This special issue of *GeoForum* is based on a sub-set of the papers delivered at a session that took place during the RGS-IBG Annual Conference held in Glasgow in 2004 (itself part of the IGC meeting that year). The theme – *Conversations across the Divide* – has a history outlined briefly in Harrison et al. (2004). Prior to 2003, a small group of physical and human geographers began to meet in the RGS in London to have entirely informal discussions about the “divide” between the two sides of the subject, to explore whether this was more rhetorical than real, born more of language differences and prejudices than intellectual differences, and capable of being bridged by various forms of enlightened thinking and open debate. These discussions became more widespread in a session on *Thinking across the divide*, at the 2003 Annual conference in London reported by Harrison et al. (2004). The Glasgow conference then saw the session on *Conversations across the divide*, and in 2005 there was a deliberate attempt to avoid reference to the divide, and to focus on a conceptual issue – *Complexity and emergence* – that could be addressed in complementary ways by both human and physical geographers (Harrison et al., 2006). These sessions have continued, and in 2006 adopted an open format led by André Roy (Université de Montréal) talking on *Turbulence as metaphor* as part of a session on *Representation and Uncertainty*.

The session in 2004 was based on the premise that conversations within Geography are increasingly necessary, since there are frequent calls for contemporary issues to be analysed from inter-disciplinary perspectives, and there is a risk that these by-pass Geography. Sometimes, this is likely to be for purely arbitrary reasons – for instance when funded research is based on the requirement for the collaboration between members of different Departments. However, it is also because Geography has itself been slow to take advantage of this opportunity to proselytise and exploit its own inherent intra-disciplinarity. It is clear that there cannot be a compromise to the needs for rigorous and innovative research in the “physical” and the “human” – or indeed, other – geographies that might be involved in such internal collaboration. However, if other disciplines are willing to combine forces and take these intellectual risks, Geography needs to learn its capacity for this kind of work, and to find research questions for which there is true academic focus on both sides of the “divide”, and not a reliance on vernacular knowledge and language in the one, while the focus is academic in the other (cf Johnston, 1986). Do Geographers wish to rise to this intellectual challenge?

The purpose of the “conversation” presented in this special issue is to suggest that they do so wish, and can indeed rise; and to explore some of the opportunities offered by the intra- and inter-disciplinarity that is possible, by considering some potentially appropriate conceptual frameworks, methods, and research questions; by illustrating some successful collaborative engagements “across the divide”; but also by confronting some of the barriers that must be overcome in order to make possible more, intellectually-rewarding collaborations. Opportunities have been provided by the UK Research Councils, in the NERC/ESRC Inter-disciplinary Research Studentship scheme, joint Research Council research programmes such as Rural Economy and Land Use (RELU), and in the ESRC Trans-disciplinary Seminars, and some of the papers will draw on the experience of working within these contexts.

The first paper, by Lau and Pasquini (2008), does indeed highlight some of the constraints surrounding collaborative inter-disciplinary research, as seen from the perspective of two researchers without backgrounds in Geography working in a Department of Geography. They highlight the lack of a common identity amongst Geographers, and the lack of a common language. The latter point was well illustrated in the conference in 2004 by Bracken and Oughton (2006), who discussed the considerable difficulties in developing an inter-disciplinary research project for the RELU programme, as a result of complete non-congruence in the meanings attached to terms by collaborating researchers with different backgrounds, and their completely different framing of questions. Nevertheless, they show that intensive, open and respectful conversation can overcome these challenges and result in new levels of creativity as research ideas conforming to the ideal of inter-disciplinarity emerge.

Confronted with the evidence that there are deeply embedded barriers to successful conversations across
putative divides, it is helpful to consider whether there are emergent theoretical frameworks that can help to diminish the resistance these barriers present. Gandy (2008) does an excellent job of showing that “the shift towards dynamic and heterogeneous conceptions of bio-physical systems enables a much more substantive degree of epistemological dialogue with the social and historical sciences”, thereby reducing the strength of the pre-existing boundary with the natural sciences. He argues that the key question for inter- and intra-disciplinary research is “one of articulating the interrelationships between different fields of knowledge so that scientific explanation can incorporate different insights to produce a coherent and mutually intelligible body of knowledge”, while at the same time he is at pains to identify limits to philosophical naturalism. Thornes (2008) then provides a demonstration of how this may work in practice, by drawing on what he terms a “visual turn”, to bring together climatology and art history for a variety of purposes both affective and scientific.

