Interactive agenda setting in the social sciences – Interdisciplinarity

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Introduction

In this background paper we review a selection of reports and documents written about interdisciplinarity in the social sciences. We do so with the aim of provoking and informing discussion about how interdisciplinary research agendas emerge, stabilise and disappear.

The concept of interdisciplinary is particularly relevant when thinking about research agenda setting in the social sciences. For example, in our workshop about research centres, the wish to promote interdisciplinarity seemed to be a key motivation for the creation of new teams and groups. Science policy makers and research managers around the world routinely see interdisciplinarity as a progressive force that helps break the shackles of narrow-minded academic specialisation. This is a core theme in Mode II knowledge production as characterised by Gibbons with reference to the UK research system in particular (Gibbons 1994; Nowotny 2001). Interdisciplinarity is important for many research centres and the ESRC is clearly not the only science agency to invest in teams that span several disciplines. New grand funding schemes such as the UK e-science programme (Hey 2002) and the US initiative in creating new cyberinfrastructures for science and education revolve around an intuition about the value of being interdisciplinary (Nentwich 2003).

In the first part of this paper we take stock of claims made about interdisciplinary research: why is it needed, whose agendas it engages with, what is special about it, and how might it be organised and evaluated. The second part offers a critique of the reasoning on which many of these claims rest.

Interdisciplinarity as 'a good thing'

Forster begins a recent report for the ESRC with the following words "the value of undertaking interdisciplinary research (IDR) lies in combining knowledge or methods to analyse specific issues or problems and creating new insights" (2003: 1). By implication, interdisciplinary research agendas are *strongly* tied to non-academic concerns and priorities: interdisciplinary research is quite simply required to address the 'complex problems of the modern world' Scottish Universities Research Policy Consortium (SURPC) (1997). As Conway puts it, ''many of the practical challenges of the future are inherently interdisciplinary' (1995: 3-4).

The image here is one which new rounds of real-world problems generate fresh scientific challenges. If they are to engage with these questions at all, researchers have to cross 'boundaries to achieve novel insights against a slower moving backdrop of disciplinary institutions' (SURPC 1997). Forster continues: "complex themes and problems can often be better understood using methods and concepts drawn from a range of disciplines rather than traditional single discipline approaches" (2003: 22). Amongst other suggestions, he proposes that the ESRC develops an explicit strategy for interdisciplinarity and that it sets up a special unit to gather and disseminate information about interdisciplinary research to the social science community.

Like others before (Hoch 1993; Tait and Lyall 2001; SURPC 1997), Forster's report treats interdisciplinarity as an unqualified 'good' and as something that has to be actively promoted and cultivated. The common understanding is that institutional structures – in particular, those relating to the funding and organisation of universities, to publication and reputation building and to the incentives and reward structures of contemporary academic life – impede interdisciplinarity, hence the need for deliberate effort to overcome the resulting 'barriers'.

In this context, it is widely accepted that interdisciplinary research is more risky, more costly and more time consuming than 'normal' or disciplinary research. Tait and Lyall are, for instance of the view that 'interdisicplinary work tends to be both slightly slower to deliver and also more expensive' (2001: 20) and Forster agrees, interdisciplinary research is 'potentially more risky and more costly than mono-disciplinary research' (2003: 15).

Such analyses generate a pretty standard catalogue of recommendations - research funders should set aside extra time and money if they are to deliver problem-oriented and therefore interdisciplinary research; they should encourage universities to look favourably on those who pursue interdisciplinary careers; they should allow 'more time for networking and building in an interdisciplinary element' (Tait and Lyall 2001: 3), and so forth.

Interdisciplinarity from the top down and the bottom up

The accounts cited above are alike in supposing that requisite quantities and forms of interdisciplinarity will not happen automatically. Some kind of top down encouragement is apparently required to force disciplines to work together in order to address real world problems.

Others argue that interdisciplinary research is important not to overcome the limits of disciplinary divisions but in order to enhance *disciplinary* development. For example, Conway suggests that 'at its best and most creative, interdisciplinarity produces insights that were previously not perceived by the individual disciplines working alone' (Conway 1995).

Referring back to Abbott's (2001) analysis of the 'Chaos of Disciplines', we might usefully think about interdisciplinary exchange as a mechanism of disciplinary evolution. The core territory of recognised disciplines is not stable, nor is it consistent between countries. There was, for instance, a time when physics was a new and innovative hybrid developing between mathematics and philosophy. Picking up similar themes, Blume (1990) considers the permeable boundaries of disciplinary identities and describes a typology of variously interdisciplinary forms of social science. He distinguishes, for instance, between 'core' disciplines (like sociology, history, anthropology) and 'formal hybrids' – such as social history, social psychology and social anthropology. In addition to these formal hybrids, he identifies a range of relatively well established applied fields like criminology. Blume's final category includes composite areas such as cultural studies, leisure studies, science studies, women's studies – these being recognisable entities but ones that draw upon multiple disciplinary traditions.

