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**Working Together**

# 'Knowledge Once Divided Can Be Hard to Put Together Again':
## An Epistemological Critique of Collaborative and Team-Based Research Practices

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**ABSTRACT**

This article critically examines team and collaborative research as an 'academic mode of production'. Our main argument is that while *theoretically* qualitative social science research is rooted within a postfoundational epistemological paradigm, normative team-based research *practices* embody foundational principles. Team research relies on a division of labour that creates divisions and hierarchies of knowledge, particularly between researchers who gather embodied and contextual knowledge 'in the field' and those who produce textual knowledge 'in the office'. We argue that a theoretical commitment to a postfoundational epistemology demands that we translate this into concrete research *practices* that rely on concerted team-based *relations* rather than *divisions* of labour, and a reflexive research practice that strives to involve all team members in all aspects of knowledge construction processes.

**KEY WORDS**

collaboration / contextual knowledge / divisions of knowledge / divisions of labour / embodied knowledge / epistemology / reflexivity / research teams / textual knowledge

'The positivist dream of an epistemological state of perfect innocence papers over the fact that the crucial difference is not between a science that effects a construction and one that does not, but between a science that does this without knowing it and one that, being aware of work of construction, strives to discover and master as completely as possible the nature of its inevitable acts of construction and the equally inevitable effects those acts produce.' (Bourdieu et al., 1999: 608)

## Collaborative and Team Research as an Academic Mode of Production

Contemporary research models and practices within the social sciences are increasingly characterized by the use of teams of researchers (Hafernik et al., 1997; Presser, 1980; Woods et al., 2000). Although teams and collaborations have long been a feature of social science research (Erickson and Stull, 1998; Gottlieb, 1995; Kennedy, 1995; Rogers-Dillon, 2005), there is a growing trend and increasing pressure towards undertaking ever-larger research projects, which are inter- or multi-disciplinary, multi-institution, multi-site and international, and involve managing complex research teams (Hey, 2001; Mountz et al., 2003; Ritchie and Rigano, 2007).[2] This trend has been fuelled by factors related to funding mechanisms, career incentives, government rewards for increased productivity, the maturation of disciplines, increased complexity and scale of research, and ease of travel and information technology (Katz and Martin, 1997; Mitteness and Barker, 2004).

Despite this trend, there has been little discussion about the relationship between collaborative research, as an 'academic mode of production' (Stanley, 1990: 4), and the knowledge that it produces. With some exceptions (e.g. Dominelli and Hoogvelt, 1996; Gottlieb, 1995; Hey, 2001; Katz and Martin, 1997; Kennedy, 1995; Platt, 1976; Wilson, 1998; Woods et al., 2000), the social science community has been mostly unreflexive and uncritical in its adoption of team-based research models and practices, and there appears to be an unspoken assumption that team research is 'better' than solo research. As Fox and Faver (1984: 349) suggest:

> The separation of tasks and the joining of specialisations may enable collaborators to increase their efficiency and enhance the overall quality of their work since groups of persons may be able to handle research problems faster and more easily than single scientists.

The scientific benefits of collaborative research are largely taken for granted by the social science community. This failure to interrogate team research as a mode of knowledge production reflects foundational ways of thinking and a positivist assumption that methods of practising research are 'innocent' (Law, 2004: 143) and separate from theoretical and philosophical considerations (Alvesson and Skoldberg, 2000; Mauthner and Doucet, 2003; Stanley and Wise, 1993). As Law (2004: 152) suggests, 'the practicalities of knowing are

bracketed and treated as techniques'. Bourdieu also argues that 'the construction of the object' is 'no doubt the most crucial research operation and yet the most completely ignored, especially by the dominant tradition, organized as it is around the opposition between "theory" and "methodology"' (Bourdieu and Wacquant, 1992: 224; see also Stanley, 1990:12).

Postfoundational thinking, on the other hand, recognizes that research methods and practices are performative in that they help to generate the realities that we study (Bourdieu et al., 1991; Law, 2004). For many social scientists engaged in empirical research, this reflexivity has come to be focused upon the individual researcher and a 'continuing mode of self-analysis' (Callaway, 1992: 33). However, as Bourdieu has argued, a reflexive social science and research practice must concern itself not only with the individual scholar but with 'scientific *practice*' more generally and the 'epistemological unconscious' and social organization of the discipline and field (Bourdieu and Wacquant, 1992: 41). Bourdieu's theory of reflexivity demands close examination of our practices and how they are carried out, and of the knowledge claims which implicitly underpin them. Bourdieu views what he terms this 'epistemic reflexivity' as a '*requirement and form of sociological work*'. It is 'an epistemological program in action for social science' (Bourdieu and Wacquant, 1992: 38) designed to '*buttress the epistemological security of sociology*' (p. 6) and 'strengthen its epistemological moorings' (p. 46) by 'increasing the scope and solidity of social scientific knowledge' (p. 7).

