

On the (Self-)Mobilization of Scientists: The Impact of Physics in World War I and Thereafter

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After a brief overview of the mobilization and self-mobilization of physicists in Britain, France and Germany and also of the fields in which they were seeking scientific solutions for military problems (trench warfare, high-angle ballistics, communication etc.), I will focus on a number of examples of repercussions of "war-physical work" with respect to interwar developments in applied and basic science. Ernst von Angerer, for instance, was able to gain his qualification for a professorship with experiments on sound propagation, which he had performed in Flanders in order to improve sound-ranging, while Paul Langevin's work on ultrasonic localization of submarines were applied on French ocean liners to New York from 1927 on. Douglas Hartree, in turn, was calculating electron orbits of various atoms using mathematical methods, which he had developed for shell trajectories meant to hit German zeppelins in the London sky. Besides these rather explicit conversions of war science the question arises whether there were more general transformations that affected the way physics was pursued in the interwar period. Isn't it a paradox that the war became a huge laboratory of chemistry, physics and technology in which all scientists were pushed into experimenting and finding applications of their science, including the German physicists, but still the field in which Germany excelled the most after World War I was theoretical physics?