

Observation

Thinking across the divide: perspectives on the conversations between physical and human geography

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Introduction

This paper reports on a meeting which was held at the RGS/IBG annual conference in London in September 2003, where we aimed to investigate and debate some of the ways in which human and physical geography could (and should?) reopen a dialogue. This conference session was timely for three reasons. First, whilst human geography has a long tradition of engaging in philosophical discussion, physical geographers have been rather more reluctant to examine ontological and epistemological issues. However, there have been a number of recent interventions by physical geographers which have attempted to formulate coherent philosophies for geomorphology (e.g. Richards *et al.* 1997; Harrison 2001) and it seemed appropriate to attempt to widen this debate. Second, human and physical geographers have begun to discuss the linkages between the two sub-disciplines (e.g. Massey 2000; Lane 2001) and this coincided with two workshops at the RGS in 2000 and 2001 where physical and human geographers debated the opportunities for further integration and conversations. Third, the

concept of Earth System Science has found a central role in the reformulation of physical geography, and stresses the links between physical, biological and social systems to investigate large-scale issues such as climate change. Such an approach stresses large-scale modelling and explanations in which linkages across the disciplines are developed. In addition, we used this session and this paper to flag up the debate which continued at the 2004 RGS-IGU in Glasgow.

As a result, we brought together four different voices from physical and human geography and anthropology in order to initiate a debate on the ways in which closer disciplinary links can be fostered. This paper allows each of the four speakers to outline their arguments, and closes with a summary of the debate which followed.

When we were planning this session, our opening 'position statement' read:

Can geography hold together as a discipline? What is it that holds it together? At a time when so many 'issues' cross the divide between physical and human sciences, geography could (should) be playing a leading role.

As will be evident from the papers which follow, these questions can be approached in a whole variety of ways. We have proposals for foci around which the discipline might cohere, reflections on our differences, and also on the cultural and institutional constraints which hold us back, and examples and proposals of where we have worked, and might yet work, together.

Some ethical grounds for an integrated geography

Keith Richards

Although there have been explorations of ethical issues in geography, particularly in the geography of development (for example, Smith 2000), these have not paid particular attention to the implications for geography as a whole. This is in spite of a burgeoning literature in environmental ethics. Thus, it seems to me both valuable and potentially important to explore how there could be ethical grounds for maintaining strong connections between the environmental and social aspects of the subject (see Richards 2003). One might argue, indeed, that geographers have a moral obligation to sustain integration of their subject, given threats to sustainability that are invariably about indissoluble connections between humans and the E/earth on which they live. The rhetoric of research funding priorities is today about global change and sustainability, but it is the duty of geographers continually to emphasize that communities in different places experience very unequal effects as a result of global environmental and economic changes; and that sustainability cannot be understood without proper scientific (*sensu lato*) enquiry into *both* environment and society.

If there are such obligations for geographers, they will challenge assumptions about the ethical standing of humans and nature. Ethical claims to human 'rights' can often only be sustained if the rights can be linked to universal obligations (O'Neill 1997); the right not to be harmed must match an obligation not to inflict harm. The question as to whether this extends to 'nature' – not just animals, but also ecosystems and biodiversity – immediately seems to lead to anthropocentrism, since only rational human beings are conventionally assumed able to discharge obligations. Then, of course, it is a matter for society to construct institutional and regulatory frameworks to make and impose judgements about what levels of damage and harm are unacceptable.

However, the risk is that powerful groups can decide to release one another from their wider obligations and ignore the need to act in ways that sustain both nature and humans (Baxter 1999). Perhaps, in order to provide a framework within which to analyse this ethical dilemma, we can take the social constructivist view to its logical conclusion and accept that human needs cannot be given ethical priority. Furthermore, we must somehow rise to the challenge of recognizing real ethical value in nature itself, and perhaps this may be found to lie in the structures of relatedness captured by the ecosystem concept. Our use of the ecosystem metaphor may, however, have paid insufficient attention to the nature and meaning of the mutualisms and adaptations that have evolved between the species *within* ecosystems (at whatever scales they are defined), and that constitute sets of obligations of a kind. Equally, we may have exploited this characteristic of mutualism insufficiently in applying the metaphor to structures involving humans. There may, accordingly, be a case for developing a richer, more challenging form of human ecology than has been practised to date.

