for a certificate that the student has passed in one year's full work in organic chemistry, a certificate that he has passed in qualitative analysis, and a college degree. In spite of this fact, there is an increase of ten in the entering class, the first upward step since the requirement of

a degree for admission. At Harvard, as at Columbia, the number of high school graduates in the academic department seems to be larger than ever and there is an accompanying decrease in the number of graduates of private preparatory schools. Of the total number of students registered at Harvard University, 4,382 are men and 901 are women.

At the *University of Illinois* there has been a considerable increase in the grand total, but the increase aside from the summer session is also quite marked. The largest growth is shown by the scientific schools and the law school; the number of men in the academic department has remained stationary, whereas there has been an increase of 51 in the number of women in the same department. The enrolment in the school of medicine has decreased from 629 to 540, thus reflecting the falling off in the number of medical students all over the country, to which attention has frequently been called by the writer. The graduate schools, the school of pharmacy and the school of agriculture show slight gains, whereas there has been a falling off in dentistry and music. The 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. Of the 3,635 students registered at the University of Illinois, 2,898 are men and 737 are women.

The enrolment in the *University of Indiana* shows an increase in the fall registration as well as in the summer session. There is a total enrolment of 1,377 students, of which 862 are men and 515 are women.

At *Johns Hopkins University* there has been a decrease in enrolment of about 7 per cent., for which no definite reason can be assigned. The academic department and the faculty of medicine have remained



stationary, and the falling off has taken place in the graduate schools. The 47 students under 'other courses' are enrolled in medical courses for physicians, and here also there is a decrease over the previous year. Of the 688 students at Johns Hopkins, 658 are men and 30 are women.

The total registration at *Leland Stanford University* shows a decided increase, which is found primarily in the academic department. The graduate schools show a loss of 21. The figure given for the law school last year was 187, but as a matter of fact the law registration this year is larger than it was in 1904. Last year the total number of law majors was given, whereas this year only those students are included who are actually taking law work. The number of law majors this year is 270. The total enrolment at Leland Stanford University is 1,606, of which 1,105 are men and 501 are women.

Statistics of the registration at the *University of Michigan* as of October 24, published in the November issue of the *Michigan Alumnus*, show that there has been an absolute gain of 409 students over the number matriculated at the corresponding date last year. This gain of 13 per cent. is indeed a remarkable one, and the increase at this university has been larger than at any of the other institutions in the list. By far the greatest increase occurred in the literary and engineering departments, and the medical school is the only one that shows a decrease, which may be ascribed to increased requirements, as well as to the fact that the number of students taking the six-year combined literary-medical course is increasing each year. The 82 students under 'other courses' are enrolled in the homeopathic medical school. The so-called deferred degree or combined course plan, which was instituted at Columbia University, is gaining in favor every day, and it

seems to solve better than any other the problem of shortening the combined college and professional course, giving, as it does, academic recognition to the collegiate side of the combined course and at the same time maintaining the traditional college course for those students who do not intend to enter a professional school. The enrolment in the Michigan summer session shows a slight gain over that of the preceding year. Of the 4,621 students, 3,794 are men and 827 are women.

The *University of Minnesota* shows a gain over last year. The number of men in the college has remained stationary, whereas the number of women has been increased by 68. The scientific schools show a slight increase, but the professional schools of law and medicine both show a decided falling off in attendance. The graduate schools have lost a few students, while agriculture, dentistry and pharmacy show gains, which are especially noticeable in the former two schools. The summer session has remained stationary. The 14 students under 'other courses' are enrolled in the homeopathic medical college. The total enrolment is 3,940, of which 2,682 are men and 1,258 are women.

The attendance at the *University of Missouri* has increased, the total gain in the fall registration, that is, exclusive of the summer session, amounting to 89. In the academic department there has been an increase in both men and women. The scientific schools have also gained, but the professional faculties of law and medicine show a falling off. The graduate schools and the school of pedagogy show an increase. The first item of double registration is unusually large, inasmuch as many students are taking the six-year combined academic and professional courses, and are therefore registered in two schools. While the figures show an increase in most of the

departments and in the total registration, it should be noticed that a threatened typhoid-fever epidemic in Columbia at the beginning of the regular session caused a number of students to transfer to other institutions. Of the total number of students in the University of Missouri, 1,388 are men and 499 are women.

