

though not by its universities, was already an important power in the Republic of exact science which then had its centre in Paris. Just at the beginning of the nineteenth century two events happened which foreboded for the highest branches of the mathematical sciences a revival of the glory which in this department Kepler and Leibniz had already given to their country. These two events are both coupled with the name of Carl Friedrich Gauss. They added greatly to the reputation of the University of Göttingen, with which this remarkable man was connected for half a century.¹ The *first* was the publication of the 'Disquisitiones Arithmeticae' in Latin in 1801—a work by which Gauss placed himself on a level with the great mathematicians, Euler, Lagrange, and Legendre.² The

15.
Gauss's
mathemat-
ical re-
searches.

¹ Carl Friedrich Gauss (1777-1855), a native of Brunswick, called by Laplace the first mathematician of Europe, may be considered as the first and foremost representative of the modern mathematical school, of which we shall have to treat later on. Unlike most of the great mathematicians of the Continent, he was self-taught, and followed in his earliest works quite independent lines of thought; resembling in this the great isolated thinkers of Britain whose ideas take a generation or more to penetrate into the text-books of the school. Gauss had the highest opinion of the dignity of pure science, and it almost appears as if, among the moderns, only Newton had come up to his ideal. For him alone he reserves the adjective "summus," and he adopts his synthetic and classical methods of exposition, removing, as has been said, the scaffoldings by the aid of which he had erected his monumental works.

Gauss trained few mathematicians; but among the few who penetrated the secret of his ideas are such original thinkers as the Hungarian Bolyai (1775-1856), the geometers Möbius (1790-1868) and Von Staudt (1798-1867), who all mark quite independent lines of research. On Gauss see Sartorius, 'Gauss zum Gedächtniss,' Leipzig, 1856; Hänsselmann, 'K. F. Gauss,' Leipzig, 1878; E. Schering, 'C. F. Gauss,' Göttingen, 1887.

² It appears that Gauss, to whom the arithmetical discoveries of Fermat and the proofs of Euler, Lagrange, and Legendre remained for a long time unknown (see his Works, edited by Schering, vol. i. p. 6; vol. ii. p. 444), had independently, in his eighteenth year, as a student at Göttingen, already arrived at a great number of propositions referring to the properties of numbers, and had then also found methods of geometrically constructing the regular polygon of seventeen sides.