Review: Meteorology

Author(s): L. C. W. B.

Review by: L. C. W. B.

Source: *The Geographical Journal*, Vol. 37, No. 6 (Jun., 1911), pp. 654-655

Published by: geographicalj

Stable URL: <http://www.jstor.org/stable/1778267>

Accessed: 13-06-2016 02:40 UTC

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at

<http://about.jstor.org/terms>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

The Royal Geographical Society (with the Institute of British Geographers), Wiley are collaborating with JSTOR to digitize, preserve and extend access to *The Geographical Journal*

by timing the intervals between the breakers as they strike the shore and the period during which the swell continues to roll in, an approximate idea may be obtained as to the distance away of the storm and its extent.

Attention is directed to the frequent occurrence of two or more sets of waves of different height and length at the same time and place, and it is shown that it is usual to have smaller waves superimposed on long swells during storms, with the result that a sort of composite wave is produced; and when the crest of the smaller wave happens to coincide with that of the longer swell the effect is to produce a wave of greater height than those immediately preceding or following. As this happens at regular intervals, depending on the relative dimensions of the waves of the two groups, it is no doubt the true foundation for the popular belief that every seventh wave striking the shore is an exceptionally big one.

The relation between wind velocity and wave dimensions is shown to be approximately constant; the velocity of the wind in miles per hour being about 2.05 times the height of the wave in feet. The velocity attained by the waves is shown to be always a little less than that of the wind producing them.

In Part II. the action of sea waves in transporting sand and shingle is considered. Dr. Cornish believes that wave agitation is effective in moving fine material as far as the edge of the continental shelf—that is, to about 100 fathoms. The laws governing the action of the sea upon its bed are dealt with soundly and in considerable detail. The determining effect of wave action on the direction of shingle transport is fully recognized; also the profound effect of what may be termed “opportunity” in determining the direction of movement of beach material. Dr. Cornish has considered this latter from the point of view of both wave and tidal action.

Part III. is devoted to stationary and progressive waves in rivers, and gives most interesting accounts of such waves under different circumstances.

The book is a valuable contribution to our knowledge of waves, and should be useful to all whose work or study brings them into contact with the sea.

J. S. O.

METEOROLOGY.

‘Meteorology, Practical and Applied.’ By Sir John Moore. Pp. 492. London: Rebman. 1910. *Diagrams and Illustrations.* 10s. 6d. net.

We are quite sure that Sir John Moore has succeeded in his object of making this second revised and enlarged edition of his book “a worthy exponent of modern meteorology.” The work is finely illustrated, especially in regard to meteorological instruments, and as a general book of reference it must rank high. It only remains for us to draw attention to a few points as they have struck us in perusing the volume.

In discussing, on p. 369, the question of the effect of snow accumulations upon climate as studied by Dr. Alexander Woeikof, the author says, “Again, the air over a snow-covered surface will become extremely cold—first, because the snow cuts off from it the warmth of the ground; and secondly, because dry feathery snow is a good radiator of heat. Then, as there is but little dust in the air over a snow-covered country upon which the solar rays can act, these rays will be unable by themselves to thaw a deep snow covering.” How, then, is it that the winter snow does melt in the northern parts of Europe, Asia, and North America? The reasoning, as it stands, is, we think, not sufficiently clear, for we are ignorant of any physical principle which would justify the assumption that the presence of dust is requisite for the heat of the sun to melt a covering of snow.

There are indications here and there through the book that Sir John Moore falls into the common error constantly being exposed by Mr. W. H. Dines, F.R.S., of supposing that anti-cyclonic conditions in winter are usually productive of intense cold in the British Islands. In point of fact, the temperature conditions that accompany an anti-cyclonic circulation of the atmosphere are very various, but as a rule not very far above or below the normal, and Arctic weather in the British Islands, decking our roofs with icicles, comes as a rule with quite a different type of conditions. It is true that the two "historic" frosts of the last quarter of a century, namely, November to January, 1890-91, and January to March, 1895, were associated in the main with anti-cyclonic conditions; but in both these cases the anti-cyclonic systems became established after the ground had been deeply covered with snow, and their persistence should be regarded as much an effect as a cause of the cold. It is noteworthy that for its combination of intense cold and intense gloom coincident with the very shortest days of the year, the month of December, 1890, was climatically the most formidable month experienced in London during the last quarter of a century.

In a text-book by the pen of a physician we should naturally expect to find the relation of climate and weather to disease discussed at some length. With regard to the seasonal prevalence of influenza, Sir J. Moore, on p. 412, says, "Certainly winter comes out very decidedly as the season of the year most favourable to the setting up of the disease; but we must remember that an epidemic, once developed, runs its course equally through all seasons of the year, of which fact the pandemics of 1580, 1781-82, 1831, 1832-33, 1836-37 are striking illustrations. We may conclude, then, that the prevalence of this strange disease is absolutely independent of season and weather—a fact which distinguishes influenza from epidemic bronchial catarrh." Now, the very concession that winter is most favourable to the setting up of the disease supports the contention that winter is the season when it is most frequent, and it is surely mere verbal quibble to say otherwise. We would not emphasize this point or question the authority of so eminent a physician as Sir John Moore, were it not that common experience seems to associate influenza with the first quarter of the year, the late winter or early spring quarter, January to March.

In the terminating chapter on the seasonable prevalence of pneumonia, the author discusses the nature of pneumonia, and shows that it should be regarded as a specific fever analogous in type, however different in its manifestation, to typhoid. In accordance with this view, he applies the term "pneumonic or lung fever" to pneumonia, and shows that the lung inflammation is simply the most prominent local symptom in the general constitutional disturbance (blood infection), in the same way as the intestinal inflammation is the principal local manifestation in enteric or typhoid fever. In either case it is a grave and dangerous error to regard the febrile disturbance as secondary to or symptomatic of the local inflammation.

L. C. W. B.

GENERAL.

GERMAN COLONIES.

'Das Deutsche Kolonialreich.' Herausgegeben von Prof. Dr. Hans Meyer. Zweiter Band: Togo, Südwestafrika, Schutzgebiete in der Südsee und Kiautshougebiet. *Maps, Plans, and Illustrations.* Leipzig and Vienna: Bibliographisches Institut. 1910. 15m.

The second (and final) volume of this systematic account of the German Colonial Empire maintains the authoritative character which distinguished the

2 U 2