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## **The public understanding of the history of science**

“THE PUBLIC UNDERSTANDING OF SCIENCE” has been a familiar phrase to scientists in Britain for a long time, and especially since it was promoted by the publication of the Bodmer Report (1985). It is part of a long-standing tradition of science “outreach” through the media, public lectures, and extra-mural university courses. More recently, and especially since the Jenkin Report (2000), the phrase has become less fashionable, being supplanted by “public engagement with science” or “public engagement with science and technology” (“PEST”). The shift in emphasis has been real and deliberate, reflecting a current view that the public should not, after all, expect to gain very much from actually *understanding* science (that, by definition, being the business of the scientists themselves!) but that they should engage in a two-way dialogue with the scientific community to influence matters such as the public funding of research, its economic benefits, and ethical questions surrounding the application of science through technology.

This has been part of a broader trend towards a Baconian, or utilitarian, view of science – as opposed to the Newtonian-like philosophy by which science might be seen as the basis of cosmology and anthropology and therefore central to how anyone, not just a scientist, should understand the universe and humanity’s proper place in it. From being a source of ethical inspiration *to* the public (natural theology, in other words), science has become an object of ethical criticism and control *by* the public; and science is now commonly conflated with technology, rather than being seen as something logically distinct and independently valuable.

This trend is not just British but European, if not global, and is closely tied up with present economic and political realities. For good reasons, Europe’s political leaders are anxious that our continent should continue to prosper by remaining at the forefront of a constant stream of technological innovations driven by science. An important aspect of this, in current European political rhetoric and policy-making, is the concept of the “Knowledge Society”. As Brian Trench (2004) has pointed out, the knowledge society “presents knowledge and science in reductionist and instrumentalist frames... for its capacity to deliver improved products, processes and skills...” and, however successful it may turn out it be in that respect, it may “give preference to particular, perhaps restrictive, conceptions of its value and roles.”

The problem, then, is that the public are perhaps being led towards a *false* understanding of science, even though it may well be a *useful* understanding of science.

The history of science occupies an awkward position in all this. To the historian, science and technology are embedded in human history and cannot be understood in isolation from their history. The history of science has provided key insights into people’s understanding of science itself. And historical facts were the data on which philosophies of science were based. But history cannot be naively extrapolated forwards to predict the future. Popper (1960) famously warned us about the “Poverty of Historicism”. The sort of “Grand Narrative” implicit in Europe’s science policy, and in the concept of the “Knowledge Society”, is nowadays rather unfashionable among historians. In fact, it would not be an exaggeration to say that European science and technology policy today is based on a highly questionable kind of progressivist scientism, or on what might be called “extrapolationism” – the belief that the development of new science in the future will follow the same pattern by which scientific ideas developed in the past.

This is pointed out without any intention to claim that progressivism or scientism are false philosophies. But they are out of kilter with mainstream history of science; and in that sense it is

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arguable that European science and technology policy, as it has emerged in recent years, displays a profound public misunderstanding of the history of science.

A nice illustration of an extrapolation from dubious history is the proposal for a European Institute of Technology (EIT), recently put forward (European Commission (2006)) with the argument that the United States achieved scientific pre-eminence in the world, that the Massachusetts Institute of Technology played an essential role in the development of American science, that Europe does not yet possess a comparable institution, and therefore that we should establish an EIT to make it possible for Europe to regain scientific pre-eminence in the future. Among the supporting cast is the idea is that the EIT should be based at Strasbourg as compensation for a possible abandonment of that city by the European Parliament – but on the other hand it has been argued that it would be more equitable if the EIT were based in one of the EU's newer member states, such as Poland. Not surprisingly, Europe's well-established research universities, fearing a diversion of funds, have opposed the EIT proposal (LERU (2006)).

There is still another kind of difficulty that we encounter when we consider the public understanding of the history of science: the history of science has been intimately connected with the history of religion, and a generation or two ago it could be assumed that there was a high level of public understanding of religion and of its history. But today, at least in Britain, and possibly throughout Europe, one has the strong impression that the public understanding of religion has declined to a point where it is even weaker than that of science. Consequently, many people are ill-equipped to discuss the historical relationships between science and religion, and may even be inclined to dismiss the idea that such relationships could have been important for science in the past.

A symptom of all this is that there is little public awareness of the Church's role in establishing literacy and learning across the continent, leading to key developments such as the founding of the University of Paris and ultimately to the science and technology of the Renaissance. At a time when the European Union is launching initiatives to bolster the idea of European integration, an opportunity is being missed to show, from the history of science and religion, that Europe has always been an integrated "knowledge society", and to place science and technology policy on a more credible historical basis. Perhaps the problem is that the "conflict thesis", opposing science to religion, is too deeply ingrained in the public mind for a balanced view of the history of science in Europe.

To conclude: it is suggested that the public understanding of the history of science is weak. Misunderstandings or misrepresentations of the history of science are today tending (a) to encourage a Baconian philosophy of science; (b) to encourage simplistic extrapolations from the past to the future; and (c) to prevent a proper understanding of the relationship between science and religion, and particularly of the role of medieval Latin Christianity, and therefore of the deep historical basis for an integrated European "knowledge society".

## References

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