subgeneric name (*Microthele*) which is applicable.

While on the subject remarks on several family names may be in order. Of late years almost all echinodermists have adopted the quasi-descriptive names given by Brandt (Aspidochirotæ and Dendrochirotæ) instead of Holothuriidæ and Cucumariidæ. The last, however, have been adopted by Dr. Fisher and are in accordance with the custom prevalent among modern zoologists. Both names were attributed to Ludwig (1894), but Holothuridæ was used by Gray as early as 1842 and 1848. Gray also used Cuvieriadæ and Pentactidæ, but, as they were based on obsolete synonyms, they are synonyms of Cucumariidæ. *Holothuria* being discarded, of course *Holothuriidæ* can not be used but may be replaced by *Bohadschiidæ*, based on the earliest generic name.

Theo. Gill

CURRENT NOTES ON METEOROLOGY AND CLIMATOLOGY

MONTHLY WEATHER REVIEW

In Nos. 3 and 4 of the *Monthly Weather Review* (1907) the following articles appeared: "Rainfall and Run-off of the Catskill Mountain Region," by Thaddeus Merriman; a report to the Board of Water Supply of the City of New York, illustrated by a map of the Catskill Mountains and vicinity, showing by isohyetal lines the probable mean annual rainfall; also by cross-sections, showing rainfall values along different critical lines.

"Variation of Precipitation in the Adirondack Region," by Professor A. J. Henry; comments upon a paper by R. E. Horton, in the January *Monthly Weather Review*, pointing out that Mr. Horton's rainfall amounts for the lustrum 1901–5 are not to be taken as average or normal values, this five-year period having been one of heavy precipitation.

"The Temperature in the Front and in the Rear of Anticyclones up to an Altitude of 12 Kilometers, compared with the Temperature in the Central Area," by H. H. Clayton. This summarizes results obtained by means of *ballons-sondes* from St. Louis. Up to about 8 kilometers the temperature was lower in front and higher in the rear than in the central area; between 8 and 10 kilometers the central area was colder than front or rear; and above 10 kilometers the lowest temperature was in the rear of the anticyclone and the highest in front. Mr. Clayton suggests that the cold air in the northern part of the anticyclone is moving faster than the anticyclone towards the southeast and sinks towards the earth's surface on account of its greater specific weight as compared with the surrounding air. The center of the anticyclone is about midway between the northwest and southeast limits of the inclined stratum of cold air. The circulation of air around a central area is confined to a stratum within about 2 kilometers of the earth's surface. The movement of the air at different heights in cyclones and anticyclones is shown by means of diagrams.

"Cooling by Expansion and Warming by Compression," by Professor C. E. Peet, and "Espy's Nepheloscope," by Professor Cleveland Abbe, describe simple apparatus for use in condensation experiments in school meteorological teaching.

"Bells as Barometers," by Professor Cleveland Abbe; note on some erroneous statements which have been going the rounds of the press regarding the so-called "water-bells" near Lebekke, in Belgium.

"A Proposed New Method of Weather Forecasting by an Analysis of Atmospheric Conditions into Waves of Different Lengths." This is a paper of unusual importance by H. H. Clayton which presents, in brief outline, the results of studies extending over many years in connection with long-range forecasting. The author believes that "the discovery of these facts not merely opens the way to a great improvement in the forecasting of weather from day to day, but also . . . furnishes a scientific basis for long-range forecasting." This paper is well illustrated, and merits careful study.

"The Velocity of Centers of High and Low Pressure in the United States," by C. F. von Herrmann; a determination of these velocities for the period 1878–1904, and a comparison with Loomis's results for 1872–84. Substantial agreement is found. The average annual

velocity from the Weather Bureau records is slightly higher than the earlier averages. The minimum is found in June (24.0 miles an hour) instead of August (22.6 miles). The highs show a mean annual of 25.6 miles; a maximum of 29.5 in January and a minimum of 22.1 in August.

"The 'Southwest' or 'Wet' Chinook," by H. Buckingham; "The 'Dry' Chinook in British Columbia," by R. T. Grassham; and "The Wet and Dry Chinooks," by Professor Cleveland Abbe.

COAST METEOROLOGICAL STATIONS OF CHILE

THE seventh volume of the "Anuario del Servicio Meteorolojico de la Direccion del Territorio Maritimo" of Chile (1905) contains the valuable observations made at sixteen stations along the coast of Chile. In this volume there are given for the first time the records from the port of Punta Arenas, in the Strait of Magellan. The list of stations is an interesting one and includes the island of Juan Fernandez and Punta Dungeness, the latter at the eastern end of the Strait. The southernmost stations, especially Islote de los Evangelistas, Punta Arenas and Punta Dungeness, furnish valuable data which, with those now being recorded by the Argentine Meteorological Service at its far southern stations, will soon fill up one of the gaps in the meteorological charts of the world.

UPPER AIR CURRENTS OVER THE POLAR SEA

THE *Beiträge zur Physik der freien Atmosphäre,* Vol. 2, No. 3, contains a brief report by Dr. H. Hergesell of his observations by means of balloons, undertaken during the past summer in the Arctic Ocean on board the *Princess Alice,* with the assistance of the Prince of Monaco. As to wind direction, the meteorological element concerning which there is probably the most interest, it is stated that the direction was variable (July 13–September 8), so that no prevailing direction could be established. The air moved out from the pole as often as it moved poleward. As the observed currents undoubtedly belonged to the great circumpolar whirl, it is probable that the latter must frequently have changed its position within the polar basin.

