

4.
Special
scientific
ideas.

I therefore look upon the spirit of exact research as thoroughly domiciled in the leading countries of Europe during the second half of the century, and intend in the sequel to explain more precisely the different views, the leading ideas, under which this research is everywhere conducted. These leading ideas have themselves been more clearly brought out and recognised during this period.

The narrow spirit of the Baconian philosophy which reigned in England, the vagueness of the philosophy of nature which reigned in Germany, during the earlier decades of the century, have disappeared in favour of the more comprehensive and the stricter methods taught by Lavoisier, by Monge, by Laplace, and by Cuvier in France. New ideas of extensive bearing have been added, and in the light of these the powers and the limits of science have been more correctly recognised.

5.
Philosophy
of science.

To some of my readers well-known names will occur which might serve as guides to fix these leading ideas, under the influence of which the march of science has proceeded: Sir John Herschel, Auguste Comte, John Stuart Mill, and Whewell¹ have indeed done much to

¹ Of these writings the earliest is Sir John Herschel's "Preliminary Discourse on the Study of Natural Philosophy," which appeared in Lardner's 'Cabinet Cyclopaedia' in 1831. The writings of William Whewell on the 'History' and 'Philosophy of the Inductive Sciences' were begun about the same time. They were planned to serve three distinct objects—to give, 1st, a philosophical history of astronomy, mechanics, physics, chemistry, and botany; 2nd, an analysis of the nature of induction and the rules of

its exercise; and 3rd, to answer the question of applying inductive processes to other than material sciences—as philology, art, politics, and morals (see 'William Whewell,' by I. Todhunter, vol. i. p. 90). The 'History' appeared in 1837 in three volumes, a second edition in 1847, a third in 1857; the 'Philosophy' appeared in 1840 in two volumes, a second edition in 1847. In the course of its execution the original plan was not strictly adhered to—the scope of the History was enlarged considerably, and the