At some scales, and for some societies, it can be relatively straightforward to demonstrate cases where both society and environment are closely related, and where destruction of their relatedness constitutes an immoral act damaging to both. For instance, the risk of a powerful group failing to meet its wider obligations may be seen in the failure of the USA to sign the Kyoto Protocol. However complex the issue of climate change may be (and therefore subject to ongoing technical debate), this is a failure to adopt a precautionary approach to the continuing process of anthropogenic change. Having recognized that climate change is a trans-boundary problem requiring international institutions to effect regulation, it is evidently unethical to withdraw from that process because of domestic pressures. Whilst the 'victims' may remain invisible, there is a moral imperative to respond, for example, to the fact that inhabitants of small Pacific island states are already close to the limits of existence because of the correlated effects of sea level rise. The processes of environmental change are in this case global in scale, but we can see that global processes impact on local communities and destroy their evolved relationships on timescales that prevent a measured response and adaptation.

Unethical approaches to the relationship between society and environment, at a variety of scales, have

implications for institutional and regulatory frameworks. Both are cases where geographical analysis of the ethics of managing sustainable change in that relationship can be envisaged. This offers geography a chance to respond to the now often expressed need for inter-disciplinarity, by promoting its own intra-disciplinary, integrated analysis, and by adopting a stance which is both critical and ethical in relation to debates about sustainability and global change.

Perspectives from a physical geographer

Francis J Magilligan

There has been considerable evolution in physical geography in the past several decades that has, in many ways, distanced it from human geography, although strong methodological and intellectual links still exist between these two components of the discipline. As Massey (2000) perceptively noted several years ago, physical geographers like to carry the imprimatur of 'science', and as such are often saddled with 'physics envy'. That self-branding of physical geographers as scientists may be sheep in lion's clothing or it may be real. In many ways that reverence for physics is real and has become even more prominent in the past decade as geomorphology has moved towards earth systems science, with its attendant focus on 'first principles' based landscape modelling (Dietrich *et al.* 1993; Tucker *et al.* 2002; Snyder *et al.* 2003) and the emergence of sophisticated geochemical techniques for dating landscapes (Heimsath *et al.* 1999) and fingerprinting sediment (Bonniwell *et al.* 1999). As these methodological shifts occur within the physical sciences, physical geography faces an important crossroad. By necessity, physical geographers are becoming progressively more aware of these emerging trends, and the question is not whether they have physics envy, but whether they are willing to be physics compliant. There is a great fear that if physical geographers ignore the 'physics turn' they will marginalize themselves into irrelevancy. As geomorphology becomes more physics and geochemically based, it may have several important outcomes for physical geographers. It may serve to further distance physical geography from human geography; it may require greater intellectual interaction between the two sub-disciplines as physical geographers get distanced from the more first principles based geomorphology; or it may force physical geographers to re-think their roles and contribution to the physical sciences.

Similarly, the reconfiguration of geomorphology as a component of earth systems science may have less to do with emerging trends and may represent more the trade-off between knowledge production and the construction of knowledge.

Links to human geography

The links to human geography may exist on two levels. On the one hand, it should be noted that strong intellectual and methodological links already exist between these two sub-disciplines. Similarly, there may be ways that physical geographers can contribute theoretically and conceptually to human geography. For example, scale has very much been the domain of both human geographers and physical geographers (Bendix 1994; Marston 2000; Sneddon *et al.* 2002), although social and cultural geographers are moving beyond the actual physical characterization of scale. Geomorphologists have long linked space with time, especially as it relates to changes over scale. In Schumm and Lichty's (1965) seminal piece on space-time, they showed how different components of the landscape that vary across spatial scale (from the channel cross-section up to the watershed) can shift status from a time-dependent to a time-independent variable depending on the timescale. That framing of space-time has been orchestrated as well in conceptualizing synoptic-scale climatic systems (Hirschboeck 1987) and in the articulation of cause and effect analyses of climate change (McDowell *et al.* 1990). Although physical geographers deal with the vastness of geologic time, their articulation of space-time may have important extensions to human geography, for example, in conceptualizing diasporas as they vary across spatial scales from the nation-state to the body.

In particular, physical geographers are becoming progressively more engaged by issues of contingency, relativism and critical determinism (Phillips 1999a 1999b 1999c). Whilst we can argue that the questioning of deterministic processes has long been in the domain of human geography (Cosgrove and Jackson 1987; Dear 1988), physical geographers are not immune, nor oppositional, to these conceptualizations.

