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The origin of the Parallel Roads of Glen Roy: a review of 19th Century research

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ABSTRACT

This paper summarises the 19th Century research conducted in the Lochaber area and which sought to answer the enigma of the Parallel Roads of Glen Roy. This should be seen as an introduction to the main theories that were developed by a number of scientists, including Darwin, Agassiz and Jamieson. They considered the landforms to be a product of either lacustrine, marine or glaciolacustrine processes, the latter of which proposed by Jamieson, became the accepted explanation by the end of the century.

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1. Introduction

In the 18th century, the “Parallel Roads of Glen Roy” became a celebrated feature of the remote Lochaber region. They were called “Roads” because they were initially thought to be ancient hunting roads cut along hillsides that were formerly forested. But by the early 19th century most visitors agreed that they must have a natural and probably pre-human origin. This review describes, in chronological order, the development of the key scientific ideas and debates during the 19th century that form the fundamental basis for our modern understanding of the origin of the Roads (Table 1). (For an account of the early 19th-century geological debates in which Glen Roy was involved, see Rudwick, 2008, esp. pp. 483–539.)

For the purposes of this review the 19th Century anglicised place names have been used in the Figures and the text (Fig. 1). The roads in Glen Roy are referred to here as R1 (Road 1), R2 (Road 2) and R3 (Road 3), which are the equivalent of the 350 m, 325 m and 260 m shorelines respectively. (For the remainder of the articles in this special issue the Roads will be referred to by the modern convention of the predominant altitude above sea level at which the shoreline is observed.) The single shoreline in Glen Spean is referred to as Road S and is equivalent to the 260 m shoreline and of the same altitude as Road 3 (when reference is to both Glens, it is

termed Road R3/S). The single shoreline, at 355 m, in Glen Gloy (*Glen Gluoy*) is referred to as Road G. The cols that controlled the height of the lake systems are referred to as Col S for the Pattack/Mashie col (*Pass of Muckul*), Col R1 for the col between the Roy and the Spey, and Col R2 for the col between Glean Glas Dhoire (*Glen Glaster*) and Roughburn.

2. MacCulloch and Lauder

John MacCulloch, a professional geologist based in London, and Thomas Dick Lauder, a Scottish amateur geologist, visited Lochaber independently between 1815 and 1817, surveyed the Roads in detail, and came to similar conclusions, which they published in 1817 and 1821 respectively. Both interpreted the Roads as lake beaches formed at some remote time when Glen Roy and certain adjacent valleys were filled with freshwater lakes at three or four successively lower levels (Fig. 2). But this generated the problem of explaining the absence of any obvious trace of the barriers that must have impounded these lakes, most probably situated where the Roads fade away at the mouths of the valleys. MacCulloch (1817) considered briefly the alternative possibility that the Roads were sea beaches, dating from a time of much higher sea level; but he rejected it because the Roads were confined to these specific valleys, and because there was no trace of marine deposits such as seashells anywhere on the terraces.

Lauder (1821) proposed an interpretation similar to MacCulloch's, but improved it on three important points through the more accurate instrumental levelling conducted by his surveyor. This

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