Inasmuch as the figures given last year for the *University of Nebraska* were those of the academic year 1903-4 and not those for the beginning of the academic year 1904-5, no accurate comparison can be made. The enrolment given in the table for 1902, 1903 and 1904 represents the final figures for the close of the respective academic years, and the total of 2,635 for November 1, 1905, will no doubt be increased to approximately 2,800 by the close of the year, thus showing a slight gain in the total registration over last year. The 200 students mentioned under 'other courses' will probably be enrolled in the short course in agriculture, their number being only estimated. The increase in registration has occurred in the scientific schools and in the departments of law and agriculture. Medicine shows a decided falling off. Of the 2,435 students enrolled, (*i. e.*, excluding the prospective enrolment in the short course in agriculture), 1,275 are men and 1,160 are women.

*Northwestern University* shows a slight decrease over last year. There has been a considerable gain in the academic department and in the theological school, and smaller gains in the law school and the school of music. No particular reason can be ascribed to the decrease in the medical school; it seems merely to reflect the decrease in the number of medical students that has been noticed for several years throughout the country. The marked decrease in the dental school is due to the graduation of an unusually large class in

June, a class which had been carried for three years and which was abnormally large, because of the fear that the length of the course might be increased to four years. Three years ago the entering class in the dental school was two or three times as large as might naturally have been expected, and the following class was proportionately small. The registration of the first-year men in the school this year has been considerably larger than was anticipated. The decrease in the school of pharmacy is apparently due to an advance in the admission requirements by the addition of one year of high school credit. *Northwestern University* has a total registration of 2,791 students, of which 1,998 are men and 793 are women.

*Ohio State University* shows a decided gain over last year, in which the scientific schools have a considerable share, although the academic department also shows an increase in both men and women. The law school, the graduate schools and the school of forestry show a decrease, whereas agriculture, pharmacy and the veterinary school show an increase. The enrolment at the summer session has almost tripled. The total registration at the university is 2,057, of which 1,645 are men and 412 are women.

The increase in the enrolment at the *University of Pennsylvania* is quite striking; indeed, the increase in the total number of students is the largest in the history of the institution. Every department except the dental school shows a gain over last year, and notwithstanding the fact that the fees in all departments have been slightly raised, all the entering classes show a considerable increase, even in the dental school, where \$60 per year has been added to the tuition. An innovation in the payment of tuition fees in the college has been announced by the university au-

thorities. The tuition in the academic department has been fixed at \$150 a year, whereas during the past few years every student was required to pay \$10 for every unit of work taken by him, sixty units being necessary for the degree. The 621 students mentioned under 'other courses' are distributed as follows: 303 are enrolled in the evening school of accounts and finance, 278 in the school of finance and commerce and 40 in biology. The figures for last year included 155 students under the heading Teachers College. This year there are 226 students enrolled in special Saturday courses for teachers, but they have been excluded from the table, inasmuch as similar students are not counted in the Columbia and Harvard figures.

*Princeton University* has experienced a slight decrease in enrolment, although the freshman class shows a gain. The academic department has decreased from 665 to 629, whereas the scientific schools have lost only 4 students. There has been a slight gain in the graduate schools.

*Syracuse University* continues to make the consistent gains that it has shown during the past few years and these gains are visible all along the line, except in the faculty of medicine.

The total enrolment at the *University of Virginia* has remained stationary to all intents and purposes, although there have been changes in different faculties. The professional faculties of law and medicine both show a falling off, which is especially noticeable in the case of medicine.