Science, knowledge production and physical geography

There has always been some questioning of how scientific physical geography truly is, and the positioning of, and by, physical geographers as

scientists has served to distance them from their contemporaries in human geography (Massey 1999). Even though some geologists have questioned the association of physical geography and science (Baker 1988), the measure (or mis-measure) of certain disciplines as truly scientific can be both problematic and contested. In an attempt to characterize 'science envy' vis-à-vis knowledge production, Stephen Jay Gould constructs an interesting paradox. When envisioning the discipline that is most associated as the paragon of true science, it is usually physics that gets accorded the gatekeeper of scientific knowledge production. Yet when considering the understanding of Earth history, it has been geology – not physics – that has contributed more to that overall understanding (Gould 1988). Not only is it geology that has contributed overwhelmingly to that comprehension of Earth history, but it has been essentially stratigraphy that has been the most fundamental. Stratigraphy, like many components of field-based geomorphology and physical geography, is perhaps one of the most interpretative and least 'law based' of scientific approaches (unless one wants to call the Law of Superposition truly a 'Law'). So for many in physical geography, the object of study (the exposure, the outcrop, or the soil core) is somewhat removed from 'first principles' approaches, but as Gould argues, its scientific merits can greatly outweigh its distance from physics or first principles. Principles of gravity, mass and energy govern sediment entrainment and deposition, but for most physical geographers, the focus is less on determining (or unravelling) the physical laws, and more on analysing broader questions such as climate change or the effects of anthropogenic disturbance on landscape components.

Future directions

The focus on interpretation does not imply that physical geography be distanced from science. Similarly, the realization that physical geography operates within the bounds of interpretation may be one arena that spawns an important dialogue between human and physical geographers. We can argue that science as law building and universalizing tends to ignore (or at least diminish) the particularities of place, while alternative approaches are more inclined to accept that time, place and context may provide important explanations that may limit the direct formulation or application of universal laws. Boundary conditions do matter and previous events also control and explain the state of the

system (cf. Magilligan *et al.* 1998). The awareness of issues of contingency and interpretation may be an important nexus for human and physical geography and may be a fruitful future research trajectory. Other areas of overlap are also apparent. Both physical geography and human geography have mutual interests in understanding the impact of human agency, and unravelling the role of human activity is an area of concern of each of the sub-disciplines. Furthermore, as the nature–culture debate rages in the new cultural geography, there may be important spaces in this debate where physical geographers may offer important voices, especially in discourses of environmental management where collaborative approaches of human and physical geographers may have important synergistic effects. Determining what constitutes 'natural' is not only scientifically problematic, but is also contingent on the constellation of historical, political and cultural norms and demands inter-disciplinary perspectives.

Physical geographers are on the precipice of an important historical juncture. As they have distanced themselves from human geography through the imprimatur of science, physical geographers may be experiencing a similar distancing as the physics turn occurs in earth systems science. If they aren't careful, they may find themselves intellectually detached from both human geography and from earth systems science. However, even if they do indeed take the physics turn, they should not neglect the important ontological and epistemological links with human geography and the wealth of important questions remaining.

Double geography

Nigel Thrift

I have been asked to talk rather more narrowly on the institutional constraints that eat up any possible rapport between human and physical geography. Since I have encountered these on a fairly regular basis in various different arenas, this is not difficult to do.

There are many constraints, of course, which are mainly the result of the fact that physical and human geography are premised on different and probably diverging models of what knowledge production is. Three differences come to mind.

First, human and physical geography are based in different knowledge-producing infrastructures. Physical geographers face towards a highly interdisciplinary environment, and are rewarded for publishing

in key journals which are generally outwith geography *per se*. Human geographers exist in a highly interdisciplinary environment but generally publish in a very narrow range of geography journals (though, not unnaturally, they like to think differently) (Thrift 2002).

Second, physical geography is premised on the idea, held by most scientists in my experience, that 'human' factors are simply another set of variables which are part of a strict scientific division of labour. So, for example, in a climate change model, there will be a series of linked sub-models contributing to climate change (ocean, atmosphere, ice, etc.) and all that human stuff is just another sub-model. Not surprisingly, human geographers tend to bridle at this kind of thinking, since it seems to them to

- 1 provide them with a pre-assigned role,
- 2 implicitly downgrade the human impact and
- 3 very often assume a similar methodology which can bring quantitative inputs to the larger model.

They therefore feel diminished, or even hostile.

Third, there are generally big differences in the money available. Though money from the ESRC and other relevant funders is now getting quite generous and there are numerous examples of social science research entrepreneurs with a grant income of, say £250 000 per annum, still these may be small amounts by the standard of many physical scientists. And for physical scientists money is not incidental. It reflects a quite different professional life and career pattern: the progression from PhD to postdoctoral fellow to leader of a research group demands continuous grant-getting in order to fund other researchers and pay for new and often specialized laboratories: money and doing science are often very closely intertwined.