The point is not simply that disciplines are themselves fluid – though that is significant. The more relevant observation is that disciplinary agendas co-evolve and that much creative borrowing and appropriation of concepts, ideas and even agendas

goes on without being explicitly recognised as 'interdisciplinary' activity. This raises the further question of what actually distinguishes between separate disciplines, particularly within the social sciences. Giddens, for example, suggests that there is no such thing as sociological theory - instead he argues that different specialisms contribute in different ways to the emergence of a more generic body of 'social theory'. Blume goes on to suggest that the social sciences are held together by a common empirical point of reference, namely the social world. While social scientific disciplines construct their own subject matter by the way they frame and orient their central concerns, they nonetheless tap into shared experiences of everyday life. Both are contentious claims but both point to the web of connections that hold seemingly discrete disciplines together. One result is that there is endless potential for what we might think of as 'bottom up' interdisciplinary agenda setting. A recent meeting held at Cambridge University (Connected Space) illuminated and illustrated extensive theoretical overlap between contemporary archaeology, anthropology, architecture, sociology, geography and even art. Meetings of this kind are admittedly rare, but it is not at all uncommon for scholars to renew and refresh research agendas by seeking points of connection with colleagues in related fields.

Whether from the top down or the bottom up, interdisciplinarity seems to be a thoroughly good thing. In the opening sections of 'Interdisciplinarity in the Social Sciences', Stuart Blume quotes Gusdorf who writes as follows:

> "Everyone invokes interdisciplinarity; no one dares say a word against it. Its success is all the more remarkable in that even those who advocate this new image of knowledge would find it hard to define. The appeal to interdisciplinarity is seen as a kind of epistemological panacea, designed to cure all the ills the scientific consciousness of our age is heir to"
> (Gusdorf 1977, 580)

However, if interdisciplinarity is such a good thing, why do current institutional arrangements so consistently conspire against it? Why do calls for interdisciplinarity recur with such regularity?

Why should interdisciplinary collaboration take more time and money? How are these extra resources spent and just how much extra is needed? How far is interdisciplinary interaction, in any event, a normal part of enriching scholarly debate?

The policy documents referred to above distinguish between multi- and inter-disciplinarity, but persistently treat the latter as a monodimensional concept. Potentially important subtleties in how specific disciplines interact and in how real world problems are translated and resolved into researchable questions by specialists in different fields consequently fade from view.

In the next part of the paper we take these questions forward by taking a more critical look at the discourse of interdisciplinarity.

Interdisciplinarity – a solution to which problem?

As indicated above, the most common line of reasoning is that interdisciplinary research is needed to help understand and solve social problems that do not map neatly onto existing academic disciplines and specialisms. No team from any one discipline can expect to have all the expertise needed, hence the need to create new research teams that draw members from more than one field. In this argument, the discipline is the source of specialized scientific and technical expertise. This is not

only relevant for the solution of problems, but also for their inclusion in the research agenda of the social sciences. Unless they are recognised as being important by interdisciplinary teams, or by agencies willing to fund interdisciplinary research, real world problems might never be noticed by the scientific community.

Although this sounds very reasonable, the most frequently cited arguments in favour of interdisciplinarity are fundamentally flawed. This point has been discussed most clearly by Peter Weingart, on the basis of experiences with the centre for interdisciplinary research ZiF in Bielefeld (Weingart and Stehr 2000). Conventional arguments for interdisciplinarity suppose that there is a clear distinction between real world problems on the one hand and the division of intellectual effort, as embodied in the diversity of academic disciplines, on the other. They also suppose that problems are "out there" in the real world, independent of the conceptualisations developed by disciplinary scholars. In approaches like that represented by Gibbon's Mode II thesis, this is further strengthened by a plea for a more important role for non-academics in research agenda setting. It is assumed that these representatives of the real world have more understanding of the issues at stake than relatively isolated or overly specialised academics.

The philosophy and sociology of science has taught us, however, that this is a distorted and oversimplified view of the complex ways in which social scientific problems are formulated. As Weingart points out, it is not the social world as such but rather scholarly practice that creates scientific problems in the first place:

> "The empirical fact is that the 'real problems' are constituted by existing knowledge and its gatekeepers. Several mechanisms interact. The chief mechanism can be called 'scientification'. Areas of hitherto unreflected social practice become subject matters of systematic scientific analysis, often in conjunction with professionalization: political science, sexology, criminology, public health, and environmental engineering are pertinent examples. A derivative mechanism, on a lower level of generality, is that governments establish funding programs that involve the combination and rearrangement of the disciplinary landscape in order to achieve a tighter problem orientation and perhaps also a more convincing public image of their science policy. The most pertinent recent example is climate research. The establishment of such overarching 'interdisciplines' is primarily driven by political goals and needs of legitimation." (Wiengart and Stehr 2005)

This "empirical fact" is bolstered by a systematic argument. Proponents of the realist model of knowledge that is hidden in the common sense argument for more interdisciplinarity, disregard the role of social structure in the process of knowledge creation. Obviously, they are right in pointing to the variability of the delineation of subject matters and skills across disciplines. But what is the alternative? Without such structures no knowledge would be possible. As Weinberg argues, "every structure is selective". The difference between a disciplinary structure and an interdisciplinary one is not that the latter offers a better fit with reality. They may have different blind spots, but blind spots they both have.

