

nized experts as contributing editors to this series of geophysical abstracts. Information Circular 6,120, which has been compiled by Frederick W. Lee, supervising the Geophysical Section, U. S. Bureau of Mines, contains abstracts of papers dealing with gravitational, magnetic, seismic, electrical, radioactive, geothermal and various unclassified methods. Most of the papers abstracted were published in Germany and Russia.

As a result of a request from the War Department, the chief coordinator of the Bureau of Standards has arranged for the preparation by the bureau of a classified list of all governmental laboratories, facilities, etc., available for the testing of supplies and materials for the purchasing officers of the various government departments. "The Directory of Governmental Testing Laboratories" will supplement "The Directory of Commercial Testing and College Research Laboratories" (Bureau of Standards Miscellaneous Publication No. 90), now in its second edition. Information will be given concerning not only the kinds of commodities which each laboratory can test, but also the types of testing equipment in each laboratory, and the routine procedure involved in obtaining authority for the laboratory to assist purchasing officers in making tests and furnishing results relating thereto.

THIRTEEN countries in Central and South America have promised cooperation in the world agricultural census of 1930, L. M. Estabrook, director of the census for the International Institute of Agriculture, stated June 21. Mr. Estabrook has just returned to

Washington from a 11,000-mile trip to the capitals of Guatemala, Salvadore, Honduras, Nicaragua, Costa Rica, Panama, Ecuador, Colombia, Venezuela, British Guiana, Trinidad and Barbados. The inclusion of these countries in the census brings the total representation in the project to about 97 per cent. of the land surface, 98 per cent. of the total population and approximately 99 per cent. of the total agricultural production of the world. The undertaking of a world census of agriculture in 1930 was approved by the General Assembly of the International Institute of Agriculture at Rome in 1924, and the preliminary work of organizing the census was made possible by the cooperation of the International Educational Board, the U. S. Department of Agriculture and the International Institute of Agriculture. The census program and standard form of census questionnaire have been approved by the permanent committee and two general assemblies of the institute, by the Diplomatic Conference on Economic Statistics that met in Geneva in November, 1928.

W. L. G. JOERG, secretary of the advisory committee of the American Geographical Society, calls attention to the fact that the notice appearing in the June 21, 1929, issue of *SCIENCE* under the title "The Settlement of the Undeveloped Areas of Canada" implies that the American Geographical Society has assumed the cost. The society (with the aid of an advisory committee) is responsible only for the prosecution of the work and not for financial support. The funds are provided by the Social Science Research Council.

## UNIVERSITY AND EDUCATIONAL NOTES

By the will of the late Charles B. Swift, of Detroit, Middlebury College receives a bequest of \$200,000.

EDINBURGH UNIVERSITY has received gifts for the reconstruction of the medical buildings at Teviot Place, Edinburgh, of £20,000 from the trustees of the late Sir William Dunn and £35,000 from the Rockefeller Foundation. This, with other sums now available, secures the carrying out of a scheme whereby the buildings, which were erected in 1880, will be reconstructed to bring them into conformity with the requirements of modern teaching and research.

DR. HAROLD A. IDDLES, of Columbia University, has been appointed head of the department of chemistry of the University of New Hampshire to fill the vacancy caused by the death of Professor Charles James.

JOHN FRANKLIN DODGE, fuel oil engineer of the Standard Oil Company of California, has been named

professor of petroleum engineering in the college of engineering of the University of Southern California.

DR. ALLEN T. NEWMAN, dean of the school of dentistry at the University of Denver, has resigned to accept a similar appointment at New York University to succeed the late Holmes C. Jackson.

DR. W. T. ROOT, professor of psychology in the University of Pittsburgh, has become head of the department of psychology to succeed Dr. J. H. White.

DR. WILLIAM S. SCHLAUCH, chairman of the department of mathematics of the High School of Commerce of New York City, has been appointed assistant professor at New York University.