My sense is that if cooperation is to be achieved between physical and human geography there would need to be a commitment to working together which I have rarely found in practice in geography departments. That working together would have to come from a period of sustained interaction which had the avowed intent of producing joint work and that interaction would have to follow a set of principles, as follows:

- An agreement to foster mutual respect for each other's work which went beyond simply acknowledging its presence and in to reading seriously in each other's areas.
- An agreement to go beyond searching out the obvious areas of overlap (e.g. environment, quantitative models, GIS) and in to the areas which are at the cutting edge of each part of the discipline. This is absolutely necessary because currently I think that the nearer the two parts of the subject get together, the more problematic the resulting joint work becomes in terms of how it is regarded by both camps. In other words, there is a real danger that the two parts of the subject may meet on 'second-best' ground.
- An agreement to attempt to publish in each other's premier outlets and not on familiar ground, recognizing the time and effort that would be needed and the inevitable frustrations and disappointments.

I think that these things might be possible, but they will be very difficult too: almost everything currently militates against them. But, having said all this, it seems clear to me that something does need to be done to produce a stronger narrative of the discipline, not just in intellectual but also in institutional terms. For example, Vice-Chancellors are often very suspicious of geography because it does not produce a strong narrative of itself. And this narrative matters to them. At the margins, when they have two departments whose future they are considering, they will pick the one they can understand, the one that can represent itself as itself.

So what can be done? I think there are four main options to hand.

- 1 Effectively give up. Conclude that geography consists of two disciplines with large numbers of post-disciplinary connections and maximize the quality of both.
- 2 Find issues rather like emergence or materiality or various problems in evolution which are based on common theoretical problems which can spin out into both sides of the discipline and produce a common foothold and a force which the discipline can point to. Organize research initiatives and even institutes around them.
- 3 Produce an infrastructure which rewards movement across the boundaries. I would have thought that the RGS/IBG was particularly ideally placed to start to realize this infrastructure by producing Fellowships and Programmes which promoted such an agenda.
- 4 Reach out to and cooperate more with disciplines which have their own versions of these dilemmas.

I am thinking here especially of the biological sciences and, of course, anthropology.

Perspectives from an anthropologist

Barbara Bender

We all know that the divides between disciplines are extraordinarily arbitrary. Many were put in place in the late nineteenth/early twentieth century as adjuncts to the spread and institutionalization of university education.

Things are no different now: political, social and economic relationships, historical particularities continue to create and colour disciplinary definitions, and one could easily make a case that many of the divisions between *and* within disciplines are arbitrary and inappropriate. You could also argue that it is by no means just the *theoretical* fissures that create the problems: it is questions of funding differentials, of external perceptions of 'worth'; it is the way students vote with their feet and fill some lecture-halls and not others. These things erode communality and sociality within departments. And so, rather than co-existing uneasily, intra-departmental divorces occur – in the States several of the archaeology/anthropology departments have split up, often the hard-nosed processual/scientific crowd going one way, the 'soft' cultural crew going the other.

I have strong doubts about the wisdom of such divorces. Knowledge/theoretical understandings are always in process and flux. If I had been asked about disciplinary boundaries ten or fifteen years ago, I'd have said that because of the huge increase in information and the ever-advancing technologies of retrieval, there would have to be more rather than less disciplinary boundedness – *more* specialization. But it hasn't worked that way. New sub-fields have emerged – landscape, heritage, tourism to name a few – but, often, they've emerged *within* departments and have worked quite successfully across the divides. It seems to me that the older disciplines are quite capacious, and if institutions, academics, review panels, funding bodies and all the rest are prepared to be flexible, it would be much better *not* to erect more barriers. Moreover, and more specifically, we *know* that the divide between the physical and the cultural (whether in geography or anthropology) *is* an arbitrary one. Most of us accept that nature/nurture, nature/culture etc. are not *sensible* oppositions. We know that 'science' is not politically, or in any other way, neutral. We know it has to be contextualized. I believe quite

strongly that rather than taking off in different directions we should allow time, should create spaces, tolerate difference, build bridges *within and between* disciplines. We know, though we sometimes seem to forget, that both theoretically and practically the world is an *untidy* place, that things are rarely truly oppositional, that life is much more a question of *and/and* than *either/or*.

