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# The geology of Arran

By G.W. Tyrell

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Department of Scientific and Industrial Research

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The geology of Arran by G. W. Tyrrell, A.R.C.Sc., Ph.D. Lecturer in Geology in the University of Glasgow

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Cover [supplied]

Title page

(Plate 1) View of 1000-Foot Platform around Goatfell from Brodick Bay. Frontispiece.

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## Preface

The six-inch survey of Arran was begun in 1872 by Sir A. Geikie, who mapped a narrow belt along the east coast, and was resumed in 1892 by Mr. W. Gunn, who, under the supervision of Dr. B. N. Peach, completed the detailed examination of the island. To Mr. Gunn's careful and accurate field-work, as embodied in Sheets 21 and 13 (1901 and 1902) of the One-inch Geological Map of Scotland and in the special One-inch Geological Map of Arran, issued in 1910, every student of the geology of this classic area owes a deep debt of gratitude. The geological description of Sheet 21 was published in 1903 ('Geology of North Arran, South Bute, and the Cumbraes, with parts of Ayrshire and Kintyre'), and Mr. Gunn's account of the northern two-thirds of the island, included in this Memoir, is a storehouse of accurate observation and careful deduction. A valuable chapter on the petrography of the Tertiary igneous rocks was contributed to the Memoir by Dr. A. Harker.

The projected Explanation of Sheet 13 was never completed, owing to Mr. Gunn's death in 1902. Since then, geological literature has been enriched by the publication of detailed studies of two other important Tertiary volcanic centres in Scotland — that of Skye in 1904 and that of Mull in 1924. The task of preparing a complete account of Arran geology, presenting Gunn's results and those of later workers in the same area, and including comparisons with the other Tertiary volcanic centres mentioned, was entrusted in 1925 to Dr. G. W. Tyrrell, of the Geological Department, Glasgow University, who has an intimate personal knowledge of the geology of the island. In the preparation of the volume now published, Dr. Tyrrell, in addition to his own published and unpublished work, has drawn freely on the earlier Memoir of 1903 and on the MS. notes on the southern part of the island left by Mr. Gunn. The sources of such contributions are indicated in the text by the initials W. G., W. G. (MS.), and A. H. Dr. Tyrrell also desires to acknowledge the help he has received from the researches of many workers in various fields of Arran geology since 1903, and to express his indebtedness to Dr. G. W. Lee, of the Geological Survey staff, for re-determining and revising the nomenclature of the Carboniferous and other fossils.

John S. Flett, Director. Geological Survey Office, 28 Jermyn Street, London, S. W.1, 31st October 1927.



*View of '1000-Foot Platform' around Goatfell, from Brodick Bay. [Frontispiece.*

*(Plate 1) View of 1000-Foot Platform around Goatfell from Brodick Bay. Frontispiece.*

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*South of Corrie, Arran. An erratic, a granite boulder ice-transported eastwards from the main Northern Granite mass during the last glaciation. Erratics are a characteristic feature of glaciated regions and are common on Arran. While the source of this erratic was from the west the general trend of movement of erratics on Arran is southwards; they were prevented from moving any appreciable distance east or west by the pressure of ice sheets which filled Kilbrennan Sound and the Firth of Clyde. Notable occurrences of Northern Granite erratics on Arran are the north shore of Whiting Bay, Glenashdale region, the hillside south of Largymeanoch 1000 yards east of Cnoc na Comhairle and on the scarp of the Dippin crinanite near Dippin.*

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH  
Memoirs of the Geological Survey, Scotland

*The*  
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