nently into the foreground. The latter was done by the geometric genius of Von Staudt, who succeeded in giving a purely geometrical interpretation of the imaginary or invisible elements [1] which algebra had introduced, whilst Steiner astonished the mathematical world by the fertility of the methods by which he solved the so-called isoperimetrical problems—*i.e.*, problems referring to largest or smallest contents contained in a given perimeter or *vice versâ*, problems for which Euler and Lagrange had invented a special calculus.[2] In spite of

[1] The geometrical interpretation of the imaginary elements is given by Von Staudt in a sequel to his 'Geometrie der Lage' (1847), entitled 'Beiträge zur Geometrie der Lage' (1856-60); and after having been looked upon for a long time as a curiosity or a "hair-splitting abstraction," it has latterly, through the labours of Prof. Reye ('Geometrie der Lage,' 1866-68) and Prof. Lüroth ('Math. Annalen,' vol. xiii. p. 145), become more accessible, and is systematically introduced into many excellent text-books published abroad. The simplest exposition I am acquainted with is to be found in the later editions of Dr Fiedler's German edition of Salmon's 'Conic Sections' (6th Aufl., vol. i. p. 23, &c., and p. 176, &c.) In 1875, before the great change which has brought unity and connection into many isolated and fragmentary contributions had been recognised, Hankel wrote with regard to Von Staudt's work, and in comparison with that of Chasles, as follows: "The work of Von Staudt, classical in its originality, is one of those attempts to force the manifoldness of nature with its thousand threads running hither and thither into an abstract scheme and an artificial system: an attempt such as is only possible in our Fatherland, a country of strict scholastic method, and, we may add, of scientific pedantry. The French certainly do as much in the exact sciences as the Germans, but they take the instruments wherever they find them, do not sacrifice intuitive evidence to a love of system nor the facility of method to its purity. In the quiet town of Erlangen, Von Staudt might well develop for himself in seclusion his scientific system, which he would only now and then explain at his desk to one or two pupils. In Paris, in vivid intercourse with colleagues and numerous pupils, the elaboration of the system would have been impossible" (*loc. cit.*, p. 30).

[2] See the lecture delivered by Steiner in the Berlin Academy, December 1, 1836, and the two memoirs on 'Maximum and Minimum' (1841), reprinted in 'Gesammelte Werke,' vol. ii. p. 75 *sqq.*, and 177 *sqq.*, especially the interesting Introductions to both, in which he refers to his forerunner Lhuilier (1782), deploring that others had needlessly forsaken the simple synthetical methods adopted by him. Some of Steiner's expositions in these matters were apparently so easy that non-mathematical listeners