

GENERAL SCIENCE

Influence of Scientists

The scientist's problem is not one of power, but of influence, an editorial in *Nature* states. His responsibility is not whether society uses knowledge gained, but how society uses it.

[Excerpt from an editorial article in *Nature* (Aug. 7).]

► THE TASK of the scientist or technologist is to place at the service of the community the resources it needs, and to show how best they can be used. He has the responsibility of warning the community of the dangers that may attend the misuse of such knowledge and the failure to use it with due safeguards.

The decision whether or not to use that knowledge in a particular way or for a specific purpose is one which he shares with the community as a whole.

In that sense, accordingly, the problem for the scientist or technologist is one not of power but of influence. His responsibility is not for the use made of the knowledge he places at the disposal of society, but to see that his influence is most effectively exercised—to see that the consequences of using or abusing that knowledge are clearly and fully understood.

Divesting himself of the power he is so often in error supposed to possess, he has to see that his fellow-citizens appreciate the implications of the power at their disposal, and to help them to make the intellectual effort required for its control and wise use.

Cannot Impose Decisions

The hydrogen bomb, in fact, involves no fresh responsibility for the scientist as such, least of all any new moral dilemma; and once these false ideas are cleared out of the mind of the scientist himself and of the society in which he lives, there will be the less risk either of an anti-scientific attitude on the part of the public or of the scientist being charged with a responsibility which he only shares with the whole community.

As the Archbishop of York said to the British Association [for the Advancement of Science] at Liverpool, men of science "have an influence over contemporary thought and action which is possessed by no other class of men. . . . They must educate their fellow-countrymen to use rightly the inventions they have given them, and must make plain the terrifying results which may follow their wrong use."

Beyond that, the scientist has no right to go. He is not entitled, on his own responsibility, to withhold knowledge from the community he serves any more than, as Dr. J. Bronowski pointed out in a recent broadcast, he is entitled to dictate to the nation about his own discoveries. He must be content to use his influence to guide his fellow-citizens to wise decisions; but he cannot impose these decisions.

In return he can ask, in a free society, that he shall himself be free to follow his own conscience and that society shall not dictate his life to him.

He is entitled to urge on society the conditions in which effective scientific work is possible and to direct attention to the consequences which may attend restraints on the freedom of scientific investigation and intercourse.

The real challenge of the hydrogen bomb to the scientist is to consider even more carefully how best scientific thought can be put at the service of the community.

Flow of Ideas Vital

If the community is to make the intellectual effort required in the shaping of its institutions to meet the requirements of an age in which technological advance has made so many of its political divisions irrational and obsolete, the man of science has a large part to play.

He has to face in the first place the problem of the effective communication of knowledge and ideas, so that the leaders of the community can reach sound decisions based on clear appreciation of all the relevant factors, and so that the community is prepared to accept whatever demands these decisions may involve.

This means much more than questions of the presentation of his own ideas and findings. It involves questions of education and of public understanding, so that the issue is seen not as one of science letting natural forces get out of hand, but of man's self-control and his use of forces able to destroy him and his works.

For the scientist to take his place in that work, freedom of communication is vital. The scientist who has worked on guided missiles or atomic weapons is, as Dr. Bronowski rightly reminded us, seldom free to speak as he would like, and this silence is a loss to the community.

Silence Forfeits Security

Security considerations may reasonably prevent the public discussion of technical details; but once such restrictions operate beyond the narrowest of such limits, they do more than impede the exchange of ideas and the advance of science and technology: they endanger national security itself.

Once the scientist comes to be silent, to experiment or inquire only along orthodox lines, science itself will atrophy and at last fail the nation in which it is thus pursued.

Without freedom for science, and by at-

tempting to silence or intimidate original and creative minds, in the end we forfeit security itself.

Here, too, the scientist has a duty to speak, and what is required of him in this perplexed and anxious world today is not that he should refrain from pursuing his investigations and from seeking to extend the boundaries of knowledge, or that he should preoccupy himself with moral issues that are the responsibility of the whole community of nations.

Role in Shaping Policy

His immediate responsibility is, rather, with the way in which he can most speedily and effectively clarify public thinking about the scientific and technical aspects of the situation, and facilitate an understanding of the far-reaching military, economic and political decisions which are now imperative.

He will be conscious that what he has to say as a scientist represents only one factor in a complex situation, and that this has to be compared with, and adjusted to, information from other fields, and evaluated with it in the formulation of policy.

But it is important that the scientist and technologist should, through their professional associations, address themselves to this question of improving the means by which the technical or scientific expert makes his contribution to the formulation of policy and the task of government generally.

The task of education to be undertaken must include that of the leaders of the community as well as of the general public.

Above all, the extent to which the influence of the scientist is brought to bear on the formation of policy or the re-shaping of institutions will depend on the willingness of the individual scientist to attempt the prosaic task of improving the channels of communication.

Much will depend upon the effectiveness and clarity with which he presents and interprets his results and ideas to the community, and the fidelity and courage with which he and his professional institutions defend the freedom of science, not simply for the advancement of science itself but also as an essential element in the preservation of a free society.

Science News Letter, October 2, 1954

AGRICULTURE

New Delaware Potato Immune to Late Blight

► DELUS, A new potato variety that is immune to late blight, the disease which caused the 1845 potato famine in Ireland, will be available for spring planting. It is especially adapted to growing conditions in Delaware.

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