Interdisciplinarity Workshop Report

Interactive Agenda Setting in the Social Sciences

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Introduction

This report describes and comments on the third of six workshops on 'interactive agenda setting in the social sciences', funded by the Economic and Social Research Council. The purpose of the series is to consider the ways in which non-academic interests and influences shape academic research agendas in the social sciences. The first workshop focused on the evolving agendas of various social scientific disciplines, the second considered research centres. Here we concentrate on the setting of interdisciplinary research agendas. The workshop was held on the 26th and 27th May, 2005 and was attended by a academics working in or studying interdisciplinary fields or with a stake in their development

Interdisciplinarity has been heralded as an approach to research which moves beyond the perceived constraints of disciplinary based methodologies and conventions. It is often argued that 'real world' problems are not structured by discipline and that special interdisciplinary efforts are required to address them. The aims of this workshop were to take a critical look at interdisciplinary research and the ways in which it addresses and responds to fluctuating non-academic priorities. It was framed around several themes:

- Does interdisciplinary research map better onto real world research problems than discipline based research?

- Do / have institutional developments in knowledge production created new agendas and fields of enquiry?

- How have interdisciplinary fields arisen and developed and how do deliberate efforts to engender interdisciplinary research work out within universities, departments and research groups and for individual researchers?

This report draws together the discussions arising from the workshop, and reflects on the contributions of the workshop participants around these themes.

## Theme 1: Interdisciplinarity and real world problems

Given the argument that complex real world problems can only be addressed through concerted interdisciplinary effort, we discussed a number of research projects which have intentionally utilised an interdisciplinary approach for this reason.

New Approaches

One way to approach interdisciplinarity is to see it as a process involving the synthesis of different disciplinary concepts and methodologies in order to address specific problems. The Cities and Climate Change project discussed by Harriet Bulkeley illustrates this process. In this case, the 'problem' was distributed across

different levels for the challenge was to conceptualise and connect global environmental governance and the mitigation of climate change to local government activity. In order to tackle this, expertise from geography and international relations was combined, each discipline bringing a different lens through which to view the issue. The figure, adapted from Harriet's presentation, shows the relation between specific scales of inquiry and disciplines, and suggests that interdisciplinary collaboration can help move between these different fields of view.

Fig. 1. The scales of different disciplines
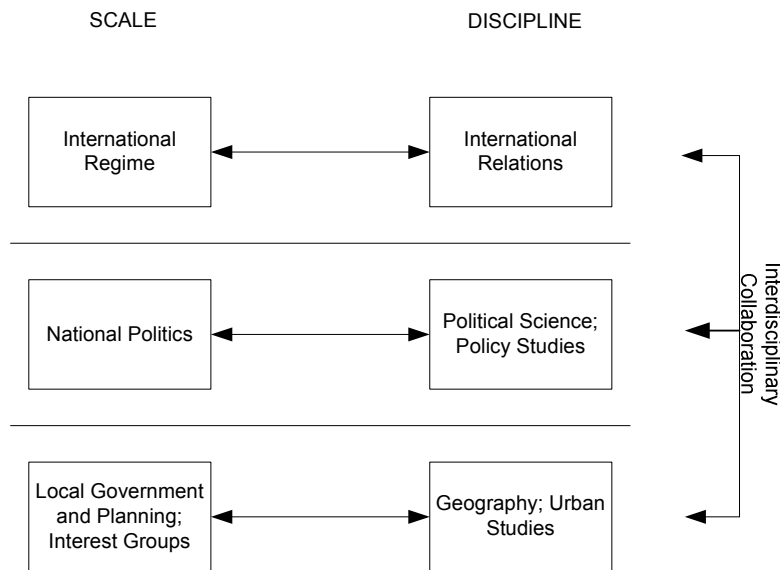
In practice, some disciplines seem more open to this sort of interdisciplinary combination than others. For example, some disciplines, such as international relations, seem more committed to problems of a certain 'scale' as compared with geography and sociology, both of which encompass research at a variety of scales. One consequence was that in this instance, it was difficult to publish papers from this project in international relations journals and although a book was produced, it was listed as part of a series on 'physical geography and the environment' rather than international relations. Attempts to cross list it to reach other audiences have been unsuccessful thus far.