One of the issues that needs to be addressed in order to enhance the capacity for effective inter- and intra-disciplinary research is that of appropriate training of geographers at all levels. There follow some illustrations of this. Hoey and Philo (2004), in fact, showed in a fascinating presentation during the conference how this could be achieved at undergraduate level, largely through the destabilising tactic of having a physical geographer contribute in large measure to an ideas and methods course. This helps to dissolve the common shibboleth; an erstwhile positivist seems quite comfortable with cultural theory (and a cultural theorist with scientific method). Evans and Randalls (2008) provide some insights into the life of a postgraduate student wrestling with the demands of the kind of topic supported by the joint NERC/ESRS inter-disciplinary research student-scheme, and the manner in which training at this level is undertaken. And finally, since it is evident that life-long learning is a necessity in the unpredictable world of inter-disciplinarity, Petts et al. (2008) address the role of the ESRC Trans-Disciplinary Seminars as a valuable framework within which boundaries may be negotiated and crossed with mutual agreement.

The remaining papers in this set are intended as exemplars of inter- and intra-disciplinary research involving transgressions of the boundary between the physical/environmental and the human/social sciences. The first two examine the intellectual boundary between the social and the natural but with quite different conclusions. Hamilton et al. (2008) present a case study in which a geomorphologist, an archaeologist and an anthropologist examine a Cornish hillslope and find that the intermingling of haphazardly-deposited boulders, emplaced both by periglacial slope processes and as cultural artefacts, makes the exercise of discipline-based interpretation hazardous, challenging, but ultimately enriching because it forces the necessity for examination at a range of scales and by a variety of methods in order to produce convincing conclusions. This is an interesting finding, as some critics of inter-disciplinary research argue that it leads to second-rate research in the participant subjects; this paper suggests that the need to defend a disciplinary view against challenge from an allied discipline can strengthen research, as well as enriching the range of interpretation. Part of the difficulty confronted by Hamilton et al. arises because of the inherent uncertainties of landscape origins. A different kind of uncertainty provides another opportunity for inter-disciplinarity for Pollard et al. (2008). They consider the research opportunities presented by the creation of a weather derivatives market, the purpose of which is to ameliorate financial losses in business arising from weather variations (but not extremes), and which demand a combination of economic, cultural and meteorological knowledges for commercial gain. This new field provides opportunities for geographers, of both the theoretical and applied kind.

The final group of papers also offer exemplars, but of a different kind. Three of them are papers which discuss applications of agent-based models (ABMs) to a variety of geographical problems. Bithell et al. (2008) discuss a range of potential applications, while Macmillan and Huang (2008) and Wainwright (2008) consider the use of these models to explore, respectively, land use patterning in idealised landscapes, and land cover changes and land degradation associated with prehistoric land occupation. Models in general, and ABMs in particular, present an interesting case for cross-boundary work both within and beyond Geography. Given the critiques in human geography of quantitative, positivist, and model-based research (cf. Barnes, 2004), it may seem improbable that modelling could offer any grounds for collaboration across the divide. However, Bithell et al. argue that ABMs demand that micro-scale behavioural research is undertaken to permit the identification of the sets of rules needed to govern the actions of individual agents in an ABM, and this requires that qualitative social research is undertaken in close conjunction with the development and application of computational representations of macro-scale interactions amongst multiple agents.

During the 2004 conference, it was evident that the (entirely unplanned and fortuitous) combination of these three contributions on a modelling approach to human systems that has had relatively little impact in Geography was a source of some controversy. However, it seemed healthy to expose and debate these differences of opinion. On the one hand, for example, it was valuable to be able to present a picture of contemporary modelling to destabilise long-held assumptions about these methods, which in relation to complex and unbounded systems is essentially exploratory, designed to aid understanding and expose uncertainty, and used for sensitivity analysis and scenario evaluation rather than to make deterministic prediction. On the other hand, it was challenging to modellers to have to confront the resistance to some underlying ontological assumptions, and the risks considered to lie in the mere creation of modelling frameworks, which by their existence and particularly through their use in applied and policy environments, may be used to justify high degrees of interventionism which can be legitimated by the arbitrary selection of particular
favoured model outputs. In addition, of course, the modellers themselves were able to debate in public and before a sceptical audience a range of technical questions, about underlying assumptions, choice of representation, questions of validation of model structure, internal coding and “empirical” results, all of which underscore the often subjective and non-deterministic nature of the modelling enterprise. To this end, therefore, one participant in the conference, Nick Clifford, was asked to join and conclude this conversation about modelling, and to critique the group of ABM papers both individually and as representatives of a class of potentially boundary-crossing approaches in geographical research. This is the final paper in the collection.

We hope that presenting this set of papers, and their context, to a wider audience, and exposing our interest in conversations of this kind, will help to encourage others to re-examine the potential of Geography to address some of the important questions that are currently leading to calls for inter-disciplinarity, but to do so by promoting an intra-disciplinary approach.

References


Macmillan, W., He Qing Huang, 2008. An agent-based modelling approach to the study of the interplay between the physical environment and societal development. Geoforum, this volume, submitted for publication.


