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‘It starts with Einstein. He shows that measurement – measurement, on which the whole possibility of science depends – measurement is not an impersonal event that occurs with impartial universality. It’s a human act, carried out from a specific point of view in time and space from one particular viewpoint of a possible observer. Then, here in Copenhagen in those three years in the mid-twenties we discover that there is no precisely determinable objective universe. That the universe exists only as a series of approximations. Only within the limits determined by our relationship with it. Only through the understanding lodged inside the human head.’¹

The following collection of papers has its origins in discussions amongst postgraduates in the Department of Geography at the University of Durham, UK. Margaret Pasquini, whose disciplinary origins are in ecology and who was engaged in doctoral work that spanned the binary between physical and human geography, had shared concerns with Lisa Lau, whose first two degrees in English were preparation for a PhD in cultural geography. They were intrigued that it was the social sciences that provided the common ground where natural scientists, social scientists, and non-scientists could all meet. Geography gave them a forum and a language with which to talk to each other. Their informal survey of colleagues and staff in a number of cognate departments raised questions about recent developments in research in the social and natural sciences.

There seems to be general recognition that many of the most interesting and challenging intellectual debates lie at interfaces between disciplines, and opportunities are increasingly opening up that allow these debates to be progressed in a practical sense. In the UK there have been joint funding initiatives between the Economic and Social Research Council, the Natural Environment Research Council, and the Biotechnology and Biological Sciences Research Council that encourage natural and social scientists to interact, the most recent of which is the Rural Economy and Land Use Programme, commencing as I write in November 2003. Within the social sciences, and to a certain extent also the humanities, there is a degree of ontological and epistemological commonality at present that facilitates cross-disciplinary exchanges in the intellectual sense, but also the migration of academics between disciplines, often to take advantage of opportunities opened up by the planning cycle of the Research Assessment Exercise. In addition, the restructuring of university faculties and departments has thrown disciplines together and, despite the fact that many of these unions are shotgun marriages, closer contact often means the dissolving of boundaries that were historically more administrative than intellectual.

Four of the contributors to this collection (Lau, Pasquini, Galmiche-Tejeda, Gunasekera) moved to geography at postgraduate level from other disciplinary backgrounds. They felt challenged at times about their disciplinary ‘home’, at the same time as taking a professional pride in the hybrid vigour and innovative nature of their own interdisciplinary research. It seemed logical for them to write about these issues and to encourage others to do so and, in sharing this collection of articles with a mainly scientific audience, we hope to raise issues that will be of general interest. We try to present our thoughts in an accessible form in the hope of generating some debate with scientists about their own experiences of interdisciplinarity and positionality.

‘Interdisciplinarity’ is in our view a matter of obvious practical everyday concern in the academy, and we wish to argue that ‘positionality’ should be also. Simply put, positionality takes account of the risk that the objectivist neutrality of any observer of human behaviour may in reality be skewed by their personal characteristics (race, class, ideology) and by their relationships with their subjects of observation. The subtle negotiation of power between observer and observed is material in the nature, quantity, and quality of the data retrieved, and, at the very least, it is therefore incumbent upon researchers to reflect on their own position in the process of research. The development of a wide range of qualitative techniques of enquiry has, in recent years, facilitated work that is reflexive without becoming self-centred.²

There is more to positionality than such claims to ‘common sense’. Some writers have suggested that there are technologies that are inherently power laden and are therefore potentially sensitive for both researchers and society at large. One such is Geographical Information Systems, the spatial database and mapping methodology. With a number of coworkers, I have argued that GIS has hitherto been applied, particularly in less economically developed countries, without regard to the position of the ‘expert’.³ It was Jürgen Habermas who argued that knowledge is constitutive of the interests it serves,⁴ and it seems incontrovertible that GIS has so far served the interests of an urban based, formally educated, instrumentally orientated elite. Although we argued for appropriate GIS training curricula and for ‘participatory GIS’ in the field, the technology has proved in the main to be non-inclusive. The exclusion of poor, rural people from GIS has been matched, in the opinion of Mei-Po Kwan,⁵ by its user unfriendliness for women, and no doubt for other groups too. Fortunately Kwan identifies a positive path to ‘feminist GIS practices’, and deeper consideration of the positionality of the GIS expert can dilute the dangers, as we have shown at Durham on our Master’s programme ‘Geographical Information for Development’. Lisa Lau’s paper on cyberspace in this collection is an important corrective to such naive and counterproductive uses of information technologies. She reminds us that knowledge is both partial and situated, a vital consideration in the virtual environment of the internet, which has enabled a greater fluidity of positionality and identity than hitherto. Her investigation is of a particular internet chat forum, and draws conclusions about the double edged nature of the technology. The rapid dissemination of ideas on the worldwide web is welcome, but the problem of positionality raises concerns for all of us about concealment and camouflage. There are lessons here for science, although Lau’s own background is not scientific.

In a joint paper, Lau and Margaret Pasquini investigate the interconnection between positionality and interdisciplinary research, and then Pasquini in collaboration with Oluwashola Olaniyan presents a case study on positionality, drawing upon their experience of cross-cultural, cross-disciplinary fieldwork. Apart from the disciplinary diaspora of their origins, it is worth mentioning that Lau is a Malaysian of ethnically Chinese origin studying South Asian literature and Pasquini is of Anglo-Italian parentage, working in Nigeria. Olaniyan is a Yoruba zoologist. As the reader will now understand, the sheer diversity of our origins and academic positions demands some discussion of our perspectives and our presently convergent interests. This we try to do in the papers that follow.

Paul Sillitoe is a professor and the present Head of the Department of Anthropology at the University of Durham. He holds degrees in agricultural sciences and anthropology, and much of his fieldwork in Papua New Guinea and Bangladesh has been undertaken from an interdisciplinary point of view. His paper focuses on the historical, theoretical, and conceptual background of interdisciplinarity. Angel Galmiche-Tejeda is a Mexican biologist

who did his geography PhD at Durham. He argues that the fish farmers with whom he has worked in Tabasco are more interdisciplinary in their outlook than the professionals who advise them. This creates tensions in the process of projects because doing development is rarely as holistic as the farmers would wish. Finally, Rashmin Gunasekera is British, of Singhalese ethnic origin. His PhD on seismology was based on fieldwork in France and California. Since leaving the Department of Geological Sciences at Durham he has been based in Cambridge, and his paper addresses an example of an Environmental Impact Assessment in that city employing GIS as an interdisciplinary tool. GIS not only assists in site selection of a municipal facility but also evaluates the acceptability of mitigation measures.

We welcome the chance to publish in a journal with ‘interdisciplinary’ in its title. I wish to thank Lisa Lau and Margaret Pasquini, who initiated this collection and were responsible for inviting contributions. Jonathan Rigg was generous with his time and wise counsel, and I am grateful to the Editor, Howard Cattermole, for his patience and practical advice.

Notes and literature cited

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