conducted by an institution of learning, one whose regular course is naval architecture and whose special short course in naval architecture referred to above shall have been approved by the commission." The other minimum requirements all include experience in shipbuilding.

The London *Times*, in recording the centenary of the British Institution of Civil Engineers writes: The Institution of Civil Engineers, our premier engineering society and the parent of several other institutions of rather more specialized character, celebrates the centenary of its foundation. It was on January 2, 1818, that it was established by eight young men, who met for that purpose in the Kendal Coffee-house in Fleet Street. It was fortunate in securing as its president, two years after its birth, Thomas Telford, the foremost engineer of his day and one of the leading engineers of all time. Although he was not present at the inaugural meeting, he may fairly be ranked as its founder. Holding the office until his death in 1834, he devoted much of his time during his life to furthering its interests, and at his death bequeathed a sum of money for the establishment of the Telford Medals and Premiums, which have ever since served to encourage the presentation of original communications at its meetings. It was in his time also, in 1828, that its position was established by the grant of a Royal Charter, which contains the famous definition of civil engineering as being:

> The art of directing the Great Sources of Power in Nature for the use and convenience of men, as the means of production and of traffic in states both for external and internal trade, as applied in the construction of roads, bridges, aqueducts, canals, river navigation and docks, for internal intercourse and exchange, and in the construction of ports, harbors, moles, breakwaters and lighthouses, and in the art of navigation by artificial power for the purposes of commerce, and in the construction and adaptation of machinery, and in the drainage of cities and towns.

It is announced from Ottawa that the minister of naval service, controlling fisheries, has decided to close some fourteen lobster hatcheries scattered about the coasts of the Maritime Provinces. The question of lobster hatching has been a subejct of investigation for the past four years. Arrangements are being made to start an educational campaign among the fishermen to induce them to protect all berried lobsters and to cooperate with the department in protecting the fishery and saving the lobster industry.

UNIVERSITY AND EDUCATIONAL NEWS

New York University is endeavoring to raise a fund to meet the emergency war conditions and subscriptions have been received amounting to over $250,000, $94,000 from the alumni of the school of applied science and liberal arts, $89,000 from the professional schools and $67,000 from the undergraduate body on $25 subscription payroll over a period of five years at $5 per year. Part of the plan is to secure an endowment of $500,000 for the engineering school in connection with a cooperative plan of education between the industries and the university. Mr. Mois H. Avram, lecturer on industrial engineering in the university, has been active in this work.

Excavation was started on July 18 for the foundation of the additional building to the University of Nebraska Medical School, Omaha, to be erected at a cost of $150,000. The new building will be four stories in height, red brick and will house the laboratories of pharmacology, physiology and biologic chemistry.

The Secretary of State for the Royal Air Force of Great Britain announces that the sum of £25,000 has been placed at the disposal of the government by Sir Basil Zaharoff, for the purpose of endowing a professorship of aviation. This donation is in continuation of donations previously made by Sir Basil for the foundation of chairs of aviation at the universities of Paris and Petrograd, in order to assist in the progress of aviation among the allies, and it is hoped that the occupants of the chairs will continuously exchange views. It is proposed that the professorship shall be called the Zaharoff professorship of aviation. and that it shall be a professorship of the Uni-

versity of London attached to the Imperial College of Science and Technology.

DUE to the absence of Dean Vaughan in war service, a reorganization of the administration staff of the University of Michigan Medical School has been necessary. The present officers are as follows: dean, Victor C. Vaughan, M.D., LL.D., Colonel, M. C., N. A. (absent on leave); assistant dean, Charles W. Edmunds, A.B., M.D.; acting secretary, Rollo E. McCotter, M.D., and assistant secretary, Ethel Bradley Flick.

THE following new appointments have been made in the various departments of Western Reserve University. In Adelbert College, Webster Godman Simon, A.M., as instructor in mathematics. In the School of Medicine, Carl J. Wiggers, M.D., as professor of physiology. The following promotions have been made in the Dental School: Harold Newton Cole, Ph.D., M.D., assistant professor of dermatology and syphilology; Gaius Elijah Harmon, M.D., C.P.H., assistant professor of hygiene and bacteriology (now senior instructor in hygiene); Bradley Merrill Patten, A.M., Ph.D., assistant professor of sistology and embryology.

IN the Georgetown University Medical School Dr. Clarence R. Dufour, who resigned as clinical professor of diseases of eye and ear, has been appointed emeritus professor; Dr. Isaac S. Stone, professor of gynecology, who resigned after twenty-six years of service, has been succeeded by Dr. J. Thomas Kelly, and Drs. James M. Moser and John A. Foote have been appointed assistant professor of pediatrics.

DR. R. O. CROMWELL, formerly assistant plant pathologist at the experiment station at West Raleigh, North Carolina, has been appointed extension plant pathologist at the Iowa State College of Agriculture and Mechanic Arts, at Ames Iowa.

DR. SAMUEL T. DARLING, of the International Health Board, has been appointed professor of hygiene and director of laboratories in the School of Medicine and Surgery in São Paulo, Brazil.

DISCUSSION AND CORRESPONDENCE

THE CRITERION OF SUBSPECIFIC INTERGRADATION IN VERTEBRATE ZOOLOGY

INTERGRADATION is now generally accepted, both in codes of nomenclature and in practise, as the criterion of zoological subspecies. A second means of determining subspecific relationship, the degree of difference, so strongly advocated by Dr. C. Hart Merriam[1] and others, has been found unsatisfactory; still more so a third, the natural outgrowth of the latter, that of general resemblance, which makes the species practically equal to a subgeneric group. Dr. Ernst Hartert and a few others have employed this last method, but it leads to such evident inaccuracies as treating the American cedar waxwing, *Bombycilla cedrorum*, as a subspecies of the Bohemian waxwing, *Bombycilla garrula*.

What constitutes subspecific intergradation, however, seems still to be debatable, if the diversity of usage among current authors is to be taken as evidence. Briefly stated, there are three ways in which intergradation takes place: (1) By a gradual change over contiguous geographic areas; (2) by an abrupt change in an intermediate area; and (3) by individual variation, whether or not the ranges of the two forms adjoin. The first of these is the kind of intergradation so commonly seen on continental areas where one form passes insensibly into another in the intermediate territory, and is so well-known as not to need illustration. The second is much less common and often results in the presence at certain localities of typical examples of both forms, together with all shades of intermediates; but the only question likely to arise in treating a case of this kind is the allocation of the individuals which occur in such places,—whether they shall be treated all as the one form to which they collectively most approach, or whether the more or less typical examples of each shall be referred to their respective races. The third kind of intergradation, that of individual variation, is of almost as frequent occurrence as

[1] SCIENCE, N. S., V., No. 124, May 14, 1897, pp. 753–758.