being done, are not limited as to the subjects on which they will work. Grants will be made in organic chemistry at Cornell, Harvard, Illinois, Michigan and Northwestern Universities; in biochemistry at California, Columbia and Cornell Universities.

ACCORDING to *The Collecting Net,* the number of investigators in each academic rank registered this summer at the Marine Biological Laboratory at Woods Hole, Mass., is: Professors, 63; associate professors, 19; assistant professors, 60; instructors, 46; research associates, 10; assistants, 71; fellows, 22; graduate students (not listed elsewhere), 27; medical students, 8; undergraduate students, 7; preparatory students, 3; miscellaneous, 22. The four institutions leading in providing investigators for the laboratory are: Pennsylvania, 34; Columbia, 20; New York University, 16, and Chicago, 11.

FOSSIL camels from South Dakota have been collected by an expedition of the Field Museum of Natural History. The camels lived in that state during the Miocene age, about 18,000,000 years ago. They form part of a collection which gives promise of being one of the best representations of fossil animals from the Rosebud Beds in South Dakota, according to Paul O. McGrew, of the paleontological staff, who is the leader of the expedition. Other specimens include a large number of skeletons and skulls of the extinct ungulates known as oreodonts, extinct peccaries and horses. Also included is an especially fine representation of extinct species of rodents, some of which are believed to be of kinds hitherto unknown to science. Nearly all the material obtained represents mammals not previously represented in the collections of the museum.

Nature states that the British Minister of Labor and National Service has made an order for the compulsory registration of professional engineers. It refers to those who are normally engaged in a technical or supervisory capacity in aeronautical, automobile, chemical, civil, structural and municipal, electrical, gas, locomotive or mechanical engineering; and those normally engaged on research work in the engineering sciences at a university or in research and development work in any industry or as a teacher of engineering science. Men whose names are already on the Central Register are not to register again. There are 22,000 names in the engineering categories of the register, of whom about 800 are not in employment, and it is estimated that 30,000 more names will be added.

THE London *Times* announces that Lord Perry, chairman of the Ford Motor Company, with the approval of the British Ministry of Agriculture, the Henry Ford Institute of Agricultural Engineering, at Boreham, near Chelmsford, is offering 40 free scholarships for the training of British boys for careers in agriculture. The scholarships comprise 10 that are tenable for three years, 10 for two years and 20 for one year. Each is valued approximately at £175 a year, which includes cost of tuition; board and residence during terms at Boreham House, near the Fordson estates; laundry; pocket money during terms and holidays; special clothing and boots. The cost, estimated at £7,000 a year, is to be defrayed by Henry Ford. The intention is to provide theoretical and practical instruction in the latest methods of every branch of farming, with classroom tuition and field work in alternate months, in order to train the boys to become key men in British agriculture. The estates attached to the institute cover 4,000 acres, and are devoted to corn crops, intensive market gardening, glasshouse culture, a fruit section with gas storage and the care of 2,000 pigs, 700 sheep and 200 dairy cattle. Applicants for scholarships will be required to attend the institute for a probationary period of one month, during which the final selections will be made of the prospective recipients.

DISCUSSION

INSECT CULTURES INBRED FOR 200 GENERATIONS

IN our insect-rearing laboratory at the Ohio State University we now have cultures of the blowflies *Lucilia sericata* and *Phormia regina* which have been inbred for ten years or approximately 200 generations. These cultures have lost nothing in vigor and are well adapted to laboratory rearing and uses.

In 1930 the Division of Insects Affecting Man and Animals of the U. S. Bureau of Entomology decided to make a study of blowfly maggots which were useful in the treatment of certain types of infections, especially osteomyelitis. In June of that year I was invited to Washington, D. C., to begin the first steps of this work. Cultures of blowflies were being maintained at that time at the Naval Hospital in Washington and at Children's Hospital School in Baltimore, where the treatment had originated under Dr. Wm. S. Baer. These cultures consisted of a mixture of species of flesh flies obtained by placing bait out of doors and collecting eggs. Consequently, one of the first necessary steps was to establish pure cultures of known species of flies.

