

of very valuable but unconnected researches in all the different countries where chemistry was cultivated. Priestley, in England, had noticed the purifying effect of plants on air; De Saussure, in a series of remarkable experiments, carried on in the last years of the eighteenth century at Geneva, established the fact that in sunlight plants increase the quantity of carbon and other constituents in their tissues. Ingenhousz in Holland and Senebier in France had shown that in the presence of sunlight bubbles of oxygen gas are given off by plants when plunged under water, and had traced this oxygen to its source, the carbonic acid in the atmosphere. Sir Humphry Davy had applied chemistry to agriculture; and, much later, German physiologists like Tiedemann and Johannes Müller had recognised the necessity of explaining the processes in the living body chemically. All these labours, however, were detached, and their value was little known. It was therefore a very timely proposal which issued from the British Association in 1839, that a report on the present state of organic chemistry should be drawn up. For this task no less a person than Justus Liebig was selected.¹ The event

¹ The sources of information on Liebig's great work in revolutionising the science of life through his application of organic chemistry to agriculture and physiology are numerous. In particular there are two addresses by Vogel and von Bischoff, delivered in the Munich Academy in 1874, Hofmann's "Faraday" lecture, delivered in the Royal Institution in 1875, and a very able summary, drawn mainly from these sources by Mr W. A. Shenstone, in Cassell's 'Century Science' Series (1895), entitled "Justus von

Liebig, his Life and Work." Bischoff's address contains a very full discussion of Liebig's vitalistic sympathies. His great influence was established as much by his special scientific discoveries as by his method of teaching,—by his early attempts to popularise science and make it an educational power through his well-known 'Familiar Letters.' He was in this respect a pioneer, as after him Helmholtz and Du Bois-Reymond were pioneers in spreading scientific ideas by means of popular lectures and addresses.