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On the Collateral Lives of Physicists

Physicists not only invent and discover; they also explain. On the one hand we are teachers, increasing the number and, we hope, the competence of our own profession. There is for us at least one great problem that is relevant to the now very prominent question of the adequacy of our profession, both in talent and in number, to the needs of the time and of our country. It is true that here much could, and something should, be said of many of the practices by which we waste ourselves and our colleagues and the treasure of their genius and learning. But this problem of communication is also relevant to the integrity of our relations with our time and our culture, with the majority of our fellows who are not physicists, and for whom we would wish that they could know something of our work and have some honest pleasure in it.

Every scientific advance, past or contemporary, has two traits: it is an enrichment of technique; it enables us to do what we could not do before, or to do it better—it is know-how. It is also the answer and reformulation of questions long agitating man's curiosity, something to contemplate, in Peirce's words, "the demi-cadence which closes a musical phrase in the symphony of our intellectual life," a thing of beauty; it is knowledge. As physics grows, and there appears to be more and more to learn, the problem of reconciling know-how and knowledge grows more urgent. We tend to teach one another, except in the golden years of graduate and postdoctoral study and apprenticeship, more and more in terms of mastery of technique, losing the sense of beauty and with it the sense of history and of man. On the other hand, we tend to teach those not destined to be physicists too much in terms of the story and too little in terms of the substance. We must make more humane what we tell the young physicist and must seek ways to make more robust and more detailed what we tell the man of art or letters or affairs.

Physicists are not only inventors, discoverers, and teachers; they are busy in almost all the practical undertakings of our technical society. I will take one field where our works have made changes of great portent for man's history. We have changed the instruments, and therefore in large measure the nature, of war. The full import of this change is surely not clear today. I know how many of you devote much of your heart and life not only to the explanation of the technical possibilities but to weighing the probable course of future development and the alternatives of policy. Yet the last decade has brought one change that we must welcome. In a measure that is in the nature of things neither complete nor adequate, the new situation has been explained to the makers of policy in particular, and to people in general. The labors of physicists in explanation and in prophecy are not and cannot be ended; and there is no standing Joint Committee on the World's Salvation to which they can abdicate their concern. Yet by now the problem of living with the new dangers and the new hopes is where it belongs: with the public and its officers, the governments. Let us be sure that by our effort and our clarity we always keep it there.—ROBERT OPPENHEIMER, *Institute for Advanced Study, Princeton, New Jersey*

This editorial is based on excerpts from an address delivered at the 25th anniversary celebration of the American Institute of Physics, 2 Feb. 1956; the address will be published in Physics Today.