

beginning with astronomy, through the biological to the sociological sciences. Significantly he leaves out psychology and metaphysics. Through omitting the former he stands in opposition to the then ruling school of philosophy in France, headed by Royer Collard and Victor Cousin; through omitting the latter he stands in opposition to the ruling philosophical systems in Germany. Though we read a great deal in Comte's philosophy of the three stages of knowledge, the theological, the metaphysical, and the positive, and though he emphasises the fact that positive knowledge is not limited to that of facts, but looks for the connection of things or the laws of nature, Comte does not contribute anything material to the theory of knowledge. The exposition of the methods of exact research was not followed as it was in England by a psychological analysis of these methods. This was effected later¹ by

¹ Though English and, later on, German thinkers have gained a general reputation as having mainly dealt with the logic and methods of scientific thought, it is well to note that France all through the nineteenth century possessed an extensive literature on the subject which, on the whole, has attracted little attention in other countries, and has, even in France itself, been very insufficiently appreciated. There are notably four representatives of the mathematical, physical, and natural sciences who occupied themselves with the principles and the philosophy of the sciences in which they themselves had, through their original researches, gained great distinction. Foremost among these stands André-Marie Ampère (1775-1826). He was professor at the École Polytechnique as well as

at the Collège de France, and one of the greatest physicists of the century, having earned through his memoirs on electro-dynamics the title of the "Father" of that science. Of his philosophical writings his classification of the sciences, differing from that of Bacon, became known in England through Whewell in his 'Philosophy of the Inductive Sciences.' Somewhat later another teacher at the École Polytechnique, J. Duhamel (1797-1872), a contemporary of Comte, through his textbooks on the Calculus and on 'Analytical Dynamics,' exercised for some time an important influence upon the teaching of higher mathematics in France and Germany. He published in 1866-1872 a large work in five volumes, 'Des Méthodes dans les Sciences de Raisonnement,' in