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|---------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cambrian.     | { | Limestones of Durness with numerous fossils indicating Cambrian and possibly lowest Silurian horizons.                                                                                                                                                         |
|               |   | Serpulite grit and "Fucoid beds," with <i>Salterella</i> and <i>Olenellus</i> = Olenellus zone.                                                                                                                                                                |
|               |   | Quartzites with abundant worm-burrows.                                                                                                                                                                                                                         |
|               |   | [Unconformability.]                                                                                                                                                                                                                                            |
| Pre-Cambrian. | { | Torridonian. {                                                                                                                                                                                                                                                 |
|               |   | Dull red sandstones, shales and conglomerates attaining a thickness of at least 8000 or 10,000 feet, the upper limit being lost by denudation and unconformability.                                                                                            |
|               |   |                                                                                                                                                                                                                                                                |
|               |   | [Strong unconformability.]                                                                                                                                                                                                                                     |
|               | { | Lewisian. {                                                                                                                                                                                                                                                    |
|               |   | Coarse gneisses and schists derived from a complex aggregate of eruptive rocks of different ages by mechanical deformation. In one area there appears to be a group of still more ancient and sedimentary rocks through which the gneisses have been intruded. |

**LEWISIAN.**—The oldest gneisses of Scotland form the Isle of Lewis with the rest of the Outer Hebrides, and extend in an interrupted band on the mainland from Cape Wrath at least as far as Loch Duich. For this important and well-defined group of rocks the name Lewisian, formerly proposed by Murchison, seems most appropriate. As originally studied, it was thought to be a comparatively simple formation. Its foliation-planes, like those of other similar rocks, were supposed to mark layers of deposit, and to show that the rocks were metamorphosed sediments. It was believed to have been thrown into sharp anticlinal and synclinal folds, of which the axes ran in a general north-westerly direction. The detailed mapping of the region by the Geological Survey, however, has shown that the apparent bedding is wholly deceptive, and that the seeming simplicity gives place to an extraordinarily complex structure. Instead of being altered sediments, the rocks have been ascertained to consist essentially of eruptive masses, varying from an extremely basic to a markedly acid type, and belonging to successive periods of extrusion.<sup>28</sup>

As a whole the gneiss is considerably more basic than the typical rocks to which this term was originally given. It commonly consists of plagioclase felspar with pyroxene,

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<sup>28</sup> For details regarding the gneiss of N.W. Scotland and the remarkable geological structure of that region see the report of the Geological Survey, Quart. Journ. Geol. Soc. xliv. 1888, p. 378, where the work of Messrs. Peach, Horne, Gunn, Clough, Hinxman and Cadell is summarized.