

ciently subdivided as is possible having regard to the nature of the services for which they are intended. The convention provides that all merchant vessels of the contracting states when engaged upon international (including colonial) voyages, whether steamers or sailing vessels, and whether they carry passengers or not, must be equipped with wireless telegraphy apparatus if they have on board fifty persons or more (except where the number is exceptionally and temporarily increased to fifty or more owing to causes beyond the master's control). There are certain exemptions to this regulation. A continuous watch for wireless telegraphy purposes is to be kept by all vessels required to be fitted with wireless apparatus, as soon as the government of the state to which the vessels belong is satisfied that such watch will be useful for the purpose of saving life at sea. Meanwhile certain classes of vessels are specified as being required to maintain a continuous watch. The wireless installations must have a range of at least 100 miles. A transition period is provided to enable wireless apparatus to be fitted and operators and watchers obtained. The convention lays it down that there must be accommodation in lifeboats or their equivalents for all persons on board, and that as large a number as possible of the boats and rafts must be capable of being launched on either side of the ship, so that as few as possible need be launched on the weatherside. The convention specifies a minimum number of members of the crew competent to handle the boats and rafts. All ships are to have an adequate system of lighting, so that in an emergency the passengers may easily find their way to the exits from the interior of the ship. Ships of the contracting states which comply with the requirements of the convention are to have furnished to them certificates of the fact, which are to be accepted by all the states as having the same value as the certificates issued by them to their own ships.

UNIVERSITY AND EDUCATIONAL NEWS

LEHIGH UNIVERSITY will receive about \$800,000 under an adjudication of the eleventh ac-

count of the executors and trustees of the estate of Asa M. Packer.

THE Mask and Wig Club of the University of Pennsylvania has completed plans for the erection of a residence, to be presented to the university for the use of the provost. The building will cost between \$75,000 and \$100,000.

MISS EMILY MATILDA EASTON has by her will made a number of public bequests including £10,000 to the College of Medicine of the University of Durham and £5,000 to Armstrong.

SIR WILLIAM MACDONALD, of Montreal, has been elected chancellor of McGill University, in succession to the late Lord Strathcona.

DR. FORCHHEIM, professor in the Graz Technological School, has accepted the commission to organize a technical school at Constanti-nople.

THE following appointments for the faculty of George Peabody College for Teachers, the new Teachers College of the South, have been announced: Carter Alexander, Ph.D., professor of school administration (formerly assistant professor of educational administration, University of Missouri); Lula O. Andrews, A.M., assistant professor of English (formerly professor of English language, State Normal School, Farmville, Va.); John Lee Coulter, Ph.D., professor of rural economics (at present with the United States Census Bureau); Kary C. Davis, Ph.D., professor of agriculture (formerly professor of agronomy and principal of agricultural short courses, of the State Agricultural College of New Jersey); Frederic B. Dresslar, Ph.D., professor of school architecture and hygiene (formerly special agent of the United States Bureau of Education); Charles E. Little, Ph.D., professor of the teaching of Latin (formerly professor of Latin in the old Peabody College); Robert W. Selvidge, A.M., professor of manual and industrial arts (formerly professor of manual arts at the University of Missouri); Edward K. Strong, Jr., Ph.D., professor of psychology and psychology of education (now in the department of psychology, Columbia Univer-

sity); William K. Tate, A.M., professor of rural education (now professor of elementary education, University of South Carolina).

DISCUSSION AND CORRESPONDENCE

GRADUATE WORK IN AMERICAN UNIVERSITIES

THE university registration statistics published by Professor Tombo in *SCIENCE*, January 23, 1914, allow, among other things, an interesting and instructive comparison of the amount of graduate work being done in the thirty universities tabulated. The number of non-professional graduate students may be taken to represent the amount of research that is being done in a university, for, in general, a university will attract non-professional graduate students in proportion to the activity in the graduate departments. The relative amount of emphasis laid on graduate work in each university can be seen at a glance in the table below, where the thirty universities in question are arranged in rank according to the ratio of non-professional graduates to undergraduates, *i. e.*, the number of graduates to every hundred undergraduates. The first column gives the ratio of graduates to undergraduates based on the figures given under "College, Men," "College, Women" and "Non-professional Graduate Schools" in Professor Tombo's table.¹ The second column gives the total enrollment listed under these three heads, corresponding presumably with the enrollment of purely academic students.

University	Ratio	Total Students
1. Johns Hopkins	123	397
2. Pennsylvania	107	1,504
3. Columbia	102	2,960
4. New York	52	1,076
5. Illinois	32	1,097
6. Chicago	28	2,183
7. Cornell	28	1,435
8. Cincinnati	27	789
9. Yale	24	1,736
10. Wisconsin	18	1,894
11. Harvard	17	3,403
12. California	15	3,146
13. Washington	15	438
14. Princeton	14	1,443

¹ *SCIENCE*, p. 126.

15. Ohio State	13	1,018
16. Nebraska	13	1,443
17. Pittsburgh	12	438
18. Iowa	11	1,293
19. Virginia	11	439
20. Michigan	9	2,745
21. Missouri	9	1,473
22. Minnesota	8	1,648
23. Stanford	8	1,877
24. Tulane	8	345
25. Northwestern	8	1,173
26. Indiana	7	1,200
27. Kansas	6	1,729
28. Syracuse	6	1,415
29. Texas	5	1,597
30. Western Reserve	1	826

The ranking of the universities obviously does not correspond in every case with the amount of productive scholarship that is issuing from a university, but, as far as the enrollment figures are correct, it would seem to indicate the relative emphasis that is being put upon graduate work. A correlation of the totals as given in the second column with the ratios of the first column gives a coefficient of about .046, or practically no correlation at all. This might be interpreted to mean that the universities possessing enormous undergraduate departments do not as a rule show an increased activity in graduate work, such as the number of undergraduates should warrant, presuming, of course, that the ultimate ideal of a university is held to be productive scholarship.

RUDOLF PINTNER

OHIO STATE UNIVERSITY

THE CAUSE OF THE PECULIAR SOUND MADE BY NIGHTHAWKS WHEN VOLPLANING

ALL are familiar with the resonant sound made by the nighthawk as he cavorts through the air. It may be described as a guttural "woof."

It has been a contested point as to whether this sound was produced by the open mouth or the wings. As it occurs at the point where the bird swerves upward in his downward glide and at no other time, it is very evident that the mouth plays no part, otherwise the sound would occur at other times.