HUMIDITY CHARTS OF THE UNITED STATES

THE first complete series of monthly relative humidity charts for the United States appears in the *Report of the South African Association for the Advancement of Science* for 1906. These charts, based on data for the uniform period of fourteen years (1888–1901), published in the *Report of the Chief of the Weather Bureau* for 1901–02, p. 318, were drawn by Kenneth Johnson, of Harvard University. The lines are drawn for differences of 10 per cent. Relative humidity charts for January, July and the year had already been published, but the present series is complete for all the months, and is therefore a distinct contribution to the climatology of the United States.

CHANGE OF CLIMATE IN DAMARALAND?

IN a recent number of *Nature* (Vol. 75, 1907, 536–537), Professor H. H. W. Pearson considers the coniferous plant *Welwitschia,* discovered by Welwitsch in Damaraland. The apparent failure of natural reproduction of this plant in a region well suited to the adult plants suggests to Professor Pearson that the climate is becoming drier, and the conditions necessary to start germination are less frequent than formerly. The species is evidently losing ground, a fact which suggests climatic change.

SNOW GARLANDS

IN *Das Wetter* for June, 1907, there are published two views of a very rare phenomenon known in Germany as "Schneegirlanden." These were observed by Dr. C. Kassner, in Berlin, on January 31, 1907. The photographs were taken by him. The first description of snow-garlands was given by Hellmann in the *Met. Zeitschr.* for March, 1889, and the second was given by Assmann, in the June, 1889, number of the same journal. The curious development of these garlands, as reported by Kassner, resulted from the melting of snow on the roof of a building, and a subsequent sliding of the snow down the slope

of the roof. Finally a rounded, rope-like roll of snow hung pendant from the edge of the roof, in the shape of a very flat U, the ends remaining fast on the edge of the roof.

NOTE

"The Progress of Science as illustrated by the Development of Meteorology" is the subject of Professor Cleveland Abbe's Presidential Address before the Philosophical Society of Washington, read December 8, 1906, and published in the *Bulletin* of the Society, Vol. XV., pp. 27–56, 1907.

R. DeC. Ward

SCIENTIFIC NOTES AND NEWS

Dr. Rollin Thomas Chamberlin and Dr. Stephen Reid Capps, who received the degree of doctor of philosophy at the summer convocation of the University of Chicago, have been given appointments in the U. S. Geological Survey.

It is announced that Commander R. E. Peary is about to leave New York for the Arctic regions on the *Roosevelt*.

Lieutenant E. H. Schackelton sailed from London on July 30 on the *Endurance* for the Antarctic regions.

Dr. John B. Watson, of the department of psychology at Chicago University, has been spending some time at the Station for Marine Biology of the Carnegie Institution at Dry Tortugas, where he has been studying the habits of the sea-gulls.

Professor F. S. Earle, formerly in charge of the mycological collections at the New York Botanical Garden and later director of the Cuban Agricultural Experiment Station, has spent several weeks at the garden, continuing his investigations of the gill-fungi.

In the issue of Science for July 26 it was stated that Dr. Charles A. White is now the oldest living geologist in North America. Our attention has been called to the fact that Dr. Martin H. Boyé, of Coopersberg, Pa., though best known as a chemist, was from 1838 to 1843 assistant geologist, as well as chemist, to the Pennsylvania Geological Survey. Dr. Boyé was born at Copenhagen on December 6, 1812. He and Dr. Wolcott Gibbs are the only surviving founders of the American Association for the Advancement of Science, and Dr. Boyé is the only surviving founder of the Association of American Geologists and Naturalists which developed into the association. Lawrence C. Johnson, of Patchuta, Miss., though primarily an attorney and counsellor at law, has also made valuable contributions to geology and was publishing as recently as last year. Mr. Johnson was born at Chester, S. C., on August 18, 1822.

President G. Stanley Hall, Ph.D., LL.D., of Clark University, was announced to give at the summer session of the University of Chicago a series of five lectures on the following subjects: "The Pedagogy of History," "Moral and Religious Education," "The Ideals and Methods of Teaching," "The Claims of Modern versus Ancient Languages," and "The Feelings."

Dr. Lewellys F. Barker, professor of medicine in Johns Hopkins University and formerly head of the department of anatomy in the University of Chicago, gave the doctorate address at the eighty-fifth commencement of Rush Medical College, held in Chicago, on July 12, on "The Psychic Side of Medicine."

Professor Willis Grant Johnson, associate editor of the *American Agriculturist*, has been appointed trustee of the New York State Agricultural Experiment Station at Geneva to succeed Milo H. Owen, deceased. Professor Johnson is a graduate of the Ohio State University and of Cornell University and has been a close student of entomology and allied agricultural branches while instructor at Stanford University and at the University of Illinois. He was for some years entomologist of the Maryland State Agricultural Experiment Station.

Dr. Egon von Oppolzer, associate professor of astronomy at Innsbruck, has died at the age of thirty-seven years.

There will be a civil service examination, on September 4 and 5, to fill existing vacancies in the position of hydrographic surveyor