

immediately following the close of the present school year. The new location is in the great medical center of Chicago and only a short distance from the medical and dental colleges of the university, which will bring its three Chicago departments into much closer relations.

An endowment of \$50,000 to support graduate fellowships for Canadians in the American University, Washington, has been made by the estate of the late Hart A. Massey, of Toronto, who desired to establish, if possible, some link between the Methodism in Canada and the United States.

MR. C. E. PROBYN has bequeathed the residue of his estate, amounting to about £10,000, to the University of Bristol.

*Nature* quoting from the *Pioneer Mail* states that the staff has now been selected for the Lady Hardinge Medical College and Hospital at Delhi, which Lord Hardinge opened on February 17: Principal and professor of medicine, Dr. K. A. Platt; professor of anatomy and gynecology, Miss Hitton; professor of pathology, Miss Field; professor of anatomy, Miss Murphy; professor of chemistry, Miss A. M. Bane; professor of biology and physiology, Miss M. R. Holmer. It is expected that tuition will begin next September, and the government of India will contribute a lakh of rupees (about \$33,500) yearly to the annual maintenance charges.

DR. ROSCOE POUND, Carter professor of jurisprudence, has been appointed dean of the Harvard Law School. Dr. Pound is known to scientific men for his studies of the phytogeography of Nebraska. He is a member of the Botanical Society of America and a fellow of the American Association for the Advancement of Science. Dr. Pound was a member of the Committee of the American Association of University Professors which drew up its Report on Academic Freedom and Academic Tenure.

PROFESSOR ELIOT BLACKWELDER, of the University of Wisconsin, has been called to the headship of the department of geology at the University of Illinois.

## DISCUSSION AND CORRESPONDENCE

### CROWN GALL OF PLANTS AND CANCER

RECENTLY I have made discoveries which tie crown gall of plants closer to cancer of man and animals. I can now produce embryonic teratomata at will by bacterial inoculations. All that is necessary is to inoculate growing plants in areas containing dormant totipotent or pluripotent cells, using *Bacterium tumefaciens*. Moreover, as in man, daughter tumors are produced freely and these also contain teratoid elements. These results have been obtained repeatedly during the last two months on *Pelargonium*, tomato, tobacco and citrus. A full account will be published within a short time.

ERWIN F. SMITH

WASHINGTON, D. C.,  
March 3, 1916

### THE RISE OF SEA LEVEL SHOWN BY COASTAL DUNES

In a paper<sup>1</sup> published in the second annual report of the state geologist of Florida, in 1909, the writer called attention to sand dunes on the coast of southern Florida and the relation of these dunes to present sea level. It is altogether possible that others have noted the value of the evidence shown by coastal dunes as indicating changes of sea level with respect to the land, but the writer has not seen any references to the matter, and for that reason mentions it again.

Dunes may be divided into two classes—active and quiescent. Active dunes are those that are still growing, fed by supplies of wind-blown sand from some nearby expanse. Quiescent dunes are not growing, and are covered with vegetation. A good example of an active coastal dune is the great dune at Cape Henry, Va. Good examples of quiescent dunes may be found at many points along the Atlantic coast.

At some quiescent dunes close to the shore the writer has observed that a dune, as shown by its shape and the stratification of its sands, grew under conditions that no longer exist,

<sup>1</sup>Sanford, Samuel, "Topography and Geology of Southern Florida," page 184.

there being now a swamp to windward; also, as in Florida, there may be outlying keys, or, as at many places, beach ridges, the keys or beach ridges being higher than the swamp and consequently higher than the old beach or sandy expanse from which the dune grew.

Evidently, such quiescent dunes furnish positive evidence of a rise of sea level. Also, it is clear that this change of sea level must be of Recent or of latest Pleistocene age, the position of the dividing line between Pleistocene and Recent time being necessarily a matter of opinion, for the dunes can not be old. Even those of Florida, which indicate a rise of sea level of at least five or six feet at their bases, rest on late Pleistocene marls and limestone. The exact age of the dunes and the exact length of time that has elapsed since they became quiescent by the growth of swamps cutting off supplies of sand, are alike indeterminate, but the sharpness of characteristic outlines and the size of the trees on many of them indicate quiescence for hundreds, but not for thousands of years.

A locality where this relation between swamp growth and dune quiescence may be conveniently observed by many persons is at Ventnor, N. J., on Absecon Island, south of Atlantic City.

It is believed that the evidence of the dunes mentioned confirms that of shore-lines, beach ridges, and coastal swamps, namely, that the Atlantic coast of the United States has subsided, or the sea level has risen, in Recent time, and that the change of sea level is probably still in progress.

Evidently, also, termination or interruption of growth by a near-by rise of water level is not restricted to dunes along the sea shore, but applies to all dunes.

S. SANFORD

WASHINGTON, D. C.,  
December 20, 1915

#### A REPUTED SPECIFIC FOR BLACKWATER FEVER

I HAVE in my herbarium two curious plants from the interior of Venezuela, which are of special interest because of their chemical properties. They were collected and presented

to me by Dr. Jesus Maria Piñango at Guanoco, Venezuela.

The first specimen is used by the natives of eastern Venezuela as a specific for the dreaded blackwater fever. The plant grows in swamps and reaches a height of six feet. It bears ovate, opposite, entire leaves, tapering to a long point. When boiled to use for fever it colors the water rose-pink.

I should like to invite any reader of SCIENCE who is an expert in therapeutics, and would be interested to analyze and test the properties of this plant to communicate with me, and I will gladly send a specimen for this purpose. For if this plant really possesses the medicinal properties ascribed to it, it might be of much value in the treatment of the blackwater fever, which is so fatal in parts of Venezuela and still more prevalent and deadly in tropical Africa.

The other specimen is a very powerful narcotic. It is called by the Guarauno Indians *Charapu*; and is used by them for poisoning fish in the following manner. A quantity of the leaves are gathered and pounded down into a small hole in the ground so as to form a ball. This is then dried. On going fishing in a river or stream, one man takes this ball of leaves, dips it in the water and rubs it in his hands like a cake of soap. The rest of the party, with scoops and baskets, stand a short distance down stream. Almost immediately the fish become *locoed*, rise to the surface, swim wildly in circles, then become insensible, and are easily secured and gathered into the baskets, so powerful is the narcotic principle of the *Charapu*.

CARLOTTA JOAQUINA MAURY

#### UNIVERSITY REGISTRATION STATISTICS

TO THE EDITOR OF SCIENCE: In the case of Washington University, the comparison of the University Registration statistics published in SCIENCE, January 21, 1916, with those published for the year preceding, shows a loss in the total number of students in that institution. Actually, Washington University had an increase; 174 in the degree conferring departments alone. This apparent loss is due to a change in the classification of a certain