

in Britain, it was almost entirely neglected in favour of the superior attractions of fossils and stratigraphy. But at last there came a time of awakening and rapid advance.

In order to trace the history of this petrographical resuscitation, we must in imagination transport ourselves to the workshop of an ingenious and inventive mechanic, William Nicol, who was a lecturer on Natural Philosophy at Edinburgh in the early part of last century. Among his inventions was the famous prism of Iceland spar that bears his name.<sup>1</sup> Every petrographer will acknowledge how indispensable this little piece of apparatus is in his microscopic investigations. He may not be aware, however, that it was the same skilful hands that devised the process of making thin slices of minerals and rocks, whereby the microscopic examination of these substances has become possible.

In the course of his experiments, Nicol hit upon the plan of cutting sections of fossil wood, so as to reveal its minutest vegetable structures. He took a slice from the specimen to be studied, ground it perfectly flat, polished it, and cemented it by means of Canada balsam to a piece of plate-glass. The exposed surface of the slice was then ground down, until the piece of stone was reduced to a thin pellicle adhering to the glass, and the requisite degree of transparency was obtained. Nicol himself prepared a large number of slices of fossil and recent woods. Many of these were described by Henry Witham in his

<sup>1</sup> See Nicol's original account of his prism in *Edin. New Phil. Journ.* vol. vi. (1829), p. 83.