

Where the latter condition exists, the surface above the subterranean passage may subside by solution, producing a ravine of solution. Thousands of such exist over the limestone region of northern Arkansas and southern Missouri, known in geological literature as the Boone chert area.

These ravines have been discussed by the writer under "Valleys of Solution in Northern Arkansas."¹ Wide observation since the time of writing the above article has confirmed the belief that the ravines have their origin from solution, but has modified the opinion therein expressed as to their method of development. Instead of beginning at the mouth and developing backward, the usual method was that of starting with sink-holes, well up on the hillside. The drainage from these sink-holes was along subterranean, tubular passages, to the bases of the hills. The gradual subsidence from solution, of the rocks above the subterranean drainage lines, resulted in the numerous striking ravines that form such a conspicuous topographic feature of the region mentioned.

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QUOTATIONS

THE FUTURE OF THE TROPICS

WHAT the comparatively new science of bacteriology has accomplished for mankind could never have been foreseen a few years back, and even now we probably have a very inadequate idea of its possibilities. The recently expressed opinion of Colonel W. T. Gorgas, that within the next two or three centuries the tropical countries, which offer a much greater return for man's labor than do the temperate zones, will be settled by the white races, and that the centers of population and civilization be transferred to the equatorial regions, may not prove a strictly correct prophecy, but its possibility can not be denied, *a priori*, as once it would have been. The discovery of the malaria germ and of the transmission of it and of that of yellow fever

¹ *Journal of Geology*, Vol. IX., No. 1, January-February, 1901, pp. 47-50.

by mosquitoes has abolished the principal drawbacks to the habitability of these regions by the white races to a very great extent, and opened for the use of civilized man large portions of the earth's surface that were formerly practically forbidden to him. The question, of course, still remains to be settled whether the white man can retain his physical stamina and energy through residence in the tropics for many generations, and whether the mere conquest of pathologic germs is all that is required. The productiveness of tropical regions is of itself a drawback. The average man works only from necessity, and what renders mere existence the easier does not necessarily tend to the higher development of the race. It was Sir Charles Dilke, we believe, who once called the banana the curse of the tropics, and held that where it abounded human progress and ambition disappeared. There is some truth in this, but it may not be an absolute truth. It is not likely, however, that the tropics will be the leading centers of civilization in the future. The temperate zones, where the struggle for existence brings out the higher abilities of man, will always dominate, and it is not improbable that the tropics will be the recourse of the pervasive yellow races rather than of the white. There is every prospect that with our almost certain conquest of the pathologic conditions that exist in those regions their utility to mankind will be vastly increased and that higher civilizations than now occupy those lands will be developed. We may not be able to look on the tropics as a permanent home for the best of the ruling white races, even two or three centuries hence, but there is hardly any question but that they will be much more habitable and useful than they have been in the past.—*Journal of the American Medical Association*.

CURRENT NOTES ON METEOROLOGY AND CLIMATOLOGY

ROYAL METEOROLOGICAL SOCIETY'S LECTURES

THE Council of the Royal Meteorological Society in 1905 appointed a lecturer "to give information on meteorological subjects to

scientific societies, institutions and public schools in various parts of the country." The object was to advance "the general knowledge of meteorology, promoting an intelligent public interest in the science, and making the work of the society more widely known." This plan has met with marked success. Mr. William Marriott, assistant secretary of the society, who is the lecturer, is now giving lectures on the following subjects: (1) A Chat about the Weather; (2) Weather Forecasting; (3) Rain, Snow, Hail and Thunderstorms; (4) The Upper Regions of the Atmosphere; (5) Clouds, Fog and Sunshine; (6) Climate and Health; (7) Meteorology in Relation to Agriculture; (8) How to observe the Weather. These lectures are all illustrated. The Royal Meteorological Society is also ready to send meteorological instruments and illustrations to any meetings of scientific or other character.

AFRICA AND THE WHITE MAN

The Handbook for East Africa, Uganda and Zanzibar for 1907 notes that more and more European settlers are occupying land in the elevated Kikuyu district, where "one sees now at intervals European farmers with, here and there, rosy-faced children who bear witness to the suitability of the climate for Europeans." This statement is, of course, to be received with caution. The elevated parts of the tropics are well known to be best suited for European settlement, but sufficient time has not yet elapsed to enable us to draw definite conclusions regarding the ultimate effect of the climate upon the white race.

INDIAN METEOROLOGICAL MEMOIRS

VOL. XVIII., Part I., of the *Indian Meteorological Memoirs*, a series of reports of unique value in meteorology, contains "A Discussion of the Anemographic Observations recorded at Rangoon from June, 1878, to October, 1901," and "A Discussion of the Anemographic Observations recorded at Chittagong from June, 1879, to December, 1896," by Sir John Eliot, lately Meteorological Reporter to the Government of India (fol. Calcutta, 1907,

pp. 122, pls. XXVII.). These reports are of the same high standard of excellence and thoroughness as that of the volumes which have preceded in this same series. The investigation of Indian meteorology continues with unabated vigor.

