mosses from the Cape of Good Hope,* dedicated to N. B. Ward, Esq. The genus and one species, *W. hygrometrica,* were fully described and figured. If it be said in extenuation that the work in which it occurs is somewhat difficult of access, this can not be said of Endlicher's 'Genera Plantarum,' which is in all libraries, and where (p. 1345) the genus is redescribed and is duly entered in the index. The author of this two-fold achievement is a member of the Committee on Botanical Nomenclature! LESTER F. WARD.

DELUC'S 'GEOLOGICAL LETTERS.'

TO THE EDITOR OF SCIENCE: With all due respect for the opinions of Dr. Emmons and Sir Archibald Geikie, I am unable to see why von Zittel was not scrupulously exact in his handling of facts when crediting Deluc with prior use of the term 'geology' as compared with de Saussure. The latter uses it but twice, defining it as 'la Théorie de la Terre,' in the earliest edition of his work, published in 1779. The second authorized edition of Deluc's 'Letters' (it had already been pirated) appeared also in 1779, the term 'geology' occurring in the body of the work an equal number of times (vol. I., pp. 4, 5), and again in a footnote on p. 7, where it is observed that the word 'cosmology' is more generally used in an equivalent sense.

It is worth noting that this footnote, which purports to be of identical† tenor with the first edition, scarcely justifies the assertion that Deluc 'could not venture to adopt the term geology because it was not a word in use.' More to the point is a passage where the author expressly designates the work in hand as a *treatise on geology:* 'Je vis que je faisois un Traité, et non une esquisse de Géologie.' He constantly refers to it later under the abbreviated title of 'Lettres Géologiques,'* and intitulated another of his productions 'Traité élémentaire Géologie.' It appears, therefore, that beginning with 1778, a year before de Saussure's work saw the light, and continuously thereafter, Deluc employed the term geology in its modern sense; hence he is entitled to generous consideration for having helped bring the name our science now bears into familiar use. Deluc, in pointing out the etymological propriety of 'geology' no doubt furnished a suggestion which de Saussure immediately caught at, since he twice employs the term, as Dr. Emmons has said, 'without any explanation or apology,' and alludes also to 'the geologist,' as is natural. Von Zittel seems to me to have exercised very candid judgment in this matter, and one must be a very 'strict constructionist' indeed who can deny Deluc's claims to priority.

Almost simultaneously with the authors just considered, the celebrated Werner appears to have been instrumental, to some extent, in popularizing the term geology. Werner's definition of this and cognate words is given by one of his distinguished pupils, d'Aubuisson, from whose 'Traité de Géognosie' we extract the following (vol. I., p. 2): "Werner remarque, en outre, que les noms composés de *logos,* tels que zoologie, minéralogie, etc., désignent l'universitalité de nos connaissances sur un objet; et, d'après cela, la géologie comprend, selon lui, non seulement la géognosie, mais encore la géographie, l'hydrographie, la géogenie, etc."

C. R. EASTMAN.

December 29, 1904.

UNIVERSITY REGISTRATION STATISTICS.

TO THE EDITOR OF SCIENCE: On reading the article 'University Registration Statistics' (SCIENCE, N. S., Vol. XX., No. 552, December 30, 1904), it occurred to me that it would be interesting to know the average number of students to each teacher, in the institutions mentioned. The 'Total Registration' (not including the 'Summer Sessions'), divided by

* 'Wardia: a New Genus of Mosses, discovered in Southern Africa,' by W. H. Harvey and W. J. Hooker; *Companion to the Botanical Magazine,* Vol. II., London, 1836, pp. 183–184, pl. xxv.

† The text reads as follows in the 1779 edition: "Je répète ici, ce que j'avois dit dans ma première *Preface,* sur la substitution du mot *Cosmologie* à celui de *Géologie:* * * * c'est que l'usage ordinaire a consacré le premier de ces mots, dans le sens où je l'emploie."

* Compare, for instance, his frequent correspondence in the *Journal de Physique.*

the number of officers gives the results as shown in the last vertical column of the table appended. The figures in the second and third columns are transcribed from the article referred to above.

Institution.	No. of Students.	No. of Officers.	No. of Students to One Officer.
California	3,130	330	9.48
Chicago	2,218	184	12.54
Columbia	4,056	551	7.36
Cornell	3,364	451	7.45
Harvard	4,516	534	8.45
Illinois	3,233	365	8.85
Indiana	882	72	12.25
Johns Hopkins	740	156	4.74
Leland Stanford Jr.	1,420	130	10.92
Michigan	3,667	270	13.58
Minnesota	3.671	197	18.63
Missouri	1,536	88	17.45
Nebraska	2,414	173	13.95
Northwestern	2,806	346	8.10
Ohio State	1,723	143	12.04
Pennsylvania	2,940	330	8.90
Princeton	1,385	114	12.14
Syracuse	2,419	201	12.03
Virginia	691	45	15.35
Wisconsin	2,668	243	10.97
Yale	2,995	330	9.07

WILLIAM B. SCHOBER.

LEHIGH UNIVERSITY,
January 5, 1905.

SCHOOLS OF TECHNOLOGY AND THE UNIVERSITY.

TO THE EDITOR OF SCIENCE: In connection with the proposed combination of the Massachusetts Institute of Technology with Harvard University, the following authoritative statement of foreign opinion (translated from *Zeitschrift des Vereines deutscher Ingenieure* of September 24, 1904) is of interest:

At a meeting of the Union of German Engineers, held at Munich September 12, with the participation of thirty eminent representatives of technological schools and universities, as well as of other schools and of industries, the following resolutions were adopted:

1. It is not advisable, so far as can be foreseen, to attempt to meet the need of new technological schools by the addition of technological faculties to universities, but rather by the establishment of independent institutions; for the technological schools would be hindered in their independent development by attaching them to universities. This separation should not, however, impede the welcome development of intellectual good will between the two institutions. The attachment to universities would also in no way involve economies of consequence.

2. The Union of German Engineers stands now, as before, by its expression of 1886, as follows: "We declare that the German engineers have the same needs and will be subjected to the same judgment as to their general culture as the representatives of other professions based on higher scientific education." In this view we rejoice as the conviction more and more gains ground that a considerably greater significance is to be attributed than before to mathematical and natural science as a means of culture. Knowledge of these branches is becoming more and more an indispensable constituent of general education. The predominantly linguistic education now received by the majority of our gymnasium graduates does not satisfy the demands which must be made on the leading classes of our people, in particular, in respect to the increasing significance of economic questions.

TECH GRADUATE.

SPECIAL ARTICLES.

PROPOSED INTERNATIONAL PHONETIC CONFERENCE TO ADOPT A UNIVERSAL ALPHABET.*

I WISH to call your attention to a circular recently issued by Boston University, inviting opinions on the proposal to hold an international conference for the purpose of adopting a universal alphabet. In the Roman alphabet we already have a practically universal alphabet. A comparatively slight effort will suffice to make it perfect and quite universal. Whoever has looked into the subject knows that it is perfectly practicable to introduce such modifications in the Roman alphabet as to make it perfectly phonetic and yet leave the spelling in such condition that it shall be readily legible to people who know only the Roman alphabet in its present form.

I need not dilate on the advantages to be expected from the use of an alphabet which would enable every child to read as soon as it knew the letters, and which would, furthermore, enable any one to pronounce foreign languages correctly at a glance, because their spelling,

* Read before the Comparative Philology Section of the Language Group of the Congress of Arts and Science at St. Louis, September 21, 1904.