LETTERS TO THE EDITORS

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IN THE PRESENT CIRCUMSTANCES, PROOFS OF "LETTERS" WILL NOT BE SUBMITTED TO CORRESPONDENTS OUTSIDE GREAT BRITAIN.

Cultural Significance of Science

IN a communication printed in NATURE of January 25, p. 119, Prof. Polanyi takes issue with an earlier leading article[1] which had urged the rejection of the view that "science is set apart from all other social interests as if it possessed a peculiar holiness". A peculiar holiness, he maintained, is exactly what science does possess. The issue has the appearance of being a fundamental one, since it goes to the root of the whole relation between science and the social order, and some measure of agreement about the nature of this relationship is widely considered to be an urgent need. It may therefore be worth while to point out that this particular example of disagreement seems to be based on a purely verbal ambiguity. In the editorial, "holiness" meant, surely, "having an esoteric character", whereas to Prof. Polanyi it clearly meant "having overwhelming ethical value". I, for one, and there are certainly many like me, would not agree for a moment to deny the ethical value of the scientific method; but also do not feel quite confident against the accusation that it has in the main been applied to an unduly narrow range of phenomena. Have we too often exerted ourselves to take an unbiased view of something which is so recondite that there is no adequate reason why the ordinary man should have any view of it, biased or not?

"Scientific detachment", writes Prof. Polanyi, "is of the same character as the independence of the witness, of the jury, of the judge". But the witness, the jury and the judge turn their attention to problems presented to them as being socially important; they are not at liberty to choose to spend the afternoon discussing the sexual habits of Polynesian worms, or whatever else takes their fancy. The Editors of NATURE were, as I understood them, inviting us to spend more time investigating subjects as banal but relevant as crimes. Doubtless it is not altogether easy to preserve scientific detachment in such matters; and one can expect that what are generically termed "powerful interests" will attempt to influence scientific statements on matters of social consequence. But Prof. Polanyi's pessimistic assumption that such influences must always be successful in their nefarious work is vitiated by his own example of the persistence of a real and active legal detachment through many centuries of close contact with the turbulent forces of history.

It may be urged that the law, although employing the method of impartiality, is in its content merely the embodiment of the interests of the most powerful social group, and in that most important respect unfree; and it can be argued that a socially directed science, although free to be critical and objective, would have its attention fixed down to problems chosen for it by social forces outside its own control. But speaking as an embryologist of no cash value to anybody, addressing a physical chemist of enormous industrial importance, I should like to ask Prof. Polanyi if something of the sort is not true already. Our civilization is, to some degree, a society and not a mere collection of individuals. Men of science are, again to some degree only, involved in the social bonds which create the coherence of society. One could only be justified in calling for a less degree of involvement in those bonds if one disapproved of the society as a whole; if, for example, one was a revolutionary who wished to stay outside it so as to overthrow it.

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Christ's College,
Cambridge.
Feb. 1.

[1] NATURE, **146**, 815 (1940).

Science and Government

THE recent communication by R. H. F. Finlay[1] represents a point of view which seems to have some currency at the present time: the right of 'science' to govern. Is not this a threat to freedom? Since the foundation of science is the confession of truth, should we not admit that divided counsels are the breath of science; that not 'certainties' but hypotheses and theories form the stuff of science; that the conclusions of science are no more than provisional opinions based on evidence; that men of science have the virtues and vices of the politicians, trades unionists, lawyers, business men, peers and prelates through whom we govern ourselves to-day; that the omniscience proper to the law and so to government is foreign to science; and that the part of science in the government (a part for which there is unbounded scope) is the provision of knowledge? For if 'science' assume authority, and the current beliefs of science have the force of law, freedom of opinion must perish and truth be shackled indeed.

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Hedgeside,
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Jan. 31.

[1] NATURE, **147**, 119 (1941).

The Walden Inversion in the Replacement of Hydroxyl by Halogen

THE first serious study of the steric course of this replacement was that of Frankland[1], who concluded that phosphorus pentachloride always substitutes with inversion of configuration, whilst thionyl chloride does so except when a phenyl group is attached to the seat of substitution. Although this