The aim of our article is to engage in Bourdieu's epistemological form of 'epistemic reflexivity' by critically examining collective and normative team-based research relationships and *practices* as ways of constructing knowledge. Our article makes four key arguments. First, we argue that normative divisions of labour within qualitative social science research teams give rise to divisions of knowledge and hierarchies of knowledge production. Second, we maintain that, for social scientists working within a postfoundational tradition that recognizes the located specificity of knowledge production, divisions of knowledge may require reflexive research practices to 'put knowledge together'. Third, we note the limited extent of such reflexivity by highlighting how team-based research and knowledge construction practices, in separating data collection from its analysis, tend to decontextualize knowledge and privilege textual over embodied knowledge. Fourth, we argue that a theoretical commitment to a postfoundational epistemology demands that we translate this into concrete research *practices* by rethinking the divisions of labour that are becoming increasingly normative within team-based research as currently practised within British and North American sociology and anthropology.

At the outset, we wish to qualify our argument with five important points that recur in the article. First, there is a critical gap in our understanding of academic collaborative processes, making it difficult to ascertain exactly what goes on in practice within teams. Second, while there is likely to be a continuum of varied, complex and messy team practices, a reading of contemporary qualitative social science publications points to a growing trend towards the normative

team-based research practices and divisions of labour highlighted in this article. The full extent of this trend, however, is an empirical question that requires examination. Third, we stress that our objections are not with collaborative and team research per se, but rather with the normative ways in which it is increasingly being *practised* by many social scientists. Fourth, our intention is to highlight the epistemological and political assumptions that are *built into* such practices and that may compromise the epistemological, scientific, political and professional integrity of our scholarship; and to suggest that collaborative processes and practices require greater reflexive attention from team researchers and from the social science community more generally. Fifth, we recognize that conditions external and internal to research teams can constrain the possibilities and practices of collaborative research.

## Divisions of Labour within Collaborative and Team Research

A key intellectual and practical rationale for collaborative research is that it allows research labour to be shared amongst team members. However, knowledge about the precise ways in which team researchers divide and distribute labour is limited as this aspect of research projects is rarely explicated (Platt, 1976), let alone reported on. Typically, research accounts provide little insight into *how* researchers go about doing research and constructing knowledge *in practice* and *as a team*. There are exceptions where scholars have illustrated collective and reflexive team approaches to fieldwork, data analysis and writing, and debated team processes more generally including practical, professional, intellectual and political opportunities and constraints of team research, and tensions between individual and collective pressures and interests (e.g. Barry et al., 1999; Bell, 1977; Easterby-Smith and Malina, 1999; Finch and Mason, 1990; Gottlieb, 1995; Kennedy, 1995; Mauthner and Edwards, 2007; Olesen et al., 1994; Pirie, 1997; Wasser and Bresler, 1996; Woods et al., 2000). These methodological contributions are unusual, however, and tend to be published separately from the main outputs of a study.

Moreover, social science guidelines on research conduct issued by professional associations (e.g. British Sociological Association) and funding agencies (e.g. Economic and Social Research Council) scarcely address collaborative relations and practices other than the issue of authorship and a brief mention of power relationships within research teams. Similarly, social science journals do not require authors to detail divisions of labour within research teams. In contrast, science journals such as *Nature* have recently adopted a policy of encouraging authors to include 'a statement to specify the contributions of each co-author … describing the [research] tasks of individual authors'.[3]

The available social science literature suggests that collaborative research can take different forms (Katz and Martin, 1997) and that divisions of labour vary across research teams depending on the nature of the research, size of the project, structure and organization of the team, and researchers involved

(Mitteness and Barker, 2004; Platt, 1976). Divisions of labour can also change over the course of a project (Bell, 1977). Notwithstanding such variation, an increasingly normative division of labour is emerging within qualitative social science research teams in Britain and elsewhere whereby researchers take on *different*, rather than the *same*, research labour, tasks and responsibilities (Bell, 1977; Easterby-Smith and Malina, 1999; Hey, 2001; Hobson et al., 2005; Platt, 1976; Porter, 1994; Reay, 1999, 2000). Typically, different 'types' of researcher (e.g. contract researchers vs. grant holders)[4] are responsible for *different* types of academic labour (e.g. political, administrative, managerial, intellectual, physical and emotional) and carry out *different* research tasks (e.g. research design, literature review, data collection, data analysis and writing).

Grant holders are under pressure to manage growing numbers of ever-larger concurrent projects and spend much of their time on the political, administrative, managerial and emotional labour associated with running research projects, liaising with external agencies and managing research relationships 'in the office' (Mauthner and Edwards, 2007: 168). This leaves them with less time to engage with the conduct of research on any given project, and their role is increasingly one of 'research manager' rather than 'creative scholar' (Mauthner and Edwards, 2007; see also Mitteness and Barker, 2004). Their intellectual contributions tend to be more strategic, and their participation in fieldwork is often limited (Porter, 1994; Reay, 2000; but see Finch and Mason, 1990). The extent of their involvement in data analysis varies from being minimal (e.g. Reay, 2000), to partial (e.g. Barry et al., 1999), to being fully involved in a collective process with all team members (e.g. Olesen et al., 1994; Wasser and Bresler, 1996).

