

## THE RIGHTS AND DUTIES OF SCIENTISTS

(Being a kind of Hypocratical (sic) Oath, or Preamble to the Charter of Scientific Workers)

When the scientist is accused of a measure of responsibility for the present war and for the state of the world in general, he can not with a good conscience plead "Not Guilty!"

Science is respected, scientists far less. They are mostly considered as highly skilled and specialised craftsmen, whose job is done when they have made tools for the rulers of this world, the statesmen, soldiers and business men. They will work with equal devotion and fervour for whoever employs them and to whatever purpose their results are used. "Put a pacifist in an armaments factory," writes George Orwell, - "and in a week he will try to improve the bombs".

The time has come when indeed even the pacifist can do nothing better than to improve the bombs. But when this war will be over, if the world remains divided into thinkers who publish books which will be approved by everyone and followed by noone, specialists, who make the world more and more intricate and dangerous, and "practical men", ignorant and self-sure, who promptly turn the always growing power handed over to them by the specialists into always growing mischief, this world will be just as certainly doomed as the world was after 1914-18.

It is open for discussion what kind of world we desire; but about one feature there ought to be no discussion. Unless we want to face open-eyed the periodic recurrence of catastrophies, the new world must contain a stronger element of reason in the management of human affairs. Reason is not the only side of the human mind, possibly not even the noblest. The time might come, when religious and artistic fervour will again claim the first place. But at the present stage of civilisation we simply can not afford to allow emotions to overrule reason. We scientists have made the world far too dangerous for that. It is our duty, more than anybody else's, to make it a safe place for human beings not only to live in, but also in which to indulge their passions, religious or artistic, without which life to many does not appear worth living. But with all due respect to the passions of our fellow-humans, we must draw a line where they can bring down the roof on all of us!

If therefore we accept as a fundamental principle that the world needs a greater measure of reason applied to human affairs, the scientist comes into his right. We represent the greatest body of men and women in this world schooled in thinking. But it is even more important, that we have been schooled in a field in which lies do not exist at all, and errors only for a short time. No amount of shouting will make an incorrect mathematical equation right, nor a badly-designed engine! We are accustomed to be critical of ourselves, as we are working under an unbribable critic, unmoved by any flow of eloquence. But this very fact is also our great weakness. We may be masters in all kinds of engineering, and yet ignorant in regard to the "engineering of human consent", as Norman Angell has called it.

Therefore if the scientist wants to be respected and listened to in human affairs he must cease to be nothing more than a scientist. He must remember that people outside the world of science might not be altogether wrong, when in the management of States they trust a professional diplomat, a lawyer, a businessmen or a clergyman more than a great physicist or biologist. Those are all people whose daily material to work with is men and women. They may have mismanaged their own business a thousand times, but still they will be experts, and we are laymen.

Maybe it would be better to give the rulers of our world, the statesmen, bankers, lawyers a little of the scientific spirit. But this is probably far beyond the scope of the A.Sc.W. and similar organisations. But we can do something to make scientists, or at any rate some scientists, fit to take a hand in the administration of human affairs. The following points, which it will be desirable to discuss and amplify, may contain some help for the scientist who would like to do his full share in society:-

1. Do not spend your free time merely reading detective novels, digging your garden or fiddling with your radio set. If after your work is done you are too tired for any but soulless activities which give your brains a rest, work less!
2. Be sociable. Make as many friends as possible, especially among people who are not scientists. Try to know and to understand the ordinary man and woman instead of making hypotheses about them.
3. Study history from good modern books. Forget everything about kings and battles you have learned in school, in the lessons which very wrongly went by the name of history. History is the true study of mature men and women, not of children. Nobody can consider himself a man or woman of culture without a sound knowledge of history.
4. Study economics and Law. If you have any pre-formed opinions on these subjects, suspend them until you have read at least two contrary views on them.
5. Try to learn at least one foreign language, or if you know one, keep it up by reading in it regularly. Keep acquainted with at least one foreign culture. If you can not learn the language, read translations.
6. Keep yourself free of all national, racial or class prejudice, and try to make your friends feel the same way.
7. Learn talking. Use every opportunity for clarifying your views in discussions, and learn the art of slow and patient persuasion by argument and not by decibels.
8. If there is any opportunity, take a hand in teaching. You will learn more than do your pupils.
9. Take a hand in administrative, communal and political activities within your reach. If you feel that you have something to say, learn to address meetings.
10. If in middle age or later you feel that you have done your share in science, and you feel the stuff in you, chuck up science and become an administrator or a politician. Why should only lawyers do it?

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