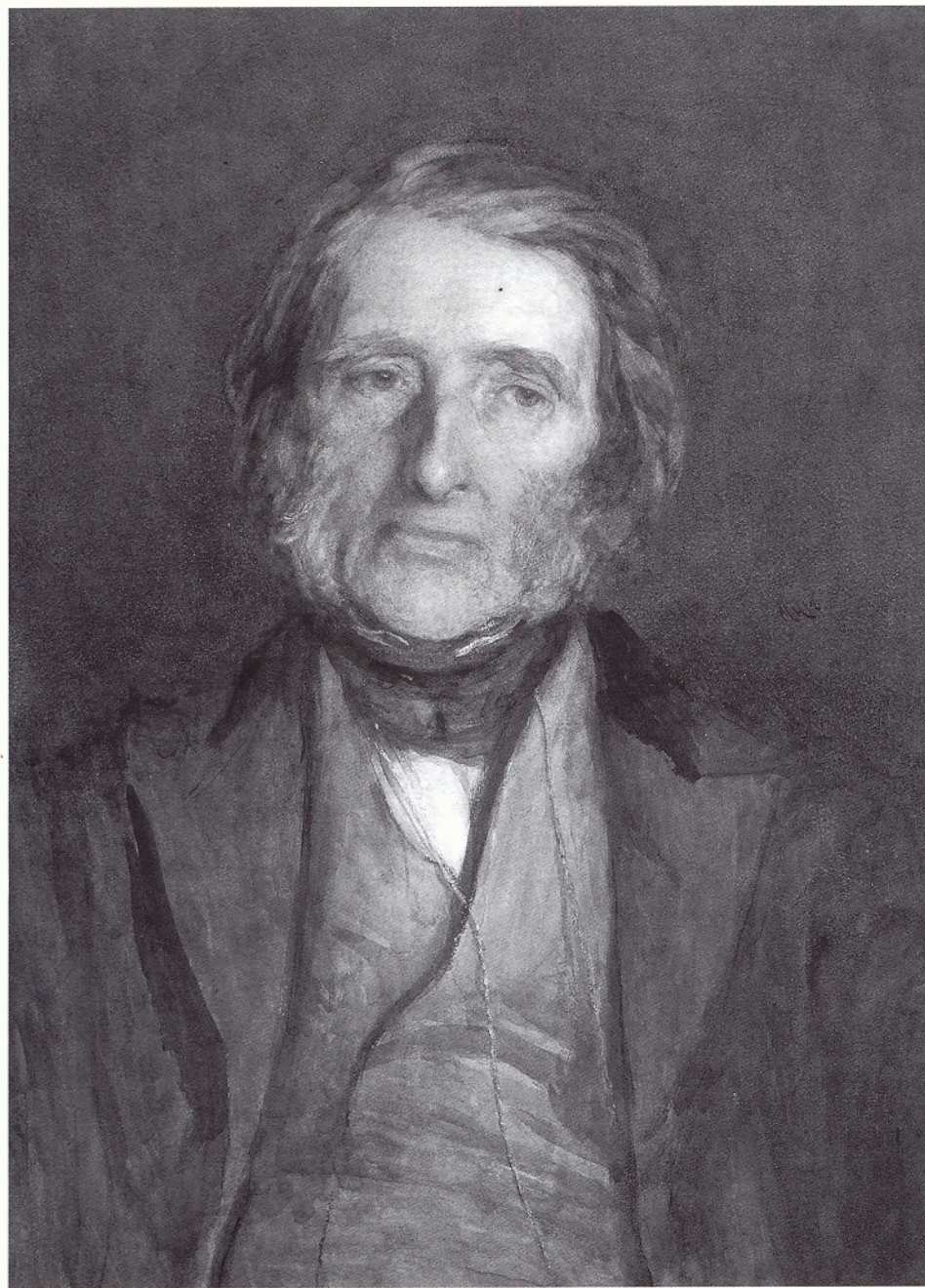


Ruskin and the scientists

Jerry Ravetz reflects on the perils and ethics of science advice

In a previous essay on the difficulties of restoring public trust in science,¹ I mentioned that 'science advice' is a new and poorly understood form of science. There I focused mainly on the public's discontents. Now I would like to analyse science advice more deeply, exploring the implications of this new professional role.



John Ruskin: from objectivity to integrity
National Portrait Gallery

In the 1860s the Victorian critic and prophet John Ruskin turned his attention from the arts to society. He published a series of essays, which were not well received. Indeed, he was discouraged from writing any more of that sort. But one of them, 'Unto this last', became an inspiration for reformers for the rest of the century and beyond.² Ruskin was outraged by the way that the '*soi-disant* science of political economy' required businessmen to behave in the most selfish and debased way. For it assumed that 'avarice and the desire of progress are (the) constant elements' in human nature, and considered 'the human being merely as a covetous machine'. To illustrate what was worthwhile behaviour, he considered the professions, and came up with a paradoxical definition.