How is it that the discourse on interdisciplinarity is so popular if its main argument is so weak? Weinberg provides us with a sociological explanation that is also interesting for our debate about agenda setting. For him, interdisciplinarity is basically a new way to promote innovation in knowledge production. It represents a move away from one conceptual model of scientific unity, but at the same time confirms another.

> "The idea of interdisciplinarity has taken the place of the promise of the unity of science, and the discourse continues because only this prospect makes it possible to identify all the very diverse and heterogeneous activities going on in the disciplines as being part of the same social activity, namely science. Interdisciplinarity is not the promise of ultimate unity, but of innovation and surprise by way of recombining of different parts of knowledge, no matter which". (Weingart and Stehr 2000)

In other words, the discourse on interdisciplinarity is a way of creating new opportunities for both researchers and their funders. If interdisciplinarity is developed in the framework of basic science, it may lead to a reorganisation of the disciplinary landscape and the creation of new disciplines, eg. cognitive science or climate research. If interdisciplinarity is developed in the context of applied, demand-driven research, it may mobilise scientific knowledge in relation to new social problems that thereby become constituted as scientific problems. In the end, however, such research will always be referred back to existing structures of knowledge production. It must be recognised by either old or new disciplines as being scientifically of value. Here lies perhaps the crucial difference between proponents of the Mode II thesis and Weingart's sociology of knowledge. The latter sees the functional differentation of society as fundamental, also to the discourse of interdisciplinarity. For him, there is no seamless web of knowledge nor is "socially robust" knowledge (Nowotny 2001) possible without reference to the disciplinary structures of academia.

Interdisciplinarity is routinely treated as a self-evidently sensible goal. But as Julie Klein Thompson (2000) has shown, the concept refers to many different practices in different contexts and has an interesting history of quite distinct conceptual and financial sources, varying from problem-driven research in World War II, to science for the people in the 1960s/1970s, to strategic research in the 1990s.

It is also important to distinguish between the levels at which the concept operates. The individual scientist experiences interdisciplinarity in the tension between different criteria of quality, the difficulty of publishing in neighbouring fields, and the permanent problem of the lack of time to properly read all relevant materials even from one's own discipline. New ways of communication, such as email lists, only exacerbate the problem by making these boundaries more visible. At the level of research projects, interdisciplinarity relates to a constant effort at translating between different disciplinary languages in the research team without losing the specificity of problem articulation. At the level of institutes and programmes, interdisciplinarity is perhaps mainly about persuading researchers to generate innovative and or problem oriented research agendas. If this is the case, it is not only a matter of creating opportunities (as Weinberg has argued) but also of stimulating scholars to reformulate their questions. Interdisciplinarity consequently figures as a way of disciplining: "go forth and form interdisciplines!"

In this variability of talk about interdisciplines, one theme seems to be recurrent: the tension between specialisation and the need for interdisciplinary research. In the rhetoric of those who advocate interdisciplinarity, the contradiction between the two is central. After all, interdisciplinarity is about conquering specialisation and its limitations. What we actually see, however, is a correlated growth of both. Working professionally in the social sciences is almost identical to becoming more specialised. Equally, the greater the demand for interdisciplinarity, the more likely it is that further still more specialised hybrid disciplines will emerge.

The unstoppable trend of heightened specialisation goes together with the incessant call for more interdisciplinarity, and indeed with its actual practice. Specialisation and

being interdisciplinary may be oppositions, but they do not so much contradict each other as supplement and reinforce one another. In fact, they are the embodiment of the old tension between innovation and rigour (Merton 1973; Weingart 2000).

We finish by asking what this means for agenda setting in the social sciences. A number of conclusions can be drawn from our discussion. First, the process of interdisciplinary agenda setting may not be as radically distinct as is commonly suggested. Second, because different levels of interdisciplinary practice are not tightly coupled to each other, a lot of interdisciplinarity may take place in solidly monodisciplinary contexts. Third, interdisciplinarity may not be so much a desired state of being projected into the future, as a process that generates variation in the evolution of disciplinary research programmes. In this light, interdisciplinarity may be seen as a property of disciplines rather than as their negation. This perhaps reflects an epistemological shift away from the ideal of the unity of science to the notion of science and scholarly knowledge as a quilt or patchwork. This means, fourth, that agenda setting initiatives should not disregard the relation between new problem domains and existing disciplines. The latter are not expendable remnants of the past, rather they define the context in which new problem domains are positioned and (re)formulated. This makes interdisciplinary agenda setting all the more relevant. Fifth, the different roles of, say, industrialists, non-governmental organisations, user and consumer representatives, and scholarly researchers are not erased in the context of problem-oriented interdisciplinary research. While all may be part of the research agenda setting process in fields like climate research or cognitive science, they nonetheless represent different performances and translations of what the problem actually is. While analytic distinctions between political, moral, and scientific dimensions may still be of use if one wishes to analyse their interaction, we can no longer be naïve about their status. Such distinctions are not given. In practice they need to be created time and again, particularly in interdisciplinary contexts.

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