of malaria of fowls, is transmitted by *Aedes aegypti* and *A. albopictus* (Brumpt, 1936),[1] as well as by *Aedes geniculatus* (Roubaud, Colas-Belcour and Mathis, 1939).[2] *Culex fatigans, C. pipiens* and *Culex* sp. (Richelieu, Indre-et-Loire, France) tested by Brumpt (1936) proved to be refractory to infection by this plasmodium. We do not know of any other mosquito reported to date as a vector of this species of *Plasmodium*.

Recently, in a lot of *Aedes aegypti* which had been released to feed on chickens infected with *Plasmodium gallinaceum,* there was accidentally introduced a specimen of *Culex quinquefasciatus* from Iguala, Gro. that emerged in another lot of this species raised in the laboratory. On dissecting this insect, abundant sporozoites were found in its salivary glands. The mosquitoes had fed for the first time 29 days before on chickens infected with *Plasmodium*. They had been kept at ordinary laboratory temperatures approximating 20–25 degrees Centigrade.

In view of the abundance of this species of mosquito in the country, and in view of the negative results obtained previously in attempts to infect species of the genus *Culex*, it seems important to submit a preliminary report of our findings in this case of infection, which to date is the only one recorded.

Experiments are at present under way in this Institute to determine the susceptibility of this species of *Culex* to infection by *Plasmodium gallinaceum,* as well as to determine the possibility of finding other vectors among mosquitoes of the region.

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POLISHED AREAS ON GRANITIC PORPHYRIES OF THE HUECO AND CORNUDAS MOUNTAINS OF TEXAS AND NEW MEXICO[1]

RECENTLY while engaged in making geologic observations in the Hueco and Cornudas Mountains of western Texas and New Mexico I became aware of the repeated occurrence of large highly polished patches of rock which had escaped my notice before this. The Huecos and Cornudas, like other granitic intrusive masses, upon weathering have developed large open fractures, niches and even sizable caves, many of which have openings at the level of the ground. There was observed at the entrance to one of these small crevice caves a highly polished rock surface on the hanging-wall side. The footwall, however, showed the same rough weathered appearance as the inner and outer surface about the polished area. Subsequently it was found that at practically all other slanting cavernous openings, the polished surface, if present, appeared on the hanging-wall side. I do not recall having seen polished surfaces upon rocks which were high above the ground surface or upon the tops of rocks.

Later I was surprised to see the same type of polished surface on the sides of large outlying boulders, some fifteen to twenty feet in diameter, which had broken loose from the high cliffs and had tumbled out onto the surrounding apron of detrital wash. My recollection is that most of these polished areas are on the south side of the boulders and near their edges or corners. It was noted that all the patches are similar in size and position. They begin at a point about two feet off ground, often extending to a height of seven to nine feet and seldom cover a space more than five to ten feet wide, whether at the entrance to openings or on isolated boulders.

Are these polished patches remnants of once extensive surfaces of smooth rock, or are they the result of local action on limited areas such as the effects produced by desert sand-blasting, faulting or other processes? One may elaborate to no end on all the possible ways to explain such a phenomenon, but a concept that appeals to the writer and which may be of interest to the anthropologist and archeologist as well as the geologist is that these polished areas may be the "itching" or rubbing posts of prehistoric animals of the Basket Maker I or earlier time. My cursory data seem to accord with such a theory. Their height, width and position agree well with the size and habits of animals that congregate about such places for rest and shelter. The hanging-wall at the entrance to a shelter, inclined as so many of them are at an angle of about 70°, would serve as a convenient rubbing post to animals of all sizes—ground sloth, elephant, bear, antelope, etc. The footwall could hardly be made to serve such a purpose and would remain unpolished. Continual rubbing of the rocks would not only develop a polished surface but would impregnate the fine interstices of the rock with fatty oils from the skin which would wax and thus preserve these surfaces. The smooth and highly polished surfaces found on posts, pipes and other hard and resistant objects, produced by cattle in satisfying their urge to scratch, is a common sight about water holes on the Western ranges.

