

may be said to date from these and other simultaneous labours of Liebig and Wöhler.¹ But although the pure sciences, mathematics, physics, and chemistry, advanced on new lines in the hands of German students, and although theoretical investigations have always been favourite pursuits of theirs, as we shall have ample opportunity to note in the course of our further survey, the greatest contribution to the progress of science, and the most brilliant performances of the exact spirit of research which emanated from Germany during the first half of this century, lay in a different direction. And it is hard to believe that the conditions favourable to this peculiar growth could have been found anywhere else than in the German universities. The many elements of thought which meet on that ground, the equal dignity

¹ The joint labours of Liebig (1803-73) and Wöhler (1800-82), which have become of such importance to science, form one of the most interesting instances of scientific co-operation between two men pursuing different lines of thought and trained in different schools. See the preface to Hofmann's edition of Liebig and Wöhler's Correspondence. In Liebig's autobiographical sketch, quoted above, he thus enlarges on his relations to Wöhler: "It was my good fortune that, from the beginning of my career at Giessen, similar inclinations and endeavours secured me a friend, with whom, after so many years, I am still (between 1860 and 1870) connected by ties of the warmest affection. Whereas in me the tendency predominated to look for the likenesses of substances and their combinations, he possessed an incomparable talent for seeing their differences;

acuteness of observation was joined in him to an artistic aptitude and to a genius for finding new ways and means of analysis such as few men possess. The perfection of our joint researches into uric acid and the oil of bitter almonds has been frequently praised; this is his work. I cannot sufficiently estimate the advantage which both my own and our joint aims derived from my union with Wöhler; for in them were combined the peculiarities of two schools, and the good which each had, attained its value through co-operation. Without grudge or jealousy we pursued our way hand in hand; if one required help, the other was ready. An idea can be formed of this mutual relation when I mention that many of the smaller productions which bear our names belong to one alone; they were charming little presents which one gave the other" (p. 39).