14. Plücker.

discouragement and neglect being thrown in the way of the growth of new ideas. Plücker of Bonn laboured for many years on the union of the geometrical and analytical methods in the treatment of geometry; but he found so little appreciation that he abandoned his investigations, and only resumed them when in after-years a similar line of thought was independently developed in England.[1]

Transverse Vibrations, which the Academy had recommended to be printed: "We are sorry to observe that this recommendation has not yet been acted upon, and that this important memoir, to the regret and disappointment of men of science throughout Europe, remains yet unpublished" ('Ency. Metrop.,' article "Light"). A full account of the opposition and difficulties which both Young and Fresnel had to encounter will be found in Whewell's 'History of the Inductive Sciences,' vol. ii. In earlier times Réaumur seems to have exercised a similar tyranny in the Academy of Sciences: see Maury, 'Les Académies d'autrefois,' vol. i. pp. 280, 123; also Huxley, 'Critiques and Addresses,' 1890, p. 112, &c.

[1] Julius Plücker (1801-68), professor at Bonn, equally known in England by his scientific co-operation with Faraday and by that with Cayley and Salmon, worked both in physics and geometry on independent lines. In the latter especially he brought about that union of purely geometrical and algebraic methods which has become so fruitful in the development of modern geometry and modern algebra. He had two periods of original geometrical work. The first began in 1826 (the year of the revival of mathematics in Germany), and closed in 1846. His mathematical researches were little noticed in his own country, whereas in France, and still more in England, his name was well known. After having published in 1846 a 'System of Geometry,' which contained his former results in a more methodical form, he dropped his mathematical researches for twenty years, during which time he devoted himself to physical investigations of great originality. By these, if he had not been a personal friend, he might almost have been called a rival of Faraday (G. Chrystal in 'Ency. Brit.') During a visit to England in 1864 he was agreeably surprised to meet with appreciative interest from English geometricians, who had independently worked on the same lines as he had done twenty years earlier. He was thus induced to resume his favourite studies, and to develop an idea which had already been expressed in his last-named work of 1846. This led to a new fundamental conception of geometrical forms, in which not the point but the line is the element of space. He was not spared to complete this line-geometry, but after his death his pupils found sufficient material to put his researches into a systematic form under the title, 'Neue Geometrie des Raumes, gegründet auf die Betrachtung der geraden Linie als Raumelement' (Leipzig, 1868 and 1869). See Clebsch on Julius Plücker, Göttingen, 1872. A very appreciative notice of Plücker, by George Chrystal, will be found in the 9th edition of the 'Encyclopædia Britannica.'