We need a two-pronged approach to impact to understand how research can influence, and to offer a critical reflection of the impact process

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*Scientists never conducted research in isolation from the outside world, but learn edinstead how to 'do impact'. **Mel Bartley** argues that case studies of research that has had impact on the wider world shows that we need to make an attempt to understand our research influence, and time to critically reflect on this process.*

The problem with the way in which we seem to discuss the relationship between research and policy just now is that it gives a picture in which researchers are going along doing their own thing, which produces 'findings' and then have to be urged to sell these to other people in the outside world to create 'impact'. These customers may be the general public, voluntary sector organisations, local or national government bodies or private businesses.

But, combining insights from the sociology of deviance, social policy and the sociology of science and technology gives us a very different picture. Scientists (or at least the ones who set agendas for their disciplines) never just went along doing science in isolation from the outside world. The notion of scientists as a Brahminic group divorced from everyday concerns may be true of some individuals but as a description of how science is done it has little foundation in social reality. Disciplines wax and wane, appear and disappear in the academy, and this happens as a result of intense activity by scientific entrepreneurs. As Bruno Latour points out in his book "Les Microbes: Guerre et Paix", no one was much interested in the work of Pasteur until he linked his microbial theories with ways to protect the valuable industries based on the silkworms and vines that were being ravaged by disease. The Manhattan Project, one of the origin points for post-war Big Science was not put together by a bunch of unworldly physicists. It was part of the genius of their leaders to link their interest in atomic physics to the war aims of the Allies. What made Pasteur and Oppenheimer successful scientists whose names we all know was that they could see how to position scientific work in such a way as to ensure its continued financial viability. Latour makes the point that we only have science at all because there are scientists who constantly operate at the borders between laboratory and society, keeping the show on the road by giving powerful social interests what they need.

So it may not in fact be very helpful at all to think about research having impact. If enrolments between scientists and other social groups never happened we simply would not have research at all. What may be the case is that certain research traditions have become detached from their original alliances and then struggle to justify their continuation. A good example of successful response to this 'orphaning' of a discipline by changes in the biological world was the disappearance of tuberculosis as a dread disease in the 1950s. At this point the Journal of Tuberculosis became a journal devoted to 'chest medicine' (and the high prevalence of heart disease in working class people was made visible for the first time by this reorientation within a branch of medicine).

Sociology and social policy had a different role in relation to the setting up of the post war welfare state than they do now in relation to its unravelling. It is because of this unravelling of an enrolment that social science now strains for 'impact'. Even in medical research, the pressure is on for an increase in 'translational' science, that is, science that translates scientific advances into something useful for treating patients. This idea astonished me when I first heard it – what else would medical research be doing? Then you remember that the discoverers of the structure of DNA were supposed to be (1) finding a cure for polio, funded by the US polio charity March of Dimes (Watson) and (2) finishing a PhD in haematology (Crick). The brilliant account 'Double Helix' contains a passage that will be familiar to many doctoral students, in which Crick's supervisor tells him to for pity's sake stop messing about with DNA and get on

with finishing his thesis. The basic sciences they were involved in were engaged in another enrolment, with infectious disease in Watson's case. Work on DNA was not seen as likely to be useful in the treatment or prevention of polio. (Now, why work on DNA is seen as so useful for medicine at the present time is another story….)

You might have thought that social policy, criminology and the sociology of science and technology (SST) would have plenty of illuminating things to say about the present day relationships between scientists, engineers and policy makers (and you can insert 'social' before each of these categories). It has always been a mystery to me why this does not happen. The lively discussions on these blogs has included some, but not an awful lot, reference to the work in 1980s political sociology and sociology of science and technology. But there has been no mention of the majority of the literature that I would regard as relevant.

Deviance theory in the 1960s and 70s formulated the notion of 'the social problem process' as an aspect of social and political debate (for example Becker's work on marijuana smoking and medical training, the notion of moral panics). Out of this literature came a helpful organising concept of 'the stages of a social problem process'. First, attention is called to the social problem by claims-makers who say things like 'bats can cross the Channel and cause rabies in the UK' (this is a real example). Then a call for 'something to be done about it'. Most of the time, the demand for 'something to be done' is held at bay by some kind of process of enquiry. Will bats really be able to fly through the Chunnel? How far does the average bat fly?

At this point, a market is created for new knowledge. A brilliant example of this approach was given by Naomi Aronson, who wrote about the entry of nutrition scientists into a policy debate around the adequacy of wages in the early 20th century. As a solution to a heated political debate the new science of nutrition put forward a programme of research into what determined the nutritional knowledge and skills of the poor, and how this would need to change in order for low-income families to achieve a diet richer in the content needed for health. Thus the 'moral claim' of, for example, philanthropists and labour unions, was replaced by complex technical analysis. The political furore was calmed. The nutrition scientists were rewarded by the recognition of their new discipline at American colleges, with tenured posts available for the first time.

These and other fascinating studies sought to understand what actually happens in the relationship between scientists and other groups with whom they engaged, taken on a case by case basis (other studies include work on solar panels, oyster beds and a fictionalised hormone christened 'pandorin'). They show that scientists learn how to 'do impact' in a similar way to other forms of socialization. In fact I am not even sure that social scientists should think about. In medical sociology we make the distinction between 'sociology *for* medicine' and 'sociology *of* medicine' which is relevant here. Sociology of medicine does not try to influence medicine, but stays at a critical distance. Sociology for medicine focuses on patients rather than health care providers and seeks to understand how to make medicine more effective by changing health workers' or patients' behaviours. In parallel, perhaps, we could contrast 'sociology for impact' as the attempt to understand how our research might have more influence, and 'sociology of impact' as a critical reflection on this process. There has always been room for both types of medical sociology.

Note: This article gives the views of the author(s), and not the position of the Impact of Social Sciences blog, nor of the London School of Economics

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