due to some action of underground water. Being out of the reach of irrigation from the rivers, and not having enough rainfall for agriculture, the utilization of the High plains must be chiefly as cattle ranges for which water may be gained by wells and windmills.

SOUTH SHORE OF HUDSON STRAIT.

THE forbidding character of a rocky upland that has been recently and severely glaciated and that still possesses a severe climate is well portrayed in Low's 'Report on an Exploration of Part of the South Shore of Hudson Strait * * *' (Geol. Surv. Canada, Ann. Rep., XI., 1901, L.): "The rocks met with are all of great antiquity, and all are more or less altered by pressure, induced by intrusions of igneous masses which have folded the bedded series and have produced foliation in much of the otherwise massive granites, gabbros," etc. (p. 31 L.). The crystalline rocks usually form a highland which reaches altitudes between 1,000 and 2,000 feet near the sea, and is often plateau-like in the extent of its rolling uplands between deep and sharp-cut valleys or canyons. Here rock and boulders are abundant and soil is very scanty; here are abundant lichens and some flowering plants, but no trees. Elsewhere the rocks are stratified and gently inclined, forming low ridges with steep outcrop faces and gentle back slopes. Below 300 feet the surface is generally mantled with marine clays, marked with terraces. But as the land rose from its postglacial submergence, the headlands "have been smoothed and polished by the pounding of floating ice, which has removed nearly all the drift from the points, leaving the solid fresh rock always exposed."

THE ORIGIN OF WATERFALLS.

THE 'Festschrift des Geographischen Seminars der Universität Breslau zur Begrüssung des XIII. Deutschen Geographentages' contains, among various essays, most of which turn toward historical geography, an article on the Origin of Waterfalls, by F. Sturm (pp. 122–132, Breslau, 1901). Besides the numerous rapids and falls which originate at points where a young stream passes from a more to a less resistant rock, or where a new course has been taken in consequence of drift barriers, a number of special cases are instanced, such as rapids in a main stream where side streams form boulder dams, illustrated by the Colorado in its canyon; rapids occurring where travertine is deposited in a stream channel, as illustrated at several points in Bosnia, and falls over fault escarpments, such as those of the Oxara in Iceland. The order in which different kinds of falls are presented is empirical rather than genetic.

Falls at the mouths of hanging valleys are explained as resulting from the faster erosion of the main than of the side stream; strong glacial erosion of the main valleys in excess of that in the side valley is discredited. It is not noted in this connection that hanging side valleys with falls leaping from their mouths into broad-floored main valleys are known only in glaciated districts; and that in non-glaciated areas, side streams 'hang' above their masters only in the earliest stage of a new cycle; accordant junction of side and main stream being developed about as soon as the main stream has graded its channel, and long before it has broadly opened its valley floor.

W. M. DAVIS.

CURRENT NOTES ON METEOROLOGY.

METEOROLOGICAL EQUIPMENT OF THE 'DISCOVERY.'

THE meteorological equipment of the British Antarctic exploring vessel *Discovery* is described by Dr. H. R. Mill in *Symons's Meteorological Magazine* for September. The Stevenson screen contains a wet and dry bulb thermometer, a mercurial maximum, and a Six's maximum and minimum thermometer. A barometer, on the Kew pattern, is in the magnetic house, and a barograph is kept in one of the companions. A thermograph and a hair hygrograph are placed on the outer wall of the magnetic house. The three recording instruments are kept running to Greenwich time. The temperature readings are checked by means of an Assmann Aspiration Psychrometer, and sling thermometers are also provided for comparison. Rainfall observations are to be made with a marine rain-gauge and evaporator of Dr. Black's pattern. For carrying out observations in the free air, a captive balloon is carried, and kites

are to be used for greater elevations. Meteorographs after the Blue Hill pattern are to be sent up with the kites. Spirit thermometers, for dry and minimum readings, graduated to —90° F.; special screens; low-reading thermographs; sunshine recorders adapted to the peculiar conditions which are to be met with in the high latitudes; earth thermometers, etc.—are also provided. A Dines pressure anemometer and an anemograph of similar pattern are to be used at land station on the Antarctic continent.

CHARLES MELDRUM.

THE death, on August 28 last, of Dr. Charles Meldrum, for many years director of the Royal Alfred Observatory, Mauritius, should not be passed by without at least a brief mention in these Notes. Dr. Meldrum did a work of the greatest importance for meteorology in connection with the cyclones of the Indian Ocean, to the study of which he devoted a large part of his life. His name will also always be associated with the question of the rélation of sunspots and rainfall, a subject in which he was much interested. Dr. Meldrum was one of the founders of the Meteorological Society of Mauritius, Government Meteorological Observer, Director of the Royal Alfred Observatory, and, during the last ten years of his life, a member of the Government Council of Mauritius.

BIBLIOGRAPHY.

THE annual bibliographical number of the *Annales de Géographie* (No. 10, for the year 1900) contains the usual notices of climatological publications bearing the date 1900. The reviews are arranged by subjects as well as by countries, and there is an author and a subject index. This bibliography is chiefly geographcial, but climatology is given its proper share of attention.

R. DEC. WARD.

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SCIENTIFIC NOTES AND NEWS.

THE Elisha Kent Kane Medal of the Geographical Society of Philadelphia has been presented to Dr. A. Donaldson Smith, the African explorer.

PROFESSOR E. RAY LANKESTER has been elected a corresponding member of the Göttingen Society of Sciences.

DR. RICHARD P. STRONG has been appointed director of the Government Biological Laboratory recently established in Manila.

SIR WILLIAM WHITE, since 1885 director of naval construction in the British Navy and the author of important publications on naval architecture, is about to resign.

IT is said that Dr. Wolf Becher, of Berlin, is preparing a biography of Professor Rudolf Virchow.

A LECTURESHIP in moral science will be established at Cambridge University as a memorial to the late Professor Sidgwick. The sum of £2,450 has been subscribed for this purpose.

A DIFFICULTY has arisen, says *Nature*, concerning the site on which the new Pasteur statue in Paris shall be erected. The use of a space in the Square Médicis in the Quartier Latin has been granted, but this spot is being tunneled for a railway, and it is feared, in consequence, that the statue may be too weighty for it. Other places, such as the Place du Panthéon, the Place de la Sorbonne and the entrance of the Avenue de l'Observatoire, are under consideration.

CHARLES A. BACON, professor of astronomy at Beloit College and director of the Smith Observatory, died on November 6, aged forty-one years.

PROFESSOR M. MAERCKER, director of the agricultural experiment station at Halle, Germany, and professor of agricultural chemistry in the Agricultural Institute, died on October 19, 1901.

THE preliminary plans have been accepted for a new building for the Department of Agriculture at Washington. These plans contemplate a magnificent marble structure of classic design, something over 300 feet long, with wings at either end extending to the rear to accommodate the various laboratories of the department. It is expected that the details of interior arrangement will need to be changed to some extent to suit the needs of the various bureaus and divisions of the department, but these plans will serve as a working basis. About 158,400 square feet of space are provided. Lord & Hewlett, of New York, are the architects.

THE American Morphological Society will meet in Chicago in affiliation with the American