

longs to the second half of the century, and is centred in the two names of William Thomson (Lord Kelvin) and James Clerk Maxwell, who may be said to have jointly revolutionised natural philosophy. It began with the appearance of George Stokes's and William Thomson's important contributions to mathematical physics, and with the publication of that suggestive and stimulating—but unfortunately unfinished—work by Thomson and Tait on *Natural Philosophy*. It was represented to the fullest extent in Clerk Maxwell's activity in the Cavendish Laboratory at Cambridge. But the consideration of this subject belongs to a later chapter of the present work, and is only mentioned here in connection with the intellectual intercourse and exchange which has existed all through this century between the invigorating spirit of the north and the more conservative spirit of the southern portion of the island. Besides Scotland another centre—the Dublin School—has gained European renown through a series of mathematical labours of the highest importance, some of them of an originality hardly yet sufficiently recognised. This school is represented by the names of Rowan Hamilton,<sup>1</sup> MacCullagh, Sal-

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The Dublin  
Mathemati-  
cal School.

<sup>1</sup> Of Rowan Hamilton's dynamical "principle of varying action" I have spoken in a note to p. 231. William Rowan Hamilton (1805-65) cannot with the same certainty as Kant and De Tracy be claimed as of Scotch descent. Indeed he seems to belong distinctly to Ireland. See Tait's article in the 'North British Review,' September 1866, and Perceval Graves's reply in 'Life of W. R. Hamilton' (3 vols., 1882-89, vol. i. p. 5). He was one of the few quite original mathe-

maticians who, like Gauss, led the way into new channels of thought and succeeded in breaking through the traditional forms of this science, which more than any other is hampered in its development by transmitted customs and habits of representation. Thus, after ten years of research and thought in connection with the representation of extended algebraical forms by means of the different directions in space, he succeeded in establishing the fundamental principle of his theory of