Interdisciplinary synthesis can present other intellectual problems. One attempt to develop a proposal for research on renewable energy combined social, environmental and technical sciences within a 'whole systems' framework. Despite much discussion it proved impossible to formulate a genuinely integrated strategy and in the end a standard, and hence more widely acceptable, 'social science recipe book' approach was chosen. This was partly due to the resources and time required to properly work through the issues involved in synthesising different scales and approaches. It was, in addition, genuinely difficult to generate novel frameworks which required researchers to move far outside their normal disciplinary 'home' or which really challenged accepted academic divisions of labour.

New problems

Another way to think about interdisciplinarity is as a response to the emergence of new problems. Elena Rockhill discussed her work following the efforts of a group of scientists working on new issues concerning the relation between genetics research and the idea of 'public health'. Technological developments challenge established definitions of 'public health', for example, moving away from treatment and into areas such as the genetic propensity to various health problems and (perhaps) into genetic manipulation to avoid such problems. This brings with it a number of concerns over the role genetics should play within society and is an example of a new field opening up new possibilities for interdisciplinary enquiry. Practitioners don't yet know what 'public health genetics' might look like, and so a number of possibilities exist in shaping it over the coming years, with notions of 'public interest' and a technological shift from germs to genetics intersecting.

In cases such as this, the efforts of individual researchers can be seen as entrepreneurial activity, where new opportunities are identified and research agendas can be shaped to suit their own interests. Interdisciplinarity can be seen as a result of the combination of knowledge and approaches from a range of locations, to suit and direct such emerging agendas.

In both of these examples, the specific issue in question seems to demand some form of interdisciplinary synthesis. This is also true for the Rural Economy Land Use programme (RELU). The difference is that RELU represents a deliberate attempt to connect issues of public to scientific interests, with the intention of informing government policy. The programme is also explicitly interdisciplinary, only funding proposals and projects that involve researchers from a range of environmental, physical and social sciences. At present about £6 million of funding is distributed across 30 different disciplines. This effort stems, in part, from a particular moment in history.   In the wake of problems such as foot and mouth disease, science policy appears to be using interdisciplinarity as a means of demonstrating real-world relevance and of responding to public concern about the risks of analysing scientific problems out of context.   The view that social and institutional dimensions should be considered as part and parcel of the programme exemplifies this concern.

Essentially, the RELU programme represents an attempt to set a fresh agenda for research across the spectrum of rural priorities through demonstrating that physical and environmental research is closely connected to the wider societal and policy issues. The programme is intended to take a lead in key areas of agricultural, rural and environmental research. Themes set out in the programme literature include consideration of changes faced by rural areas, the implications of agricultural methods for the environment and how to re-configure agricultural practice to mitigate negative environmental impacts. One of the problems the programme hopes to avoid is the bolting-on of social science components to predominantly natural scientific research as an 'end of pipe' afterthought. Instead, the aim is that societal implications and concerns figure as a core component of research in this area. The programme specification makes reference to a wide range of stakeholders and 'users', from agricultural corporations to various forms of public participation, suggesting that social science can help give voice to the views and interests of different sectors of the population.

Although it is an important part of RELU's mission, the mechanics of connecting the social to the natural sciences in this way is somewhat problematic. Social scientists involved in RELU projects tend to be economists rather than qualitatively oriented researchers. The example of geography and international relations described above

suggests that some disciplines are more open to interdisciplinary research than others, and that some disciplines, for example, environmental and natural science and economics are easer to connect or combine in a meaningful or coherent way than others.

The RELU programme seems like an attempt to promote interdisciplinarity, and to foster links between different disciplines: directing research funding so as to encourage a joined-up approach to social, rural and environmental problems. This might seem to be a somewhat top-down approach. On the other hand, the themes set out in the programme's call for proposals are broad enough to allow teams of researchers to pursue their own interests and to develop their own theoretical and methodological approaches.

This observation introduced further discussion of how research agendas like those set out in calls for proposals issued by programmes such as RELU intersect with the ambitions and goals of the individual research projects of which programmes are ultimately made. While programmes have significant funds to distribute and while they can attach conditions like those of interdisciplinarity, they are not necessarily able to control the ways in which themes and challenges are in fact addressed.

In addition, there is considerable debate about the substance of interdisciplinary research. There is a good deal of rhetoric from researchers and research funders about the benefits of interdisciplinarity and its importance in addressing real world problems, but the actual contributions of such approaches over and above other alternatives is less clear. All of the above examples reflect and illustrate and the increasing importance that research funders attribute to involving a variety of stakeholders in academic research. If non-academics participate in shaping research questions, how are they involved (if at all) in evaluating the resulting programmes of work?

