

not as clear as it has become since, and the work has also been superseded by more detailed labours, especially of German historians.¹ The 'Philosophy of the Inductive Sciences,' by the same author, was written with the object of doing something towards determining the nature and conditions of human knowledge, and had thus a philosophical rather than a historical object in view. The same can be said of Mill's 'Logic,' of Comte's 'Philosophie positive,' and of more recent works—such as Jevons's 'Principles of Science.' They form an important section of the philosophical literature of our century, and on future occasions I shall frequently have to refer to their teaching. At present I am not about to investigate the eternal principles of correct reasoning, and the particular methods adopted, consciously or unconsciously, by scientific writers of all times. What I desire to do is, to enumerate and analyse briefly the changing ideas, the general views, under the guidance of which scientific work has progressed in the course of this century. No doubt the same object was before

¹ Besides the works on the history of the special sciences contained in the Munich Collection, 'Geschichte der Wissenschaften in Deutschland,' which in many instances is not limited to German science and learning, there is the unique 'Geschichte der Chemie,' by Hermann Kopp (Braunschweig, 4 vols., 1843-47), the 'Geschichte der Physik,' by Rosenberger (Braunschweig, 3 vols., 1882-90), and Häser's 'Geschichte der Medicin' (Wien, 1875-82, 3rd ed.) In addition to the numerous works of German specialists, I must mention as of the first importance and value the histories by the late Isaac Todhunter

of the 'Theory of Attraction and Figure of the Earth' (2 vols., 1873), the 'Calculus of Variations' (1861), the 'Theory of Probability' (1865), and the 'Theory of Elasticity' (continued by K. Pearson, 2 vols. in 3 parts, 1886-93). They supply the want of a good history of modern mathematics, which does not exist. Lastly, the "Deutsche Mathematiker-Vereinigung" have published in their Jahrbuch valuable histories of special branches of mathematics—notably the 'Theory of Invariants' by Franz Mayer, and the 'Modern Theory of Functions' by Brill and Noether.