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