The *University of Wisconsin* apparently shows a decrease in the total registration, whereas in reality there has been a slight gain, inasmuch as the dairy students and short-course students in agriculture are not included in this year's figures. The large number under the first item of double registration is due to the fact that the

classification at the University of Wisconsin is based upon a somewhat different plan from that followed in the accompanying table. The school of pharmacy and the pedagogical course are included in and are a part of the college of letters and science, and the same is true of the students in the graduate school; where the latter are taking work in engineering or in agriculture they are classified as graduate students in these courses and are included in the total attendance of the college, so that the total in the college of arts includes the graduate students in that college, as well as the students in pharmacy and pedagogy. The total number given in the graduate school includes graduate students taking work in the college of letters and science, the college of engineering and the college of agriculture. There has been a slight decrease in attendance in the college of engineering and the school of law, a decrease that is accounted for by advanced entrance requirements that became operative in these colleges this fall. For admission to the school of law the candidate is now required to have had at least one year's attendance in college in addition to the regular entrance requirements. In engineering increased requirements in mathematics have gone into effect. The increase in the attendance at the summer session is worthy of note, for there were 136 more students in 1905 than in 1904. Of the total students enrolled, 2,170 are men and 913 are women.

The total registration at *Yale University* shows a decided increase over last year, which may be attributed in some measure to the fact that the first summer session held by the university was opened in July, 1905. It has been impossible to obtain the correct figures under the second item of double registration and it was necessary to make an estimate, which no doubt comes

near the truth. All of the departments, with the exception of medicine, divinity and forestry show an increase. The enrolment in the Sheffield Scientific School has increased from 774 to 1,028, although it should be pointed out that graduate students in science were not included in the Sheffield figures last year, whereas they have been included in this year's table. The final registration is likely to carry the number of freshmen in the scientific school beyond that of the academic freshman class, which is an epoch in the history of the departments. The scientific freshman class is so large that it has had to be divided into twelve divisions instead of ten, as last year. In six years the size of the entering class in the scientific school has risen from 199 to about 400, an increase of over 100 per cent.

The general development of higher education in the United States as reflected in the accompanying tabulation is one that may well give rise to gratification, and it is hoped that the prominent exponents of higher education in this country will vie with one another in constantly increasing the quality of their work and the value of their equipment, instead of laying undue stress on any figures that do not reflect a corresponding development in academic standards and ideals.

RUDOLF TOMBO, JR.,  
*Registrar.*

COLUMBIA UNIVERSITY.

*THE ANNUAL REPORT OF THE SECRETARY  
OF AGRICULTURE, 1905.*

THE secretary says that it is in the highest degree gratifying to present evidence of the unprecedented prosperity which has in recent years rewarded the diligence of the farmer and the efforts of his department. A year of unequaled prosperity has been added to the most remarkable series of similar years that has come to the farmers

of this country. Farm crops have never before been harvested at such a high general level of production and value. Corn has reached its highest production, over 2,700,000,000 bushels, of a total estimated value of \$1,216,000,000. Hay comes second, with a value of \$605,000,000. Cotton is expected to yield \$575,000,000. The short wheat crop of last year is followed by one of 684,000,000 bushels, and its value, \$525,000,000, overtops the highest value ever before reached. While only one crop, corn, reached its highest production this year, four crops—corn, hay, wheat and rice—reached their highest value.

No crop but corn produces the income that the dairy cow does. The estimate of the value of dairy products for 1905 reaches \$665,000,000. The farmer's hen competes for precedence with wheat, poultry products aggregating half a billion dollars in value.

The wealth production on farms in 1905 has reached the highest amount ever attained by the farmer of this or any other country, 'a stupendous aggregate of results of brain and muscle and machine,' amounting in value to \$6,415,000,000, an excess over last year of \$256,000,000. The wealth produced on farms in 1905 exceeds that of 1904 by 4 per cent., that of 1903 by 8 per cent., and that shown by the census figures for 1899 by 36 per cent. Should there be no relapse from his present position as a wealth producer, three years hence the farmer will find that the farming element, about 35 per cent. of the population, has produced an amount of wealth within ten years equal to one-half of the entire national wealth produced in three centuries.

The value of horses and mules on farms exceeded last winter \$1,452,000,000. Milch cows are advancing in numbers and are worth \$482,000,000. The value of all other cattle is estimated at \$662,000,000. Sheep are declining in number and total