Another point of interest is the fact that the polished area begins about two feet above the present position of the surface of the ground. This may be

[1] E. Brumpt, *Compt. Rend. Acad. Sci.*, 203: 750; *idem, Ann. Paras. Hum. et Comp.*, 14: 597, 1936.

[2] E. Roubaud, J. Colas-Belcour and M. Mathis, *Bull. Soc. Path. Exot.*, 32: 28, 1939.

[1] Published by permission of the Director, U. S. Geological Survey.

some measure of the amount of denudation which has occurred, as marks of higher-ground levels may be seen at many places. These suggestions are offered in the light of limited observations; satisfactory answers to the questions must await more complete inspection of all the evidence.

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QUOTATIONS

MR. KEPPEL'S ACHIEVEMENT

THERE are men to whom the finality of the word "retirement" does not apply, even when they relinquish a post which they have long held. They continue to be active in the world and to wield an influence, regardless of the particular title which may be given to their new work. Such a man is Mr. Frederick P. Keppel, who on November 18 next will relinquish his administrative duties at the Carnegie Corporation of New York, of which he has been president for nineteen years. He is to remain as educational adviser to the corporation.

The spending of millions of dollars—wisely—is far from an easy task, even when, as in the case of the Carnegie Corporation, the purposes for which the money may be used are clearly defined and restricted. Despite these limitations, the number of educational and other institutions clamoring for aid is enormous, as is the number of individuals in the field of education worthy of help. The task is, therefore, to weigh conflicting claims and decide where the money can be spent with the best hope of fruitful returns to society. For such a large task a man of wide interests and background, as well as of sound judgment, is needed. Mr. Keppel possesses, in addition, the capacity of saying "no" as if he were conferring a favor.

Shrewdness and hard-headedness, coupled with a gentle manner and engaging modesty, are other valuable personal weapons of Mr. Keppel. A keen observer and a good listener, he has familiarized himself with the problems of the institutions which he has been called upon to help, and he has done this with a minimum of hard feeling. This, in itself, is an achievement and bears testimony to the wisdom of those who persuaded this man, who had been eight years dean of Columbia, and who had been Assistant Secretary of War and done important work for the Red Cross in Europe, to enter an even wider field of usefulness. Being still well under the Biblical threescore years and ten, the presumption and hope are that Mr. Keppel will continue in public or semi-public work for many happy and useful years.—*The New York Herald-Tribune.*

In November Dr. Frederick Paul Keppel will give up the presidency of the Carnegie Corporation, which he has occupied with such distinction for nineteen years. For aid from the income of that foundation innumerable applications have been made. To choose from even the most meritorious is a labor of copious knowledge and delicate judgment. Dr. Keppel has distributed that income wisely and productively. He has had the advice of experts. His annual reports have become classics.

His modesty and his gift of sympathetic cooperation had been shown in other fields. Colleges and universities, the fine arts and the sciences, research and scholarship here and abroad have been encouraged and advanced. Concrete and definite rather than general objects have been sought. Dr. Keppel has been a persuasive advocate of adult education. He has talked sense and he has written it. Those Columbians who had the good fortune to be undergraduates when he was dean of the College of Arts remember and prize him as the friend, the gay associate, the student and the former of character. He has handled many a hard job ably, and when he leaves his present post, there will still be plenty of work for him to do. —*The New York Times.*

SCIENTIFIC BOOKS

ELEMENTARY BIOLOGICAL TEXTS

LATE EDITIONS:

Principles of Animal Biology. By A. FRANKLIN SHULL. Fifth edition. 417 pp. New York: McGraw-Hill Book Company. 1941. $3.50.

Animal Biology. By MICHAEL F. GUYER. Third edition. 723 pp. New York: Harper and Brothers. 1941. $3.75.

General Biology. By JAMES WATTS MAVOR. Second edition. 897 pp. New York: Macmillan Company. 1941. $4.00.

Foundations of Biology. By LORANDE LOSS WOODRUFF. Sixth edition. 773 pp. New York: Macmillan Company. 1941. $3.75.

FIRST EDITIONS:

Human Biology. By GEORGE ALFRED BAITSELL. 621 pp. New York: McGraw-Hill Book Company. 1940. $3.75.