ducements is likely to prove fruitful for the progress of science; they look upon the first as an amusing pastime, and upon the third as empty and not devoid of danger. In recognition of the partial correctness of this view, I will follow up the practical stimulus in its fruitful influence upon the development of the lines of mathematical research.

22. Descriptive Geometry.

This stimulus came in the closing years of the preceding century through the lectures of Gaspard Monge at the École Normale, and has become popularly known through his invention of Descriptive Geometry, the first modern systematic application of purely graphical methods in the solution of mathematical problems. As Cauchy was the founder of the modern school of analysts, so Monge, together with Carnot, founded the modern school of geometricians; Dupin, Poncelet, and Chasles being among his most illustrious pupils. The aim of this school was to give to geometrical methods, such as had been practised by the ancients,[1] the same generality and systematic unity which characterised the analytical methods introduced by Descartes.

Not long after the introduction of the latter, Leibniz

[1] These methods had been largely used in this country by Newton, Robert Simson, and Stewart. They were systematised by L. N. M. Carnot. Chasles ("Discours d'inauguration, &c.," 1846, 'Géométrie Supérieure,' p. lxxvii) says: "Dans le siècle dernier, R. Simson et Stewart donnaient, à l'instar des Anciens, autant de démonstrations d'une proposition, que la figure à laquelle elle se rapportait présentait de formes différentes, à raison des positions relatives de ses diverses parties. Carnot s'attacha à prouver qu'une seule démonstration appliquée à un état assez général de la figure devait suffire pour tous les autres cas; et il montre comment, par des changements de signes de termes, dans les formules démontrées par une figure, ces formules s'appliquaient à une autre figure ne différant de la première, commes nous l'avons dit, que par les positions relatives de certaines parties. C'est ce qu'il appela le 'Principe de corrélation des figures.'"