

5.
Defect in
Bacon's
philosophy.

Our age has in many ways inherited the spirit of Bacon's philosophy; but it would be a mistake to attribute its great scientific achievements to the exclusive working of this spirit. Bacon was neither a retired and patient nor an accurate thinker—the desire to apply and make his learning useful led him away from the “*sapientum templa serena*” into the forum of life: in his own experience, as well as in his writings, he anticipated many of the dangers which beset modern culture—the love of premature application, and the haste for practical results and achievements. Science, which in the hands of patient and diligent observers¹ had just been rescued from the sway of empty metaphysical and theological reasoning,

the enormous part which mathematics would play in the development of science. In this respect Descartes was a genius of much greater originality—his actual contributions to scientific progress, as well as those of Pascal, being far beyond those of Bacon; but they both retained the metaphysical habit of thought which has characterised many, if not all, among the greatest mathematicians. In modern culture the popularisation of novel views and ideas has become so important a factor that writers like Bacon and Voltaire, who combine the scientific and literary taste, are of the greatest importance in the diffusion of new ideas, though none of their works need be looked upon as great repositories of research and knowledge. Before Liebig wrote his pamphlet, a very impartial and temperate estimate of Bacon's philosophy and its relations to actual science was published by Robert Leslie Ellis in his introduction to the philosophical works of Lord Bacon (London, 1857). As

the literature of the subject is so large, I cannot but recommend this essay as containing one of the best discussions of it.

¹ A very good and concise account of the achievements of these contemporaries and forerunners of Bacon—of Tycho (1546-1601), Kepler (1571-1630), Galileo (1564-1642), Gilbert (1540-1603), Harriot (1560-1621), Napier (1550-1617), Harvey (1578-1656)—is given by John Nichol in the second volume of his ‘Francis Bacon, his Life and Philosophy’ (Edinb., 1889), pp. 86, 254. In the same volume (p. 193) there is also a useful summary of Bacon's real claims to a place among physicists, of his ignorances (p. 196), and of the reception which his works met with in England and abroad (p. 233 to end). Not quite so readable, but more complete, is the little volume of Hans Heussler, ‘F. Bacon und seine geschichtliche Stellung’ (Breslau, 1889), with its flood of references—which exhaust the subject. See especially p. 160, &c., on Bacon's anticipations.