This was a question raised several times in the course of the workshop. Do differences in language, methods, institutions and conceptual frameworks make it especially difficult to determine the quality of interdisciplinary research and are new methods and structures required? The RELU programme is, for instance, developing its own interdisciplinary peer review process, but Harriet's experience with the Cities and Climate Change project suggests that there are real challenges in producing research that meets the diverse criteria of multiple disciplinary audiences.

To return to the opening question, is interdisciplinary research required to address complex real world problems? For the most part, workshop participants went along with the conventional rhetoric, agreeing that multiple paradigms and perspectives are indeed useful. On the other hand, the very framing of real world arrangements as problems is, itself, an act of intellectual commitment and as such an expression of a certain kind of classificatory, if not disciplinary orientation.

Theme 2: Disciplines and interdisciplinarity

Whereas disciplinary structures are embedded in the institutions, practices and expectations of the academic world, there is no equivalent 'home' or framework for interdisciplinary enquiry. This section of the report discusses the relation between disciplines (as organisational forms) and interdisciplinary fields or areas of enquiry.

Paul Wouters reviewed the development of science and technology studies (STS) as (possibly) an interdisciplinary field closely related to a set of practical and political

concerns. The questions at the heart of STS have to do with the role of science in society – how to avoid the dangers of science and how to utilise it to create or contribute to a better society?. STS inspired research is typically grounded in the empirical study of the production and use of science, and of interactions between science and society. These themes are not new and it can be argued that there is a cycle in which where similar issues crop up, fade away and then resurface. For instance in the 1960s in the UK a critique of the objectivity and persuasive power of scientific knowledge emerged. In the 1980s in the Netherlands STS was seen as a way to generate knowledge about science to inform policy, and today there is widespread understanding that scientific research needs to be evaluated in terms of its implications for society, provoked by crises such as that over the safety of GM foods. This suggests a connection between the research agendas of a field such as STS, and events and developments in wider society. Current preoccupations within STS, for example, with nano technology or genetics illustrate this tendency. Although this isn't surprising in research specifically oriented to informing policy, these experiences show how contemporary contexts influence research agendas more generally 'Hot topics' or fashionable substantive areas can be introduced into research agendas 'top-down' through research council priorities, (research councils, in turn, championing the interests of their 'users') or by other social groups and stakeholders affected by scientific knowledge but fashions only really take hold when they capture the attention of individual researchers.
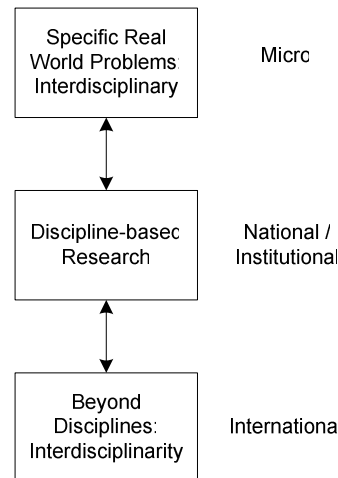
There are continual debates within STS about its status as a discipline or unified field. In this respect, local variation is important. For instance in the UK and US science policy research and STS research have been de-coupled, something that hasn't happened in the Netherlands. STS consequently has a number of histories, each resulting in competing accounts of where boundaries lie, how trajectories have unfolded and what constitutes core and peripheral territory within the field. Perhaps this is inevitable given its interdisciplinary nature. Some argue that interdisciplinary ferment, which boils up around new concerns and emerging problems, cools down over time and that with interdisciplinary fields eventually become disciplines. Continuing arguments about STS's status suggest this is not necessarily so.

It seems that the development of new approaches generally requires considerable effort. A balance has to be struck between isolation to allow this development, and engagement with (or positioning against, or complication by) other ideas and approaches (to allow further development).

This balance is central to Michael Kuhn's analysis of international interdisciplinary research. He heads an EU funded research project and describes the approach he takes as necessarily interdisciplinary. He argues that disciplines structure knowledge in specific ways, using contrasting methodologies, conceptual frameworks, language and practices, and that this structuring makes commensurability between disciplines a problem. Agreeing with Paul's position outlined above, he also identified national differences within the same discipline, partly derived from the national characteristics of disciplinary institutions such as universities, research councils (or research guilds, as he calls them collectively) and other academic organisations. In addition the status of specific disciplines varies between countries, the relatively poor status of sociology in the US being one example. This means that research questions are grounded in nationally specific versions of a discipline. Whether guiding frameworks of disciplinary orientation limit or expand possibilities for further research and knowledge, disciplines undoubtedly structure discourse between academics in different societies. Although international forums for research exist, for instance through international journals, these rarely have much power or influence beyond the discipline to which they relate.

