

and Cambridge, more particularly the former, rather than those of Germany, in the part they should play in national life, and that the *literæ humanioræ* constituted the only subjects worthy of the attention of a great university. This had its effect in delaying the recognition of research in our universities which are, in this respect to-day far behind those of the United States. The latter have developed very largely along the lines of those of Germany and because of the large endowments at their disposal, and because, also, of the recognition on all sides in that country of the part that research is bound to play in national development, will soon become, if they do not so rank already, the greatest universities of the world. This trend of university development in the United States cannot be explained as due to the fact that many of the American universities are older than our own, for research, except in the case of Johns Hopkins, did not enter to any notable degree into their activities until after 1890. Their faculties in the "eighties" were being recruited from graduates of German universities and from Americans who had studied in German universities, and thus the leaven of research began to ferment not only in the universities, but in the industries, which in this respect, when the war began, were not very far behind those of Germany. There are over fifty great industrial establishments in the United States which expend annually for research amounts ranging from \$50,000 to \$500,000, and one of these employs constantly a staff of 150 to conduct research in pure and applied science.

When the universities of a nation become permeated with the research spirit, as in Germany and the United States, its industries become endowed with it also. What seems to be clearly indicated by this is that, if the British Empire is to organize its industries on the research basis, it must promote research first in its universities, and, apparently, on the German plan, as the example of the American universities seems to demonstrate.

I hope that no one will suppose for a moment that I am an uncritical or ardent admirer of the German university. It has faults, some of them very grave, one of which is that its professors are but in effect civil servants, and they are, accordingly, at the nod and beck of an autocratic government, whose word may be academic life or death to a teacher. This explains the egregious folly of the manifesto of ninety-three professors, who, immediately after the outbreak of the war, fulminated against Great Britain for entering the lists against Germany.

¹Journal of The British Science Guild for June, 1916, p. 25; also: Science and Industry, Industrial Research in the United States, by A. P. M. Fleming, published for the Department of Scientific and Industrial Research, London, 1917.