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Review: A Genetic Classification of Volcanoes

Author(s): J. T. F.

Review by: J. T. F.

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This, however, is going beyond our sphere, and we hasten to return to it by recognizing that, in spite of the difference of point of view to which attention has been called, Mr. Mellard Reade's work is that of an eminent thinker, and one which will be read with profit by all who are interested in the fundamental problems of geology.

A. DE LAPPARENT.

A GENETIC CLASSIFICATION OF VOLCANOES.

Alphons Stübel, 'Ueber die genetische Verschiedenheit vulkanischer Berge. Pp. viii., 78. Leipzig: Max Weg. 1903.

The author of this book is a well-known authority on the volcanoes of Ecuador and Central America, and has devoted much attention to the fundamental causes of volcanic action and the interpretation of volcanic structures. The present work contains a general study of the whole question, together with the application of the theories expounded to the special case of St. Vincent and Martinique. The standpoint of the writer is philosophic and expository rather than descriptive, and though the chapters referring to the West Indies show a general grasp of the literature of the subject, many views are advanced which a fuller knowledge of the area in question and a personal examination of the ground would have shown to be untenable. Of this we may mention a few instances. The cause of the violent blast which razed St. Pierre is supposed to be the stormy trade wind, but in the end of August a similar blast overtook Morne Rouge and other villages on the *east* of the mountain—that is to say, it must have travelled at right angles to the course of the trade wind. The great radiating ridges on the Soufrière are held to be lava-flows, and a great caldera is located on the north side of the Grand Bonhomme. These assertions will astonish those who have examined the island of St. Vincent.

The real object of the author, however, is to expound the importance and widespread occurrence of the monogenic type of volcano. These are the result of the discharge of a single reservoir of molten rock, situated at some depth within the crust. The eruption may last for only a brief time or may continue for a prolonged period, but is essentially a single outburst. Many of the greatest volcanic mountains of the world are supposed by the author to be monogenic, or to have at least a monogenic nucleus. Should subsidence ensue after activity ceases, a great "caldera" is formed; otherwise the monogenic volcano is usually a flat dome of various shapes. Monte Somma is cited as an instance of monogenic development; Vesuvius is due to a second phase of activity; these conclusions are opposed, of course, to the opinions of those who have most carefully studied the structure of this mountain. Though many eruptions have been carefully recorded in the literature of geology, few of them bear the monogenic stamp, but the great outburst of Krakatoa is regarded as belonging to this order. The work contains also a discussion of the origin of the lunar craters and the light they throw on the earlier stages of the Earth's history. Altogether we may say that the book is interesting rather than convincing, and that, though the great erudition of the author is visible on every page, there are many points which he leaves obscure.

J. T. F.

THE MONTHLY RECORD.

EUROPE.

The Origin and Meaning of the Name "Flanders."—The origin of the words Vlaming and Vlaanderen, the indigenous forms of the English Fleming and Flanders, have long been a subject of discussion, various conclusions having been arrived