Interdisciplinary research potentially bypasses ensuing problems of national incommensurability, side-stepping national differences and organising knowledge production in new ways.

Fig. 2. Interdisciplinarity and knowledge structures

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┌─────────────────┐
│ Specific Real   │
│ World Problems  │      Micro
│ Interdisciplinary│
└─────────────────┘
        ↕
┌─────────────────┐
│ Discipline-based │     National /
│ Research         │     Institutional
└─────────────────┘
        ↕
┌─────────────────┐
│ Beyond          │
│ Disciplines:    │     International
│ Interdisciplinarity│
└─────────────────┘
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This model again positions interdisciplinarity as a response to a specific problem, in this case the need to produce research and new knowledge than can travel across national and disciplinary boundaries, and that can help shape and define new research agendas. In some of the examples above, interdisciplinary research is problematic as it doesn't fit with disciplinary structures, and hence suffers from problems of marginalisation and limited diffusion. The view developed here is that interdisciplinarity is in fact a response to or reaction against this 'problem' of the confines of disciplinary thinking.

Because of the difficulties of producing knowledge, or following research agendas which are interdisciplinary and / or international in nature, Michael argued that new knowledge 'fragments' produced through this sort of research need to be protected. Otherwise, they risk being shoe-horned back into existing disciplinary knowledge structures, which by implication reduce or denigrate challenging insights in order to make them fit with existing knowledge. If such fragments manage to avoid being locked back into disciplinary knowledge frameworks, they may indeed disrupt disciplines, and challenge nation-based research agendas. Even where that is the case, there is still the problem of how these fragments might join together. For example, might collections of relatively free-floating interdisciplinary research agendas intersect to form more than the sum of their separate parts, perhaps fusing to constitute a coherent interdisciplinary field organised and embedded in new, post-national disciplines and institutions?

There is more that could be said about the idea that disciplinary structures inhibit interdisciplinary exchange (see for example, our first workshop on disciplines and in particular, Andrew Abbott's work on the *Chaos of Disciplines*). In the last part of this report we consider the part that non-academic interests play in eroding and reinforcing disciplinary divisions.

Theme 3: Institutions and interdisciplinarity

Berg is a publisher initially specialising in anthropology and history and more recently moving into a range of interdisciplinary areas including leisure studies, fashion, material culture and the body.

As Kathryn Earle explained, the market for academic publishing (particularly of books) is structured by courses, students, teachers and disciplines. Since this is how much of the academic business is organised, operating effectively in interdisciplinary fields is a matter of balancing the extra effort required to make and reach a scattered market and the potentially greater reward of reaching more than one sector with the same product.

One risk is that interdisciplinary work will not be viewed as a priority given that it is, by definition, not central to any one discipline. The positioning of Berg's new journal, 'Home Cultures' was initially unclear. Was the title 'really' about design? Or social anthropology? Or architecture? Library budgets are always tight, and it was important to find a disciplinary location for this essentially interdisciplinary journal. One discipline or another had to be persuaded to say 'yes' - Home Cultures is a core journal for us. By adding a subtitle – 'the journal of architecture, design and space' - Berg pointed the publication more strongly towards architecture. It is still too early to judge the success of this strategy.

Kathryn used another example, this time of a book, 'Making Doctors', an ethnographic study of medical practice undertaken by a medically trained anthropologist. This interdisciplinary (medical-anthropological) volume was initially hard to sell, particularly to the medical market. However, reviews in British Medical Journal and the Lancet had the instant effect of positioning it within this field and of dramatically increasing sales.

The story of Berg's most successful journal, 'Fashion Theory' illustrates another possible pathway. Fashion Theory initially struggled to find a home, but began to make inroads into fashion colleges, most of these being institutions at the edge of academia but keen to move in that direction. Having established a foothold in this 'marginal' territory, the journal gradually acquired wider recognition. Interestingly, the authors of papers published in the journal tend to come from traditional disciplinary backgrounds..

All three stories suggest that Berg, the publisher, is located within and sometimes caught between uneven and asymmetric networks of consumers and producers, as illustrated in the figures below. The first represents the challenges involved in promoting an interdisciplinary book to a range of discipline bound markets.

