

ment analyst, Department of Science and Agriculture, British Guiana; and Brig.-Gen. D. J. McGavin, director-general of Medical Services in New Zealand. *C.B.*: Mr. L. S. Lloyd, assistant secretary to the Department of Scientific and Industrial Research. *K.C.I.E.*: Col. W. H. Willcox, late medical adviser to the Civil Administration in Mesopotamia. *C.I.E.*: Dr. M. N. Banerjee, principal of Carmichael Medical College, Belgatchia, Bengal. *Companion Imperial Service Order*: Mr. G. J. Williams, senior inspector of mines, Mines Department.

PROFESSOR G. F. FERRIS, of Leland Stanford University, California, is spending the summer collecting and studying scale insects in Texas, in cooperation with the Division of Entomology of the Texas Agricultural Experiment Station.

THE British government will devote the sum of 1,000,000*l.* to fostering cotton-growing in the Empire. The money will be placed at the disposal of the British Empire Cotton Growing Corporation, and will be in place of the government's former promise of 50,000*l.* a year for five years to the corporation.

#### UNIVERSITY AND EDUCATIONAL NEWS

DR. LIVINGSTON FARRAND, chairman of the executive committee of the Red Cross, formerly adjunct professor of psychology and professor of anthropology at Columbia University and president of the University of Colorado, has been elected president of Cornell University.

DR. FRANK PIERREPONT GRAVES, dean of the school of education of the University of Pennsylvania, has been appointed commissioner of education of the state of New York and president of the University of the State of New York.

DR. P. J. HANZLIK, of the medical school of Western Reserve University, has been appointed professor of pharmacology in the Stanford University Medical School to succeed Professor A. C. Crawford, who died recently.

DR. W. H. RODEBUSH, who has been for the

past year a research fellow of the National Research Council at the University of California, has been appointed associate professor of physical chemistry at the University of Illinois.

GEORGE M. WHEELER, Ph.D. (1921), Bussey Institution, has been appointed instructor in entomology, and William E. Greenleaf, instructor in zoology, in the zoology department of Syracuse University.

DR. R. R. GATES has been appointed to the university chair of botany tenable at King's College, University of London, in succession to Professor W. B. Bottomley. He was appointed university reader in botany at that college in 1919, and has since that date been in charge of the department in the absence of Professor Bottomley.

#### DISCUSSION AND CORRESPONDENCE

##### THE CANNONBALL LANCE FORMATION

TO THE EDITOR OF SCIENCE: In reviewing Stanton's memoir on the Cannonball Lance formation, Dr. Schuchert has advocated drawing the line between Cretaceous and Tertiary at the base of the Wasatch. He has referred to the vertebrate evidence as supporting this view, and as recent researches have considerably clarified and extended this evidence, a brief summary of its present status may be of some aid toward harmonizing the existing conflict of opinion.

The position of these border-line formations has been in dispute not merely for a number of years, as Dr. Knowlton remarks, but ever since they were first discovered. A Cretaceous vertebrate fauna was found associated with a Tertiary flora. Vertebrate palaeontologists and palaeobotanists took opposite sides; the stratigraphic geologists were divided, and the relations with the marine succession, European standard, theories of diastrophism, etc., have been invoked by both sides for a decision. This discrepancy has been maintained and confirmed by all subsequent work. It should be recognized as the fundamental difficulty. It does not help matters to misrepresent or ignore any part of the evidence, and if Dr. Cross's references to the vertebrate evidence fairly reflect the way in which the U.