

If we try to specify a little more closely the agencies and interests that were at work in bringing about this very marked change, which, like every change of the kind, has been reflected by the altered vocabulary of our languages, we come upon two distinct influences—

adopted, the present work only retains that one principle which, in some form or other, appears in every attempt towards classification—the difference between the abstract and the concrete or actual. The two original philosophical systems which France and England in the course of the century have produced, the positivist philosophy of Comte and the philosophy of evolution of Herbert Spencer, have both dealt elaborately with the problem of the classification of the sciences. In this they betray their descent from the philosophy of Bacon and their practical tendencies. It is mainly in the interests of teaching that the division of the sciences is of importance; and so here it has proved to be indispensable, but also, not unfrequently, narrowing and harmful. German philosophers, who have generally been more influenced by the traditions of Descartes, Spinoza, and Leibniz, have attached less importance to the rigid divisions. The result has been that in Germany, more than in any other country, those modern sciences have grown up which cultivate the borderland that separates the existing well-marked provinces which are artificially kept up by the older chairs at the universities. Examples of this are the new sciences of physiological psychology and of physical chemistry, both brilliantly and for the first time represented at the university of Leipzig. The two great conceptions, however, which have probably done more than any others to break down the old conventional landmarks that kept

the sciences asunder, the conception of energy and the idea of descent, were first prominently put forward in this country. The classical treatise on the division of the sciences in the widest sense is the 'De Augmentis Scientiarum' of Lord Bacon. An important and original work on the subject is André Marie Ampère's 'Essai sur la Philosophie des Sciences, ou Exposition analytique d'une Classification naturelle de toutes les Connaissances humaines' (1834). An analysis of the book is given in Whewell's 'Philosophy of the Inductive Sciences,' vol. ii., Book 12. Ampère's classification, on the model of that in botany, is symmetrical and dichotomous. Aug. Comte's classification, contained in the second "Leçon" of the 'Cours de Philosophie positive' (1830, vol. i.), is termed by its author "une échelle" or "une hiérarchie encyclopédique." Mr Herbert Spencer, in an essay 'On the Genesis of Science' (1854), republished with additions in the third volume of his 'Essays' (1874), criticised Comte's attempt to classify the sciences "serially." He more than any other thinker has assisted in breaking down the older idea, which was very prominent in many classifications of the great French naturalists, the idea of the subordination of things in nature, of the "échelle des êtres," and the corresponding conception of an hierarchy of the sciences. In the place of this serial arrangement, a genealogical arrangement, under the specific term of evolution, was introduced, and the sciences were co-ordinated according to their