Fig 3: Interdisciplinarity to disciplinary market

Interdisciplinary Book

Publisher

Multiple, Discipline-based Markets
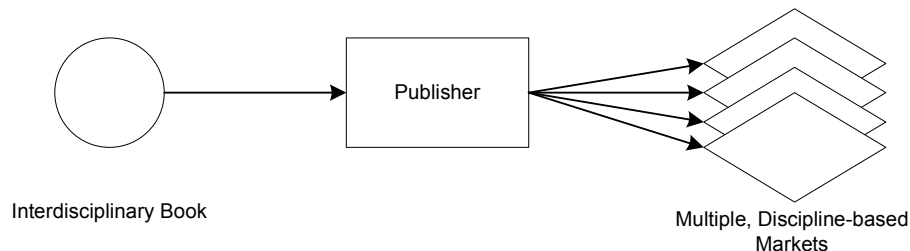
As described above, selling interdisciplinary wares presents distinctive challenges in terms of positioning and of reaching beyond predominantly discipline based lists of potential customers.

Fig 4: Disciplinary research to interdisciplinary niche

Discipline-based Papers   Interdisciplinary Niche
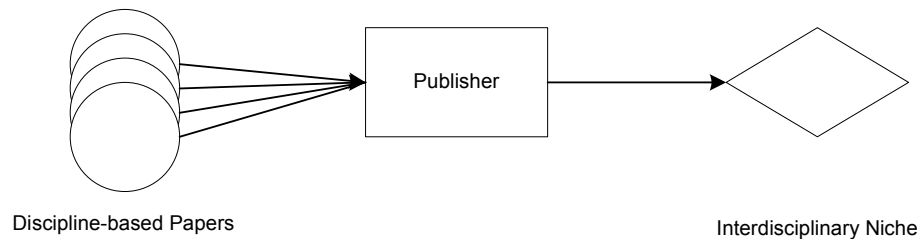
In other cases, (for example, Fashion Theory), the publisher draws together multiple disciplinary contributions thereby producing an interdisciplinary project of immediate interest to an interdisciplinary 'niche' in the academic landscape (e.g. schools of fashion). One important point to notice here is that fashion schools are readily identifiable - it is easy to find lists and databases. This is not so with other disciplinary fields, hence the problems experienced by the initially 'homeless' journal of Home Cultures.

The final presentation by Elizabeth Shove, reviewed the goals and ambitions of some of those involved in designing the 'new' university campuses of the 1960s. The universities of Sussex, York, East Anglia, Essex, Lancaster, Kent and Warwick – were planned at a time when interaction between disciplines was believed to be particularly important. York University's development plan shows that the campus and the structure of the academic programme were deliberately designed to encourage students and academics from different disciplines to meet, mingle and exchange ideas.

Science facilities were surrounded by arts or social science departments in support of the view that "the university must be a meeting place… each specialisation must be enriched by the greatest possible contact with others" (York development plan). Physical layout was just one element in an integrated strategy in which timetabling (including obligatory cross-campus walking) and the structuring of undergraduate degrees (such that combinations of minor subjects were studied alongside the major discipline in ways that again allowed new combinations of natural science, arts, humanities and social science) also played a part.

These strategies constitute an overtly 'top down' effort to facilitate interdisciplinary exchange in order to promote novelty and fresh thinking, and minimise the risk of over-specialisation. Current plans to extend the York campus echo these ambitions of the 1960s for the goal is to produce a new complex of buildings and departments which "will pioneer closer collaboration between arts and sciences, reflecting the realignment of fields of study" (ref to web site)

Whether the 1960s universities have in fact generated more, or more novel and effective, forms of interdisciplinary enquiry than other more traditional institutions is an empirical question. It is, however, interesting to see that careful design of the

physical infrastructure is still seen as a means of organising or influencing the intellectual landscape.

Emerging issues:

For this final section, we though we would just draw out the issues and themes which emerged from workshop discussions.

a) real world problems are already structured (if they are to count as problems) so the rhetoric of needing interdisciplinary work in order to address them is somewhat hollow.
b) Interdisciplinary research agendas require disciplines and vice versa
c) There are different institutional forms or homes in which disciplinary and interdisciplinary research agendas develop and are more and less deliberately nourished and/or starved
d) Research agendas, projects and problems maybe figure as conduits for the exchange of ideas between disciplines (to take us back to the discipline discussion).
e) There are enduring and possibly necessary tensions between the production and consumption of disciplinary and interdisciplinary research