At the meeting of the board of regents of the University of Minnesota on January 18, a proposal by E. C. Kendall and Drs. W. L. and Charles H. Mayo to grant and convey to the University of Minnesota certain rights under letters patent of a discovery by Dr. Kendall of an agent for the treatment of diseases, which has been by him designated "Thyroxin," was submitted, and it was voted to appoint the president, the dean of the department of medicine and Dr. Rowntree a committee to consider the proposed agreement and report to the board.

UNIVERSITY AND EDUCATIONAL NEWS

By the will of General Horace W. Carpentier, a trustee of Columbia University, who died on January 21, at the age of ninety-two years, his residuary estate is divided between Columbia University and Barnard College, providing, it is said, over a million dollars for each institution. Bequests are also made to Columbia University of about $100,000 for the Dean Lung department of Chinese and about $200,000 to the medical school. Barnard College receives $200,000 for scholarships, and $100,000 is bequeathed to the University of California. There are also bequests to hospitals and for other public purposes.

Following the monthly meeting of the Yale corporation it was announced that Professor Russell H. Chittenden had been reappointed director of the Sheffield Scientific School for a term of five years, as requested by the governing board.

Professor William A. Riley, since 1912 professor of insect morphology and parasitology in the college of agriculture of Cornell University, has been elected professor of parasitology and chief of the division of economic zoology in the University of Minnesota, and will take up his duties there at the beginning of the next academic year.

Dr. John H. Hamilton, of Albany, N. Y., has been called to the State University of Iowa to succeed Dr. M. F. Boyd, as professor of preventive medicine and state epidemiologist.

Mr. Thomas J. McCarter, M.A. (Texas, 1916), has been appointed professor of physics in North-Western College, vice Mr. C. C. Van Voorhis, resigned. Mr. McCarter formerly held a position in the faculty in the University of Texas and more recently with the Bureau of Standards at Washington, D. C.

Fred G. Allen, of Erie, Pa., a graduate of the University of Toronto, has been appointed assistant professor of electrical engineering at Lafayette College to take the place left vacant by the resignation of E. D. Tanzer, who has become assistant professor of electrical engineering at the Georgia Institute of Technology.

Dr. John T. Black, commissioner of health of the State of Connecticut, and Dr. Walter H. Brown, health officer of Bridgeport, have been appointed lecturers on public health at Yale University for the next year.

DISCUSSION AND CORRESPONDENCE

DIMINUTION OF THE ANTARCTIC ICE CAP AND THE AMELIORATION OF CLIMATE

In a recent number of Science, Marsden Manson[1] has directed attention to the highly important scientific results of the Antarctic expeditions under Captain Scott and Sir Ernest Shackleton, and has succinctly stated several broad generalizations based upon the data thus obtained. From the majority of these conclusions few glacialists would dissent, but exception must be taken to the main theme that the present diminution of the Antarctic ice cap proves the climate of the world to be undergoing a rise in temperature which will enable the "moss of polar wastes" to "be replaced by rye and wheat."

The position of the margin of ice sheet or valley glacier is a compromise between two factors: the forward or outward motion of the ice, and depletion resulting from melting or from wave action. The ice front advances when the former exceeds the later; it retreats when the relations are reversed. Variations in the rate of movement of the ice depend upon changes in temperature and in supply of new ice formed from snow. A dry glacier is a

[1] "The Bearing of the Facts Revealed by Antarctic Research upon the Problems of the Ice Age," Science, N. S., Vol. 46, pp. 639, 640, December 28, 1917.

slow-moving glacier, and a glacier is dry when it is cold. Likewise a wet glacier moves rapidly, and a wet glacier is comparatively warm. It may well happen that a slight rise in temperature would cause a forward movement of the ice edge and a slight fall in temperature a regressive movement. Again, heavy snowfall results in rapid accumulation of ice and is followed by an acceleration in the forward or outward push of the ice mass, while a lessened precipitation must result in slower movement and decrease in volume. Possibly, the present retreat of the Antarctic ice is due to a progressive desiccation of Antarctic climate. Temperature is by no means the only, nor necessarily the determining, factor.

At the same time, it is doubtless true that the climate of the globe is now warmer than it was during the episodes of extensive glaciation characterizing the Pleistocene Ice Age, which by the way, was equalled in the magnitude of its ice sheets by at least one earlier glacial period, that of late Paleozoic time. Moreover, from the geological point of view the present world-climate, with its polar refrigeration and marked climatic zones, is abnormal; the earth has offered a much more congenial environment than this throughout the greater part of its recorded history. But the data are not now sufficient to point clearly toward a swift and steady replacement of the present semi-glacial temperatures by those of normal and more hospitable range.

Placing the present moment in earth history in its true perspective with relation to the preceding geologic incidents, several alternatives arise concerning what will be disclosed on the geologic morrow. During Quaternary time oscillations in climate are recorded by at least four episodes of glaciation separated by intervals of partial or complete deglaciation. The last great swing of the climatic pendulum reached its farthest limit in the direction of refrigeration about thirty thousand years ago. It is possible that the return oscillation will carry the weather conditions back to those of the normal, ice-free, geologic period, and Quaternary glaciation will be a thing of the past. On the other hand, it is just as likely that the backward rush of the pendulum is now retarding and that soon it will be poised for another sweep in the opposite direction to bury middle latitudes beneath the weight of ice sheets of a new glacial stage. In that case we are to-day not in a post-glacial but an inter-glacial time such as that enjoyed by the men of Neanderthal, when osage oranges and paw paws flourished north of Lake Ontario and figs grew in the Kootenay Valley.

It is unfortunate that no certain selection may be made from these alternatives of the one which is imminent, for the question is one of more than academic interest. Legislation which is forward-looking, far-reaching plans for racial progress, promotion of economic welfare, all must be radically influenced by the knowledge—if we had it—that in ten thousand years the Barren Lands of the north could support a population of fifty to the square mile, or that in a similar interval the available farm lands of the globe will be reduced to half their present area.

The key which will unlock the mystery of the major climatic trend of the present time is not to be found in observations upon the terminal position of ice sheet or glacier, unless those observations are extended over centuries. It is rather to be sought in the determination of the influence which the combustion of coal in this industrial age is exerting upon the carbonic-acid content of the air, and of the headway which the warm (though unusually salt and therefore heavy) water of the Mediterranean Sea is making as it creeps outward through the Straits of Gibraltar down the sloping floor of the Atlantic ocean and spreads poleward beneath the cold but fresher water of the deep sea.

KIRTLEY F. MATHER

QUEEN'S UNIVERSITY,
KINGSTON, CANADA

LABELING OF MICROSCOPICAL SLIDES IN STAINING TECHNIQUE

THERE seems to be distinct need of a satisfactory method of temporarily labeling microscopical slides destined for the staining, wash-