At the University of Liverpool, C. C. Titmarsh, reader in mathematical analysis in the University of London, has been appointed professor of pure mathe-

matics, and Dr. J. H. Orton, chief naturalist at the Plymouth Marine Biological Laboratory, has been appointed Derby professor of zoology. Dr. D. B.

Blacklock, professor of tropical diseases of Africa in the university, has been made Walter Myers professor of parasitology.

## DISCUSSION

### BIOLOGICAL CONTROL OF THE PRICKLY PEAR IN MADAGASCAR

THE recent accounts in SCIENCE of prickly pear control in Australia have dealt with the problem only from the standpoint that the complete eradication of this pest is an unmixed blessing. However true this view-point may be for most places in the world, in the south of Madagascar the destruction of the *raketa* by a cochineal insect (*Coccus cacti*) is being looked upon both by the natives and the Europeans as a calamity.

What are the conditions in the south of Madagascar that make it unlike the rest of the world, differing from the territory a few miles to the north where the disappearance of the prickly pear has been witnessed with acclaim? M. Decary, for many years a French official in southern Madagascar, and a botanist of note, has called attention<sup>1</sup> to the dependence of the Antandroy natives upon the *raketa*, quoting a local proverb to the effect that "The *raketa* and the Antandroy are inseparable," and going so far as to say that without the prickly pear there could have developed no Antandroy tribe!

Certainly this plant has its undesirable features, but to these people it is not only endurable, but essential; it furnishes food and drink for man and beast in this desert region, and these at the time of year when they are most necessary. Among other things it also provides impenetrable barricades around the cultivated fields, the livestock corrals and the villages.

Some years ago, before the appearance of the cochineal insect, a partially successful attempt was made to introduce *Opuntia inermis* into this region to replace the thorny types (*O. dillenii* and *O. ficus-indica*) which, during the last two centuries, have become the commonest plants in this region. Although *O. inermis* is immune to the attacks of the insect, one of the cultural requirements for its establishment has been a barrier of the thorny type sufficient to keep out the livestock; hence the destruction of the immune species is indirectly being brought about by the destruction of the species actually susceptible to the insect.

I can not offer any direct testimony as to the exact nomenclature of the causal insects; however, I can vouch for the thoroughness of the destruction now

being wrought. Our party marched for days through country where, a few months before, the commonest plant had been the fifteen-foot-high prickly pear, now all completely destroyed; very rarely we would see a weak shoot, six inches high, which had come up from the root and which was also rapidly being destroyed. If such complete eradication could be effected in Australia and other places where the presence of *Opuntia* is not desired, in a few months the prickly pear would cease to be a problem.

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### HORSES, DOGS AND CATS

IN a recent number of SCIENCE (May 10, p. 494), Professor W. D. Matthew objects to my using the horses as an example of "linear evolution involving a time element." But he admits, apparently in connection with horses, that:

We can and do have, in many cases, a succession of collateral ancestors so nearly related to the direct genetic line as to afford, when critically studied with due recognition of their status, a clear record of the physical evolution of the race, sometimes in more general, sometimes in more detailed terms, according to the nearness of their approximation to the direct ancestral line.

This "direct ancestral line" from *Eohippus* to *Equus* was precisely the line to which I referred. He therefore himself predicates its existence, and admits that it involves a time element. He says that in the case of the phylogeny of the horses the "analogy to the growth of a tree is a sound and a real one." No one doubts this. But does not the trunk of the tree run from *Eohippus* at the base to *Equus* at the summit?

He regards my statement that "the gap between cats and dogs is broad, and it remains broad throughout the fossil record" as misleading. However, he says

No one, so far as I know, ever suggested that cats became dogs or dogs cats . . . but it *has* been believed that these two diverse families of Carnivora are descended from the primitive Carnivora (Miacidae) of the Eocene epoch.

I said that both cats and dogs are carnivorous mammals, expecting that zoologists would understand

<sup>1</sup> Bull. Economic Madagascar, 1927 (1); Rev. Bot. App. No. 50, 1925, and No. 77, 1928.