Profession means sacrifice

For Ruskin, a profession was a calling for which a man was prepared to make any sacrifice, up to the ultimate, in the face of evil. His first example was the soldier, whose trade, 'verily and essentially, is not slaying, but being slain'. For the other professions he cites, I suggest the extreme cases: the doctor must stay with the epidemic, the priest must be prepared for persecution, and the lawyer must defend the client whom society cannot forgive or whom the state must destroy.

What possible relevance does Ruskin's vision have for science advisors? What sorts of comparable hazards could they ever encounter? Up to now, it has only been the dissident critics who have been traduced and victimised, as in the BSE episode.³ But now that science is so central to the running of technology and society, it becomes a prime concern of business and of the state. Science does not merely guide policy *ex ante*; it is also used to justify and rationalise policies *ex post*. In that latter function, its relationship with truth may be quite coincidental or even inconvenient. According to the World Commission on Dams, in that field the scientific assessors' job is now 'to render dams acceptable when the decision to proceed has already been taken.'⁴

Under these new conditions, to the degree that advisors are important they are exposed. When a powerful establishment feels threatened, any unwelcome messenger is liable

to be shot, one way or another. Is this extreme? Perhaps it is; but then not long ago it would have seemed extreme to imagine that scientists could lose the trust of the British public, because of the way that their leading representatives had allowed themselves to be manipulated by the State. Thus, without impugning the motives of those who seek and receive science advice, we may say that by Ruskin's definition the science advisor's professional role is to be the messenger who is ready to be punished by his client.

The Ruskin effect

Examples of what might be called 'the Ruskin effect' can be found even among scientists who have not adopted the professional role. Under the present conditions of commercialised science, even the ordinary researchers whose work is relevant to commercial policy can find themselves cruelly exposed. We have already had the warnings from leading medical research journals that much sponsored research has been so tampered with as to be useless.⁵ And with the multi-million dollar defamation suit that has been launched against an American scientist who published the disappointing results of an AIDS drug trial, we have entered a new era of intimidation.⁶ In that particular case, the affected scientist and his collaborator were protected by their powerful institutions, the University of California at San Francisco and Harvard. Others may not be so fortunate.

When scientists are faced with a choice between becoming yes-men or facing ruin, Ruskin's extreme scenario for professionals is not at all far-fetched. It hardly needs saying that

if such strong-arm tactics by sponsors are not repudiated immediately, we should look forward to the imminent collapse of quality in all the affected fields. What would then happen to the technologies based on those sciences, is a subject worthy of consideration.

Scientists not prepared

How well are scientists equipped to face up to such extreme ethical challenges? To what extent has their education and training prepared them for the dilemmas that arise when morality comes into conflict with property and power? It appears that as yet they are woefully unprepared. Science teaching at all levels is still imbued with the obsolete philosophy of hard, objective and value-free facts. It was Thomas S. Kuhn who said that scientific education is more dogmatic than any, other than, perhaps, orthodox theology;⁷ and it is impossible now to know whether his irony was deliberate.

One aspect of the new situation of science might seem to make the advisor's role more difficult. It is one thing to make sacrifices for the cause of stating the truth; it is quite another if there is no certainty that the statement is really true. Popper's lesson that all science is provisional and fallible may not yet have penetrated to the classroom, but it is a constant and painful constraint on science advice. For that advice typically deals with issues of safety, requiring a confrontation with the real world of imperfect knowledge and imperfect techniques applied by imperfect people in imperfect institutions. It is a long way from the relative security of the lab, where science is the 'art of the soluble' and insoluble problems are therefore not scientific.

Integrity

In these circumstances the science advisor must give up the traditional protection of objectivity, and instead rise to an appreciation of integrity. This means recognising the uncertainties in one's knowledge, and the value-loadings that all of us (including philosophical critics) employ when we select and shape our perceptions. With this understanding of oneself, science advisors are not affronted when others scrutinise their conclusions in the light of their prior commitments. 'He would say that, wouldn't he?' is a question that must be accepted as part of the dialogue among participants where there are conflicting interests, and conflicting perceptions of the problem as well as of the solution.

When science advisors have absorbed these lessons, painful but also part of maturing, then the slogan 'Trust Me, I'm A Scientist' will cease to be cynical or ironic. Their awareness of a new sort of integrity, incorporating Ruskin's insight, will become an important part of an understanding of science that is appropriate to this new century.

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This is not fanciful today, as shown by the multi-million dollar defamation suit against an American scientist who published the disappointing results of an AIDS drug trial

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