APPLICATIONS must be on file with the United States Civil Service Commission at Washington, D. C., not later than August 14 for the positions of senior engineer with a salary of $4,600 a year; of engineer, with a salary of $3,800 a year; of associate engineer, with a salary of $3,200 a year, and of assistant engineer, with a salary of $2,600 a year. Vacancies in these positions in Washington, D. C., and in the field, and in positions requiring similar qualifications will be filled from these examinations, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer or promotion. The salaries given above are subject to a deduction of 3½ per cent. toward a retirement annuity.

THE National Research Council has continued for the fiscal year 1939–40 its subscription to a table in the Naples Zoological Station. Qualified investigators wishing to enjoy the facilities of the Naples Laboratory should make application to the office of the Division of Biology and Agriculture, National Research Council, 2101 Constitution Avenue, Washington, D. C.

DISCUSSION

PRESENT-DAY BOTANY IN ITALY

A MUCH-BELATED number of the *Nuovo Giornale Botanico Italiano* (Vol. 45, No. 1) celebrates the fiftieth anniversary jubilee meeting (1938) of the founding of the Italian Botanical Society and the two hundredth anniversary of the death of the distinguished Florentine botanist, Pier Antonio Micheli (1679–1737). Addresses by the president of the Botanical Society, Professor Napoleone Passerini, and by the secretary, Professor Alberto Chiarugi, describe the founding of the organization and its fifty years' accomplishments. The society now has 209 members, most of them in the neighborhood of Florence and Pisa and in northern Italy, but some in every province of the kingdom. The published "commemorative oration" by Professor Giovanni Negri is an appreciative twenty-five-page account of the life and work of Micheli, "father of mycology," author of "Nova Plantarum Genera."

The publication includes about thirty contributions in various fields, as: morphology, anatomy, physiology, mycology, ecology and geographical botany. Among the longer articles is one by Rodolfo P. Sermolli, describing and illustrating with three full-page plates some features of the vegetation in higher mountain districts of Italian East Africa. Adriano Fiori lists the plants of a number of the Italian Aegean Islands. Raffaele Ciferri gives an account of the rediscovery of *Emericella variecolor* (Eurotiaceae), a fungus on rotting olive fruit. Ciferri and Giglioli propose a "formula"—based on a definite schedule of description—for describing varieties and forms of wheat. Roberto Corti reports upon collections of plants from Cufra and other oases in southeast Libya and farther south in Tibesti.

This jubilee publication gives some idea of present-day botanical activity in Italy, although it must not be forgotten that there are other Italian botanical journals, besides special publications of some of the universities. The work of Italians in horticulture, agriculture and forestry is somewhat well known in the United States, but their botany has generally received less attention from Americans than it deserves.

FRANCIS RAMALEY
UNIVERSITY OF COLORADO

THE PRODUCTION OF UNFERTILIZED SEEDS IN TRILLIUM

TRILLIUM has always been used as an admirable object for cytological investigations on account of the huge size of its chromosomes. This genus, which is found in North America and in Asia, presents cytological peculiarities in both continents. The descriptions of its meiotic divisions reveal extreme irregularities and a large amount of sterility. It has been supposed that these abnormalities were due to the intolerance on the part of the genus to cultivation. The present authors have satisfied themselves that this is not the cause of the irregularities, since they are present just as strikingly in material gathered from normal wild plants as in those under cultivation. As a result of the investigations of the processes leading to the formation of the embryo, in certain species of the genus it became clear that in contrast to the dandelions and hawkweeds (Hieracium) apomixis rather than parthenogenesis is present. The reduction division in the embryo sac mother cell is quite normal in contrast to the situation in the pollen mother cells, and five chromosomes are present. One of the derivatives of the mother cell survives, as is usually the case, and gives rise to an embryo sac. Ordinarily this contains only four nuclei, a situation paralleled by the Onagraceae and allied forms, as well as by certain orchids. Of the four nuclei one becomes the egg and another an abortive synergid. The remaining two nuclei fuse together and form the endosperm nucleus. The pollen tubes usually do not penetrate the ovary and in the rare cases that this happens, they do not effect fertilization. There is as a consequence no fecundation of either the egg or the endosperm as a result of