RAINFALL OF NORTHERN GERMANY

AN important discussion of the rainfall of northern Germany, by Dr. G. Hellmann, summarizes what the meteorological observations of recent years in that region have brought to light. The title of the work is "Die Niederschläge in den norddeutschen Stromgebieten" (3 vols., Berlin, Reimer, 1906). These volumes afford an excellent illustration of the extreme care and proverbial thoroughness with which German meteorological investigations are carried out. Those who are studying European meteorology or hydrography will find this work indispensable.

MARYLAND WEATHER SERVICE

THE Maryland Weather Service has already published some excellent reports on the climate and weather of Maryland, reference to which was made in these columns at the time of their publication. Dr. Fassig's report on the climate and weather of Baltimore is the most thorough discussion of the kind in this country. Since then, separate chapters on the climate of three counties (Allegheny, Cecil, Garrett) have been issued, and it is intended ultimately to cover every county in the state. The latest publication in the series is that on "The Climate of Calvert County," by C. F. von Herrmann (Maryland Geol. Survey, Baltimore, 1907). The general plan of all these climatic sketches is the same. While there are distinct objections to treating climate according to political divisions, and especially by such small and irrational divisions as counties, there are also a good many arguments, of local value, which may be urged in favor of the plan. In any case, meteorology is the gainer by such publications as those of the Maryland Weather Service. Would that all the states would do likewise.

RAIN-MAKING AGAIN

THE compiler of these notes has been requested to act as a director in the "Continental Rain-making Co.," which is to be incorporated in Arizona. From the circulars sent out by the Chief Rain-maker we learn that he "will not be responsible for any storm, flood, or any excesses of nature whatever." "Reliable agents wanted to take up subscriptions in dry sections." "Favorable scientific press comments solicited; unfavorable not wanted." Can not the mails be closed against such swindling schemes as this?

MOON AND CLOUDS

THE old question of the supposed influence of the moon in causing a decrease in the amount of cloud has again been investigated, this time by Otto Meissner (*Met. Zeitschr.*, May, 1907). It appears that this supposed cloud-dispelling effect does not exist. Clouds frequently disappear in the evening. When there is a moon, especially a full moon, the clouds can be much more easily seen, and their disappearance makes much more impression than on a dark night.

CLIMATE OF VICTORIA, B. C.

THE May, 1907, number of the *National Geographic Magazine* contains a short article on "Factors which Modify the Climate of Victoria," by A. W. McCurdy. The insular position; the proximity of the warm Pacific; the prevailing westerly winds; the local topography and the small precipitation, permitting abundant sunshine throughout the year, are enumerated as the most important climatic controls. Victoria shares with other places along the Pacific coast of North America the advantage of mild winters and moderately cool summers, and it has the additional advantage of being so situated that its rainfall is much less than that of more exposed stations.

SONNBlick VEREIN

THE Fifteenth Annual Report of the Sonnblick Verein, for 1906, is one of unusual value. It contains a presidential address by Dr. Hann on the present aims of meteorological in-

vestigation; an appreciative review, by A. von Obermeyer, of the twenty years of meteorological work at Ben Nevis Observatory, with illustrations, and a discussion, by Dr. Hann, of the results of the meteorological observations on the Sonnblick during the past twenty years. The frontispiece is an excellent engraving of Dr. Hann.

NOTES

"DER Meteorologische Aequator im Stillen Ozean" (*Archiv. deutsch. Seewarte*, XXIX., 1906, No. 1) is the title of a very thorough investigation, by R. Westermann, of the conditions of temperature, pressure, rainfall, cloudiness, winds, humidity and ocean currents along the meteorological equator in the Pacific Ocean.

Vol. LXXX. of the Denkschriften of the Vienna Academy of Sciences (*math.-naturwiss. Kl.*) contains a second instalment of Hann's discussion of the daily march of temperature in the tropics. A former publication dealt with the inner portion of the tropical zone; the present one concerns the outer portion (*A. Das amerikanische und afrikanische Tropengebiet*).

An historical review of our knowledge of land and sea breezes, and a presentation of existing theories regarding these winds, has been published in several recent numbers of *Das Wetter*. The final instalment appears in the issue for May, 1907.

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SCIENTIFIC NOTES AND NEWS

DR. G. W. HILL, of Nyack, N. Y.; M. Camille Jordan, of Paris, and Drs. Guido Castelnuovo and Vito Volterra, of Rome, have been elected honorary members of the London Mathematical Society.

THE University of the South has conferred the degree of D.C.L. on President Ira Remsen, of the Johns Hopkins University.

CAMBRIDGE UNIVERSITY has conferred the degree of LL.D. upon Nicholas Murray