

edge of the development which has taken place in bringing the concepts of science into their present form.

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UNIVERSITY REGISTRATION STATISTICS.

THE table on page 1022 furnishes an eloquent criterion of the continuous rapid development of higher education in the United States. The opening of each new academic year shows a marked advance over the last, and the number of young men and women eager to obtain a university training is keeping steady pace with the rapid growth of our country's population. It is certainly an encouraging sign to witness this growing endeavor to lead the intellectual or the scientific life, which will inevitably tend to raise the standard of American civilization and general culture.

The statistics given herewith are, with few exceptions, approximately as of November 1, 1902, and relate to the registration at eighteen of the leading universities throughout the country. It will be noticed that Syracuse University has been added this year for the first time, and the reason for this is self-explanatory. The figures have been obtained from the proper officials of the various institutions concerned, and are as accurate as statistics of this nature can be made. A number of changes may occur during the year, but they will not be of such a serious nature as to affect the general result. The question of proper enrolment figures is assuming greater importance each year, and it goes without saying that there is a tendency to attain as much uniformity as possible in the methods employed at the various universities. At the annual meeting of the Association of American Universities, to be held under the auspices of Columbia Uni-

versity in New York city on December 29, 30 and 31, 1902, a representative of Columbia will present a paper on the subject of 'Uniformity of University Statistics' which should bring out some interesting facts relating to this matter. The question of double registration, for example, presents more than one perplexing problem, and a number of universities are endeavoring to eliminate enrolment in two faculties from their figures altogether by simply taking into consideration the primary registration. One great obstacle in the path of this desire is the number of summer session students who return for work in the fall, of which there were this year 291 at Cornell, 139 at Harvard, 210 at Columbia, and so forth. These students were not registered in two faculties, and yet they caused duplication. In the case of several universities this was lost sight of altogether in last year's compilation, and the apparent falling off in the total enrolment of Harvard, Michigan, and Cornell is due to this circumstance. On the whole, there has been a noticeable increase shown in the summer session enrolment throughout the country, and this particular feature of university work seems to be meeting with popular favor.

Last year the relative rank of the seventeen leading universities on the basis of total enrolment was as follows: Harvard, Columbia, Michigan, Chicago, California, Minnesota, Cornell, Wisconsin, Yale, Pennsylvania, Northwestern, Indiana, Nebraska, Missouri, Princeton, Leland Stanford, Johns Hopkins.

If we count in the students attending courses for teachers, who are held to the full requirements of regular courses in Teachers College, it will be seen that Columbia has passed the 5,000 mark and has almost reached Harvard. Chicago has had a considerable increase over last year, has

	California.	Chicago.	Columbia.	Cornell.	Harvard.	Indiana.	Johns Hopkins.	Leland Stanford, Jr.	Michigan.	Minnesota.	Missouri.	Nebraska.	Northwestern.	Pennsylvania.	Princeton.	Syracuse.	Wisconsin.	Yale.
College Arts, Men.....	2,315	613	484	783	2,107	609	162	1,249	662	491	318	407	323	471	758	491	681	1,205
College Arts, Women.....		829	342	414	453				607	688	216	546	363			390	481	
Scientific Schools.*			682	1,181	583				597	496	224	551	363			172	573	
Law.....	80	59	463	222	636	90		2	847	430	108	166	171	340		134	219	760
Medicine.....	131	222	773	385	445		259		417	285	91	152	605	469		139		290
Agriculture.....	†			106	28					460	72	118					456	142
Art.....	150											66	102			45		60
Dentistry.....	126				112				151	145			615	408				
Divinity.....		198			37								152					112
Forestry.....				68														38
Music.....																		100
Pharmacy.....	77								68	60		302	357			565	182	
Teachers College.....	†	95	563										206			†	31	
Veterinary.....				62														
Graduate Schools.....	172	427	513	188	314	61	179	81	79	160		108	46	187	93	45	102	350
Courses for Teachers.....			1,196									256		196		39	339	
Summer Session.....	830	2,350	643	548	945	569		48	454	320	468					100		
Other Courses.....	45		23	56			70		73							[100]		
Deduct Double Reg.....	[250]	[497]	[330]	[318]	[153]	[134]	[1]		[191]	[30]	[89]	[383]	[65]	[10]			[180]	[272]
Grand Total.....	3,676	4,296	5,352	3,281	5,468	1,648	669	1,378	3,764	3,505	1,408	2,289	2,875	2,549	1,345	2,020	2,884	2,804
Teaching Staff.....	308	196	504	421	533	65	147	129	255	280	92	173	285	279	101	170	188	307

* Includes Schools of Engineering, Chemistry, Architecture, Mines, and Mechanic Arts.

† Included in Scientific Schools.

‡ Included in college statistics.

§ Included in college statistics. 178 law students are enrolled.

|| Included in college and scientific school statistics. About 53 graduate students are enrolled.

passed Michigan and now ranks third, or if Columbia's extension students be deducted, second, with Columbia third. Michigan occupies fourth place, and then come California, Minnesota, Cornell and Wisconsin in the same relative positions as last year. Northwestern's increase of over 400 has placed her ahead of both Yale and Pennsylvania, which occupy tenth and eleventh places, respectively. Nebraska has passed Indiana, likewise showing an increase of almost 400. Syracuse also has a larger enrolment than Indiana. After Indiana and Missouri comes Leland Stanford, which has passed Princeton.

As far as the different departments are concerned, it will be seen that Harvard still shows by far the largest collegiate enrolment. On the whole there has been a small increase in the total number of college students attending the universities under consideration. The scientific schools show a large general increase all along the line, with the single exception of Missouri. There are fewer law students than there were in 1901, in spite of the fact that Chicago has added a law faculty since last year. The total number of medical students also shows a decrease, which is accounted for largely by the facts that the admission requirements at Columbia have been strengthened, and that the last class admitted at Harvard without the degree requirements graduated in the spring. Michigan has still the largest enrolment in its law faculty, and Columbia still heads the list in the faculty of medicine and in the graduate schools. The grand total of graduate students shows a slight increase over that of last year. There have been no important changes in the relative ranking of the teaching force in the largest institutions, Harvard still leading, with Columbia second. RUDOLF TOMBO, JR.,

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NEW DEPARTURES IN THE BIBLIOGRAPHICAL WORK OF THE CONCILIUM BIBLIOGRAPHICUM.

SINCE an article published in the *American Naturalist* in 1898 no adequate account of the work of the Concilium Bibliographicum has appeared in the scientific press. SCIENCE has regularly reprinted extracts from the 'Annual Statements' of the Concilium, but these notices have necessarily been somewhat disconnected and have not emphasized certain features of the work insufficiently appreciated in America.

The bibliographical references gathered by the Concilium may, for practical purposes, be divided into two great categories, the manuscript cards and the printed cards. The references contained in the former are far more numerous than those recorded in the latter, and in general the bibliography in manuscript form is a very essential part of our task. Although open to subscription, this bibliography is quite unknown in America, not even a sample card ever having been asked for. In regard to the printed bibliography the state of affairs is somewhat better, but our work is, nevertheless, insufficiently understood, as a consultation of our subscription list must show.

The printed card catalogue is supplied according to two entirely different arrangements, each of which has its utility—the alphabetical authors' catalogue and the methodical arrangement, embracing as chief subdivisions: paleontology, general biology, microscopy, zoology, anatomy and physiology. To have an ideally complete bibliography, an institution should have these two arrangements complete.

Such subscriptions have been received from European institutions; none ever reached us from America. The nearest approach to this condition is to be found in the University of Minnesota, where two