

entist Panel wrote '... We believe that the safety of this nation – as opposed to its ability to inflict damage on an enemy power – cannot be wholly or even primarily in its scientific or technical process. It can be based only on making future wars impossible.' (quoted in Philip Morrison, *Societal Issues – Scientific Viewpoint* (ed. Margaret A. Strom), AIP, 1987.) It is not clear from the letter whether they meant the control of these nuclear weapons or their elimination. The note written by Fermi in 1949 along with I. I. Rabi is however more forthright in recognizing the moral dimension of the challenge posed by the hydrogen bomb – 'It is clear that the use of such a weapon cannot be justified on any ethical ground which gives a human being a certain individuality and dignity even if he happens to be a resident of an enemy country.' (quoted in Sydney Drell, *Societal Issues – Scientific Viewpoint* (ed. Margaret A. Strom), AIP, 1987.)

Even more serious is the post-facto justification and the myths created about how Manhattan Project triggered the enormous scientific and technical developments in the West and the US in particular. One cannot but agree with the concluding statement made by Ramaseshan that any number of talented chemists would have conceived the synthesis of ammonia. After all fission was discovered before the Manhattan Project, unmotivated by its possible uses. Nuclear power and its peaceful applications would have been a reality with or without the Manhattan Project.

There has been no serious debate among the scientists of our country on the ethical and moral implications of a nuclear weaponization programme. The lesson to be learnt from Haber's involvement in chemical warfare and the role of some of the most distinguished scientists of this century in the Manhattan Project is that once a scientist leaves the

cosy confines of his/her laboratory, (s)he *must* be guided by sound moral principles in developing applications of discoveries made in a clinical and detached manner in the solitude of a laboratory, for as Einstein said, the 'Man is, at one and the same time, a solitary being and a social being'!

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From the archives



Vol. I] JULY 1932 [No. 1

Retrenchment and Education

Whether in the present financial circumstances of the country, the Department of Education should have been

brought under the general operation of the retrenchment policy of the Government of India, is a subject on which there is bound to be an honest difference of opinion. We can very well understand the force of the argument of those who advocate retrenchment, that Education is a branch of administrative service and therefore must share its fortunes along with the other departments. Moreover it will be pointed out that in other countries affected by similar financial blight, the curtailment of educational grants has been accepted as inevitable in the process of readjusting the attenuated revenues to the demands of the several departments of administration...

We conceive that the best results could be obtained in probably the

shortest time, if the Government and the leaders of the public would jointly prepare a ten-year Educational Plan based on a well-considered programme of University teaching and research work. The financial contribution for this work should be derived from Government grants and people's donations and endowments calculated on the basis of the interests and resources of the contributors. The administration of the funds and the direction and control of research departments and of the expansion of University Education on special lines, ought to be entrusted to a Board on which all the interests are duly represented. At the end of ten years the whole work may be reviewed...