At that time cultures of three species were started. One was the species *Calliphora erythrocephala,* which was later discarded because it was found to be less satisfactory for clinical use. The other two species

were *Lucilia sericata* and *Phormia regina*. The Lucilias were started by the capture of a single female fly which deposited a small cluster of eggs, thus producing the first cage of stock. These related individuals were then inbred to continue the culture. The Phormias were established three months later. From this original stock, material was transferred to our laboratory at the Ohio State University in October, 1930, and have been maintained by inbreeding continuously ever since.

Among the early problems that had to be settled were those of food and rearing, such as failure to pupate and the loss of adult flies from bloating. After trying many foods such as fruits and fruit juices, honey and sugar solutions, and a wide variety of meats for both the adults and maggots, the following simple foods were chosen.[1] Adults were fed lean beef, which was essential to egg development in females, and brick sugar. Fresh tap water was supplied at all times. The maggots were fed fresh hamburger. No other food has been used over a period of eight years. The cultures have flourished and selective measures seem to have eliminated the rearing difficulties mentioned. The flies have been very useful for research on osteomyelitis, insect physiology, insecticide testing and as class material.

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SPONTANEOUS ACTIVITY OF THE SPINAL TADPOLES OF THE FROG AND THE TOAD

IN connection with our work on the development of swimming and righting reflexes in the tadpoles of the frog (*Rana guentheri*) and the toad (*Bufo bufo asiaticus*) and the effects thereon of the transection of the central nervous system at different levels about the time of hatching, we were surprised to find that spinal tadpoles show spontaneous activity. This is entirely contrary to what is observed in spinal frogs and toads, which hardly ever make any movement when not externally stimulated.

Decapitated tadpoles, tadpoles with only a small caudal fragment of the spinal cord intact, all move about without any noticeable external stimulation. These spontaneous movements come periodically—occurring every five to ten minutes, or every twenty to thirty minutes, or one to one and a half hours. The active period lasts from one second to one minute. Lack of suitable recording instruments prevented us from taking some accurate continuous records of this spontaneous motility from the time after operation to the time of the death of the animal.

Further destruction of the remaining spinal cord abolishes the spontaneous activity.

It is extremely difficult to rear these spinal specimens, and therefore it is not as yet possible to ascertain whether they still show spontaneous motility after metamorphosis.

This striking difference in the behavior of the tadpole and the adult form of the frog and the toad after the removal of the brain leads us to ask how it comes about. Might not the spinal centers of the adult have become so accustomed to take orders from the higher centers that they lose their own initiative?

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THE CASE HISTORY OF A SCIENTIFIC NEWS STORY

ON August 21, 1937, the United States National Museum published a bulletin written by me and entitled "The Fort Union of the Crazy Mountain Field, Montana, and Its Mammalian Faunas." Highly technical in character, this publication of 287 pages describes the geology and paleontology of Middle and Upper Paleocene strata in central Montana. As is their custom, the officials of that museum released to the press a non-technical résumé of this publication. The release was submitted to me for approval and was issued only after revision seemed to leave no possible false impression. It was a rigidly correct and yet easily comprehensible summary carefully avoiding any sensational claims or mis-statements. My own institution, the American Museum of Natural History, was mentioned in the story and its clipping service sent in versions of this story as it appeared in ninety-three different papers from Maine to California and from the Great Lakes to the Gulf of Mexico.

Six papers, from such cities as Worcester, Mass., and Butte, Montana, published the release almost exactly as it was written. Less than one fourth of this version refers to the oldest known primates, included in the faunas described in the bulletin. The bulletin and the original release emphasize that these are not in a direct line of modern primates or man, but that they are very ancient representatives of the same broad group of mammals. They also point out that it was not I who discovered these ancient primates. Even in the reprints of the whole release a few errors crept in, among them a statement that the fossils in question are 70,000,000 years old, a considerable exaggeration. The headlines were innocuous, although the Butte, Montana *Standard* spread across three columns "Montana's Crazy Mountains Listed as Cradle of Animal Life to Which Man Belongs," which escapes falsity largely by being nonsensical.

The sedate *New York Times* rewrote the story as a

[1] James Godfrey Haub and David Franklin Miller, *Jour. Exp. Zool.*, 64: 52–55, November 5, 1932.