1,322 were at the School of Technology. Of the 6,862 regular students of the seven universities, 1,490 were women. There were 459 in the department of theology, 1,354 in the law, 1,980 in medicine and 3,069 in letters or in sciences. The foreign element furnished 52.5 per cent. of the whole.

ALL the graduate work offered at the Ohio State University has been organized into a single graduate school under the administration of a dean and a graduate council of twelve members. Professor William McPherson, in charge of the department of chemistry, has been elected dean.

AT the Missouri College of Agriculture appointments have been made as follows: J. A. Ferguson, professor of forestry; A. J. Meyer, assistant to the dean and superintendent of short courses in agriculture; H. L. Kempster, assistant professor of poultry husbandry, and P. L. Gainey, instructor in botany.

PROFESSOR WILLIAM HAZEN BOUGHTON, head of the department of civil engineering in the University of West Virginia, has resigned to accept the position of treasurer and general manager of Vassar College.

DR. NICOLAS LEON has been named professor of anthropology at the Museo Nacional, Mexico.

MR. HUGH GUNN, formerly director of education of the Orange Free State, has accepted an invitation from the government of Western Australia to act as adviser and organizer for the university which that state is founding at Perth.

DR. KARL DIEWONSKI, a manufacturing chemist, has been appointed professor of chemistry in the University of Cracow.

DISCUSSION AND CORRESPONDENCE

AIR IN THE DEPTHS OF THE OCEAN

TO THE EDITOR OF SCIENCE: The question has often been asked, how does the air, which is assumed to be necessary for the life of deep-sea fishes, get to those depths. Possibly a satisfactory explanation exists, if not, the following suggested itself to me as a plausible one, and possibly as a new one.

It is well known that the amount of gas which a liquid will hold in clear and stable solution, increases with the pressure. The liquid in a bottle of champagne or in a siphon bottle, for instance, is clear until the pressure is released. It may be assumed that the water on the top surface of the ocean is being continuously saturated with air due to the spraying of the waves. The layer beneath is at a slightly higher pressure, hence will hold more air per unit volume, than the one above it. Under such circumstances it seems that there should be a tendency for the air in the top layer to move down to the less saturated one beneath it, until it too is saturated, and this will require a larger amount of air per unit volume. The same is true of the next lower layer, and so on to the bottom.

It would seem to follow, therefore, that air actually descends into the ocean depths, and if it is being consumed there for oxidation and nitrification purposes, there should be a continuous flow of air downward into the deepest ocean waters. If oxygen dissolves in sea water more freely than nitrogen, the deep-sea fishes should be enjoying richer air and therefore should require less of it, than those living nearer to the surface.

CARL HERING

PHILADELPHIA, PA.,
July 31, 1911

THE LIGHTING OF A JET OF HYDROGEN

TO THE EDITOR OF SCIENCE: I have examined perhaps a dozen laboratory manuals for beginners in chemistry with reference to the experiment in which the student is required to light a jet of hydrogen and in every case the directions are essentially the same: wait till the air is all expelled, as indicated by the failure to get an explosion when a test-tube full of the escaping gas is brought over a flame, securely wrap a towel around the generating flask, and bring a light to the exit. Now these directions will certainly result in occasional explosions of the contents of the flask, especially if the laboratory sections are large, with possible serious consequences. The careful student, having been cautioned as to the danger of the experiment, will often wait an undue length of time and will still be nervous about bringing a flame to

the exit; while the less careful worker is likely to attempt to light the gas prematurely.

All possibility of an explosion is removed by a very simple procedure, which is doubtless widely used, but which has not found its way into the manuals. When the air has been completely expelled, the hydrogen will burn tranquilly in the test-tube. The test-tube, containing the burning hydrogen, is, by a quick movement, brought over the escaping hydrogen. One or two trials will be sufficient to ignite the jet. The towel may be dispensed with.

Neither originality nor novelty is claimed for this suggestion. This note is written merely with the hope that some one of the numerous writers of manuals will revise the directions for this particular exercise and discard the time-honored towel.

B. F. Lovelace

University of Alabama,
May 25, 1911

QUOTATIONS

The Administration of the Department of Agriculture

With the testimony yesterday of Dr. Wiley himself, the Moss committee concluded its hearings. President Taft will next be heard from. But conditions have changed since Attorney General Wickersham, after reading a cooked-up case, declared that Dr. Wiley and his associates in guarding the foods and medicines of the people merited "condign punishment." Like thunderbolt the illuminating publication that exposed the doings of the McCabe cabal in the Department of Agriculture must have seemed to Solicitor McCabe and his fellow-conspirators just as they thought their secret charges against the Chief Chemist were accomplishing his ruin. The public now knows that the Food and Drugs Act has been officially disregarded; that scores of important cases against alleged adulterators and misbranders have been deliberately held in abeyance; that department officials did not hesitate to garble the terms of court findings, and that an organized effort was being made, by the cutting down of salaries and "star chamber" proceedings, to drive honest public servants out of the Bureau of Chemistry. It is not imprudent to predict that if, in his decision, President Taft recommends "condign punishment," the recommendation will not be directed against Dr. Wiley and Dr. Rusby.—*The New York Times.*

It is not too much to say that Dr. Wiley, in his first day's testimony before the House committee, absolutely riddled the case against him. The so-called documentary evidence upon which Attorney-General Wickersham so gravely passed, was no evidence at all. Its chief piece was a letter to Dr. Wiley, but it now appears that it was never sent to him nor received by him. He had nothing whatever to do with making the contract with Dr. Rusby, for which offence his resignation was demanded. The whole thing was to be "subject to the approval of the Department"—that is, the Secretary—though these words were omitted by the personnel board when it published a copy of Dr. Rusby's letter. It is evident that the Attorney-General was grievously misled; he ought to make haste to recall his opinion and to apologize to Dr. Wiley. As for the schemers against Dr. Wiley, the investigation has left them in a most unenviable plight. Their stay in the public service ought to be of the briefest. And the inquiry has, it must also be said, shown such an unhappy state of affairs within the Department of Agriculture, which appears to be honeycombed with intrigue and faction, and badly suffering for lack of firm, executive control, as to indicate the need of its reorganization from the top down.—*The N. Y. Evening Post.*

SCIENTIFIC BOOKS

Mendelism. By R. C. Punnett. Third edition, entirely rewritten and much enlarged. Pp. 192, 5 plates and 35 text-figures. New York, The Macmillan Co. 1911. Price $1.25.

Punnett has shown that a scientific book need not be dull. His new treatise on "Mendelism" is a thorough exposition of a difficult and technical subject, yet it is as entertaining