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the sheet is enormous, if the German geologist Prof. W. Meinardus is right in his estimates. It is definitely known that the South Pole is 10,000 feet above sea level, which is almost as lofty an elevation as some of the Alpine peaks. The known portion of Antarctica has a high average elevation.

But—Prof. Meinardus believes that most of this loftiness is just ice. The hidden land, he estimates to be not more than 2,000 feet above sea level. In reaching this conclusion, he was guided mainly by the height of neighboring continents. If he is right, the ice sheet over Antarctica is so enormous a store of cold that it is hard to find ways of appreciating it. He says that if spread thin over the earth, it would bury every country under more than 120 feet of ice. If it should melt, it would raise the oceans 100 feet.

This ice, piled on top of Antarctica, is reason enough why that continent had to wait for the age of science before its secrets could begin to be probed.

World's Weather Factory

Remote and fantastic as the Antarctic seems, it is important to the rest of the world. If nothing else comes from the ice cap, plenty of weather is manufactured there, and nobody knows yet how directly it affects the weather of the United States and Europe. The ice patrol has reported that water from the Antarctic apparently creeps as far north as Greenland, a 10,000 mile sea journey. Between Greenland and Labrador the patrol found that the deep water was so cold and salty as to suggest an origin in the distant Antarctic.

It is generally agreed that the world should be having weather reports and forecasts from its Antarctic weather factory. The influences of that weather factory on northern countries may still be doubtful, but there is no doubt that southern continents get a large share of their "weather" from the frozen south. Australian wheat farmers and South American cattle men could be better prepared for droughts and other weather troubles if warnings were dispatched from far southern stations.

Dr. Bowman in a discussion of this problem said, "It would pay handsomely in crops and cattle and security of life if meteorological stations were set up on the borders of the Antarctic and on the island groups that girdle it."

And Dr. Bowman added: "It is under the impulse of this idea that Captain Sir Hubert Wilkins has carried on his explorations in the Antarctic Archipelago for two seasons. He did not go down there just for fun; he was searching for suitable bases for meteorological stations to be established by international cooperation. With a ring of such stations about the Antarctic and with daily weather reports from them by radio, it would be possible to draw charts that would trace the effects of cyclones and anticyclones as they move forward from breeding places out over the southern ocean."

Physicists are among the scientists who have important errands for exploring expeditions to do in the Antarctic. For one thing, they would like to have records taken of the cosmic rays in the world's highest latitudes. As far as such researches have gone, they have shown that the rays from outer space gain in intensity as the higher latitudes are reached. Perhaps the polar regions may yield facts that will help in learning whether or not the cosmic rays are electrons, as some physicists think.

The beautiful southern auroral displays, which are like brilliant curtains and arcs, may be linked with the cosmic rays. A French physicist, Dauvillier, has evolved the theory that the rays are electrons shot from the sun through the action of strong electric fields on the sun. Those cosmic rays that approach the earth, he reasons, would be affected by the earth's magnetic field, and near the magnetic poles would produce the aurora. That, too, is something for expeditions to test and prove.

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HOW ANIMALS SPEND THE WINTER

an address by

Austin H. Clark

of the U. S. National Museum

To be given Friday, Sept. 22, at 1:45 p. m. Eastern Standard Time over stations of the Columbia Broadcasting System. Each week a prominent scientist speaks over the Columbia System under the auspices of Science Service.

PSYCHOLOGY

Waltz Time Preferred To Foxtrot Rhythm

DESPITE the great popularity of the foxtrot, its rhythm takes second place when compared with the rhythm of the waltz, it was revealed by tests reported by F. H. Lewis of Bates College.

The tests eliminated the possibility that the subjects would be influenced by melody or other factors by having the rhythm produced by timed and amplified oscillator tones. Not only was the three-four time preferred, but the waltz rhythm was also better able to produce movement, it was found.

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PSYCHOLOGY

Chimpanzee's Vision Is As Acute As Man's

HOW CHIMPANZEES were given tests of vision and found to have about the same keenness of eyesight as man was related to members of the American Psychological Association in Chicago by Kenneth W. Spence, of Yale University.

A new test of vision was devised to compare the vision of the apes with that of a five-year-old child and also human adults. For, of course, the chimpanzee cannot be expected to read the queer looking E's, A's, and so on, that appear on the chart usually used for testing vision. Neither, for that matter, could the human child.

The test for them consisted of choosing a box having a circle with black and white stripes on it, in preference to one having a plain clear circle. The width of the stripes could be varied by the examiner very gradually until they were so narrow as to be invisible to the eyes of the subject. The keener the eyes, the narrower the stripes could be made before the subject would be confused and be unable to choose the right box. The box with the striped circle contained food.

The human adults were tested with the same circles, but were allowed to say which had the stripes.

The eyesight of one of the chimpanzees was about the same as that of the human adults and definitely better than that of the five-year-old. The other chimpanzee had the poorest vision but was probably upset by his physiological condition at the time.

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