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CHASING clouds in an airplane, to learn how fast they grow and to obtain other intimate secrets barred to earthbound weather men, is the new kind of meteorology that was described before the meeting of the American Meteorological Society in Washington, by Dr. J. B. Anderson of the Naval Air Station at Anacostia, D. C.

Dr. Anderson wanted to learn something about the birth and growth of clouds in the more or less permanent layer that hangs over the Pacific coast of the United States. He was especially curious to find out the rate at which they piled themselves up into the air. He found that to keep his plane even with the top of one cloud he was studying he had to climb two or three hundred feet in a minute.

How to get other weather data from the upper air without the expense of going up after it in an airplane was described by Dr. J. Patterson, of the Canadian Meteorological Service, Toronto. He has devised an apparatus that will flash back signals of temperature and pressure from an ascending small balloon as long as the observers can keep it in sight through a telescope.

Hitherto similar apparatus has been carried up arranged to record its experiences with a pen on a slowly moving strip of paper. But to get the story the weather man would have to wait until the balloon came down again and then depend on the chance of the apparatus being found and sent back by some farmer or woodsman. The new device is equipped with red and white electric lights fed by a flashlight battery. The mechanism is arranged in such a way that the order of flashing on and off of the lights will tell the observer on the ground whether the balloon is passing from warm air to cold or vice versa. Similarly, another light signals by its flashings how much the barometric pressure is changing as the balloon rises.

Dr. Patterson pointed out that this device should be especially useful to meteorologists in polar regions or other unpopulated parts of the world, where the ordinary registering instruments are useless through the impossibility of getting them back again.

Gravedigging, an occupation as far removed from airplanes and balloons as can well be imagined, can also be made to yield data of value to the meteorologist, Dr. C. L. Fassig of the U. S. Weather Bureau told his hearers. In making a study of how deep frost gets into the ground in winter, he had recourse to engineers and contractors, and also to those melancholy laborers who prepare for each of us his last house. The data thus gathered are expected to be of value to roadbuilders, construction firms and all whose business has to do with making holes in earth that may get frozen.

A vivid report of weather in a region where there is never any question whether the ground is frozen was made by Dr. W. C. Haines of the U. S. Weather Bureau, who was with Byrd in Antarctica. He told tales of taking observations in forty-mile blizzards, with frost so thick on the lens of his instrument that it had to be scraped off with a stick; of powdery snow driven

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in through minute crevices jamming the clockwork of automatic recording devices; of "freeze-proof" ink frozen solid until it was diluted with alcohol and glycerin. The lowest temperature experienced during the year in Little America was 72.4 degrees below zero Fahrenheit; the highest, 35 degrees above; an average for the whole year, 12.7 degrees below.

In spite of all these difficulties, however, the meteorological work was carried on successfully. Observations were taken daily at the base camp and on

the over-ice expeditions. Over 400 sounding balloons were released and watched with instruments that made height and drift computations possible. Some of them were seen to ascend to as much as 30,000 feet. Kites and airplanes were used for capturing recorded data from aloft. A great mass of meteorologic data, the most complete ever compiled at "the bottom of the world" came back from Antarctica with the triumphant return of the Byrd expedition.

Science News Letter, May 16, 1931

ASTRONOMY

Astronomers to Study Meteors From Stations in Arizona

SHOOTING stars that flash in the night will be the subject of scientific attack by a Harvard College Observatory which will take the field in Arizona this fall. Special observing stations will be established near the site of the Lowell Observatory at Flagstaff, Ariz., and two astronomers will continually watch the sky through the nights in order to record for science the meteors that constantly bombard the earth's atmosphere from outer space. The actual observations will begin about October 1.

"One of the principal aims of the expedition is to determine the frequency of meteors throughout the year, and a second important aim is to determine their altitude in the earth's atmosphere," Dr. Harlow Shapley, director of the Harvard Observatory, declared. "In order to measure the height it will be necessary to work at two stations, separated by approximately twenty-five miles. At each station two observers will continually watch the sky throughout all the hours of darkness except when the weather and strong moonlight interfere. . . .

"In my opinion the meteors, which have been much too neglected by astronomers, are of high importance in problems of the upper atmosphere of the earth, the relation of meteors to comets, the nature and abundance of interstellar material, and in other problems of cosmic significance".

In addition to the naked eye observations of meteors for numbers and distribution through the night and throughout the year, and for height measurements, the astronomers will

also attempt to determine the velocities of some of the meteors.

Meteors, or shooting stars, are small pebbles or dust grains speeding at twenty to thirty miles per second in the earth's atmosphere at an altitude of forty to eighty miles. Only those of great brightness are recorded on photographic plates and the human eye can see them nearly one hundred times fainter.

Science News Letter, May 16, 1931

PSYCHOLOGY

Pleasant Words are More Easily Remembered

AN ARGUMENT against so-called negative advertising in which unpleasant matters are warned against may be found in a report by Dr. Ross Stagner, of the psychological laboratory of Wisconsin University, made in Chicago last week to the meeting of the Midwestern Psychological Association.

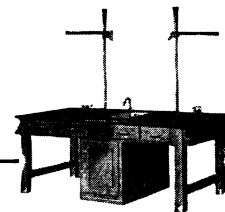
Dr. Stagner has found that when a person tries to memorize a list of words, pleasant words are more easily remembered than either unpleasant words or those to which the person is indifferent. A possible explanation, he believes, lies in the fact that the individual has in his experience a greater number of associations with the pleasant words. Another explanation may be that, in spite of their instructions to give an equal amount of time to the study of each word, the subjects may have lingered longer over the ones they liked.

Science News Letter, May 16, 1931

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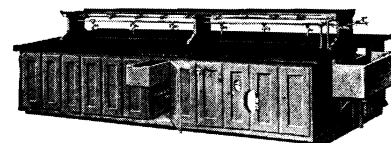
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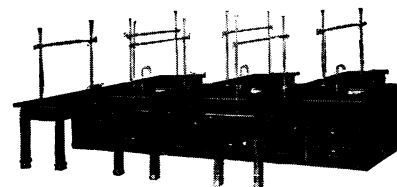
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