

First Discussion Paper (Due Friday, January 30):

Write a five-page essay on either one of the following two topics.

1. The time is late May, 1916. The end of what is called, in Germany, the “summer” semester (March through June) is rapidly approaching and, with it, the conclusion of your work on a physics degree under Professor Victor Jakob. This means, among other things, that you also have to begin your mandatory military service. But you have a choice. You can choose to take a commission as a lieutenant commanding an infantry unit, probably on the western front, or you can choose an assignment at the Institute of Physical Chemistry in Berlin-Dahlem where, thanks to your training in atmospheric physics, you will be doing research on dispersal patterns in the delivery of poison gas. Many of your teachers and fellow students are urging you to accept the latter assignment, arguing that it will be a big boost to your career, since Berlin is the center of German science and you will get to know many important people. Your father, a much-decorated veteran of the Franco-Prussian War (1870), very much wants you to take the commission in the infantry. Your mother, herself the daughter of an Evangelical (Lutheran) minister, doesn’t want you risking your life on the front but is also heartsick at the thought of your working on a weapon like poison gas.

What do you decide to do? In your five-page discussion paper, give an argument to justify your conclusion about the proper choice of action. If you wish, write the paper as if you were writing a long letter to your closest confidant (or confidante), say a cousin or a personal friend, the person with whom you’ve long felt most comfortable discussing such difficult personal issues. In other words, this is someone with whom you can be totally honest. (And let’s also assume that your letter won’t be read by the censors, so you don’t have to worry about writing things that might get you in political trouble.)

2. The year is 1921. Growing post-war enrollments and an expanding research agenda are straining your physics institute to the breaking point. Last year you and your colleagues proposed to the Ministry of Culture the creation of a second physics institute, this one devoted exclusively to theoretical physics. The Ministry has now responded with a surprising counter-proposal. Noting the traditional strength at your university in relevant areas like theoretical hydrodynamics and acoustics, the Ministry proposes the creation not of a theoretical physics institute but of an institute for applied research in the new science of aerodynamics. The proposal has the strong backing of wealthy industrialists who are pushing the development of the German aircraft industry and see the need for basic research in aerodynamics, engine design, metallurgy, and other relevant fields. You and your colleagues have a divided reaction to the proposal. Some of your colleagues look forward to the stimulus to basic science that they expect to be the product of working closely with the aircraft industry. An equal number worry that a concern with applications will distract attention from science for its own sake, that progress in theoretical physics will suffer.

As Director of the existing physics institute (and possibly Director of the new institute, whatever form it might take), you have to write a response to the Ministry’s proposal after consulting with your colleagues. You have to decide on behalf of your divided colleagues and must give reasons for that decision. Write the response to the ministry.