A project undertaken recently by a group of anthropologists and archaeologists has some bearing on the question of divides. The project revolved around a well-preserved Bronze Age settlement on Bodmin Moor in Cornwall, complete with field enclosures, burial mounds, 'ritual' circles and a stone row. The idea was to look at the *prehistoric* landscape – through survey and excavation – and to consider, as well, *our* contemporary landscapes. We also examined our work practices, our work scapes.

The archaeologists excavated; the anthropologists surveyed. Here we have the first rather bizarre divide. It seemed that the archaeologists' task was to use their science to the best of their ability to retrieve as much and as variable evidence of human occupation and land-use. The anthropologists, on the other hand, appeared to have a much more open brief. One of the directors, Chris Tilley, is a leading exponent of a phenomenological approach to landscape; an approach that understands that people create a sense of place through movement, through attachment, through wrapping stories and memories around places, through using not just the visual but all the senses. The anthropologists' job was to survey the hill as a way towards understanding the prehistoric people's engagement with the stone world in which they lived. Not just how they got by, but how they understood the world they lived in.

We kept diaries and these were used to reflect upon the ways in which the two groups, one *seemingly* more scientific, one *seemingly* more inclined to theoretical speculation, carried out their work. And what, of course, emerged through a deconstruction of diaries, interviews and so on was that, to understand how and why the archaeologists went about their 'scientific' business, you had to acknowledge the *history* of the discipline, the way in which a series of practices had, over the last 150 years been assembled and modified, had to understand the hierarchies of knowledge and status involved, the economics, the time constraints, the institutional politics. We had to recognize that the (changing) practices were informed by theoretical questions, themselves historically and contextually

peculiar, and that there was – as always – an intimate give and take between questions asked and the material evidence. In other words, the archaeological practice was as theoretically, politically, economically nuanced as the work of the more seemingly abstracted anthropologists. And then, turning attention to the anthropologists, it turned out that their ways of surveying were every bit as bound up in well-honed but also dialogic ways of recording. The difference was far more one of perception than of reality.

In the course of the project work it became very clear that the distinctions that had all too often been made by prehistorians between a more mundane everyday life of making a living and getting by, and a 'ritual' sphere of activity associated with stone row, stone circle, burial mounds etc. were *our contemporary* divisions. These Bronze Age people, living a hard life on the moors based around herd animals, lived in a world in which the stones were *animate*. The great tabular outcrops on the top of the hill and its slopes must have been understood to be the work of the ancestral beings, or the ancestors. We found endless examples of how the stones were being selected and used in any number of different contexts. In the end we began to feel that *everything* had been touched, moved, altered. We knew, or thought we knew, some of the rudiments of soil and rock formation but we began to lose our nerve. And so we called in the 'scientists' – the geomorphologists (Stephan Harrison and Ed Anderson). At first, they, using all the tricks of their trade, saw the hill as a perfect playground of periglacial activity. And then, quite soon, they began to hesitate. Things that we had thought were 'cultural' they said were 'natural'; others, *huge* boulders that we assumed *had* to be natural, they pronounced: 'definitely moved'. We were vindicated, though not always in quite the ways we had originally thought. And they went away wondering about the way that science can blinker inquiry – the way in which assumptions/expectations continue in vogue even when 'the evidence' suggests something quite else.

Not, in itself a spectacular example, but surely one that emphasizes that we do better if we keep disciplinary divides to a minimum and keep talking across them.

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The debate

These papers were presented to a crowded room, and the subsequent discussion was as diverse as the papers.

A recurring thread concerned both institutional constraints and our own behaviour within these constraints. There was much talk of the problem of funding structures, for instance, and of the various ways in which the very imagination we have of the academic community perpetuates our separateness. In university departments we advertise for human or physical geographers, and we produce this either/or structure too, with undergraduates having to choose fairly early on in their careers. Questions were raised, too, about individuals' desires to retain a defined professional identity, and the consequent inability to take risks.

Yet against this frequently expressed negative assessment of the possibilities, others spoke of the need for geography to prosper as an integrated discipline, for both institutional and, more importantly, social and intellectual reasons. It was also argued that shifts both in science and in the nature of some of the 'big issues' society faces mean that this is in fact a moment of opportunity for geography. The meeting closed with a number of proposals:

- 1 that the Research Councils are now more open to such integrated work and that advantage should be taken of that;
- 2 that the RGS-IBG might take some lead here, perhaps through its own funding processes; and
- 3 that there should be a session at the IGU-IBG in Glasgow in 2004.

The proposal for this last was that, instead of talking about getting together, we should highlight and explore work which already does 'think across the divide' and open up conversations.

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