In contrast, contract researchers spend much of their time working on a single project, while in some cases simultaneously working up another research application. They may have administrative responsibilities in terms of the day-to-day running of the project, and informal management responsibility for more junior researchers and/or support staff. The majority of their time, however, is devoted to the everyday elements of the research process, particularly the management of research relationships 'in the field'. Generally, the researchers will organize and conduct most of the fieldwork, including emotional and practical labour associated with it. Depending on their skills, abilities and confidence, they may be involved in carrying out literature reviews, analysing the data, and writing and disseminating outputs.

## Divisions of Knowledge within Research Teams

Divisions of labour as currently practised generate 'divisions of knowledge' (Platt, 1976). Researchers bring different personal and academic backgrounds to the research, and their differential involvement in research tasks generates different types and levels of knowledge. Each researcher develops a project-related knowledge base that is partial and that reflects their particular 'position in [the] production unit' (Roth, 1966: 191; see also Platt, 1976).

Collaborative research is highly valued precisely for its ability to bring together multiple researchers with distinctive and specialist perspectives to tackle large or complex research problems. From the pluralistic stance of postmodern and postfoundational epistemologies, the bringing together of multiple researchers is seen to give team research an epistemological edge over solo research. But the question remains as to how these viewpoints are integrated *in practice*. As Platt (1976: 90) has argued, 'Knowledge once divided can be hard to put together again.' Yet the 'putting together' of multiple perspectives in the construction of knowledge has been largely taken for granted and unproblematized by social scientists (see Wasser and Bresler, 1996: 5).

From a foundational perspective, putting knowledge together again may not present epistemological challenges. Knowledge and meaning are seen to be 'out there', intrinsic properties of the data, separate and independent of the knower and knowing process. It may be epistemologically straightforward to break knowledge down into its constituent parts, and have one set of researchers collect these parts while another set puts them together again. But within a postfoundational tradition, 'meaning … does not cover the world but is immanent in the contexts of people's pragmatic engagements with its constituents' (Ingold, 2000: 154). Knowledge is 'inextricably bound to the contexts and rationales of the researcher' (Altheide and Johnson, 1994: 487). It is created by using the 'mindful *body of the analyst*' as 'an indispensable tool for research' (Wacquant, 2005: 466). If knowledge is produced through located, embodied and specific subjectivities, contexts and relations, 'putting knowledge together' entails reflexive research practices that recognize and articulate such contexts and specificities, and use them as sources of knowledge in their own right. To what extent do team researchers engage in these reflexive practices? In order to address this question, we critically examine normative team-based knowledge construction processes and practices through which field-based knowledge is turned into academic knowledge.

## The Decontextualization of Knowledge within Research Teams

Standard practice within social science research is to condense realities into textual forms: to reduce fieldwork and interviews with respondents to text in the shape of transcripts. Interviews are conducted and recorded in the field by a researcher, and typically sent off for transcription by a member of staff other than the one who carried out the interview. In this process, much of the context that gives meaning to the textual transcript, and that the interviewer would be aware of, is lost. As Bourdieu et al. (1999: 622) suggest:

> … everything that came up in the interview – which cannot be reduced to what is actually recorded on the tape recorder … tends to be stripped away by writing … everything that often gives the real meaning and the real interest.

The nuances of language and 'all the nonverbal signs, coordinated with the verbal ones, which indicate either how a given utterance is to be interpreted or how it has been interpreted by the speaker' (Bourdieu et al., 1999: 610) are eroded.

The limited published literature suggests that these interview transcripts generally constitute the main, often only, form of data that is circulated and analysed within the team. Interviewers seldom provide detailed oral or written debriefings on each interview (Erickson and Stull, 1998; but see Bohannan, 1981). Where notes are taken they may serve more as personal 'aide memoirs' than detailed accounts about the context of each interview. Textual data are extracted from the fieldwork contexts which gave rise to them: from the *specificity* of the fieldworker and of their encounter with the respondent; and from the broader knowledge that the field-based researcher who conducted the interview acquired through physically *being* in the field.

Furthermore, practice suggests that, despite being part of a team, many researchers work in individualistic ways such that 'the project may in effect become a federation rather than a unified whole' (Platt, 1976: 90). While there are some excellent examples of teams working in collective, synergistic and reflexive ways in developing knowledge (e.g. Barry et al., 1999; Erickson and Stull, 1998; Finch and Mason, 1990; Olesen et al., 1994; Wasser and Bresler, 1996), much team research is characterized by solitary practices with researchers tackling tasks on an individual basis. It is rare for team researchers to come together systematically as an interpretive community where the multiple, situated and distinctive subjectivities and perspectives of the researchers, including those who conducted fieldwork, are exchanged in an 'interpretive zone' (Wasser and Bresler, 1996: 6). Rather, there is a tendency to decontextualize, reduce and objectify fieldwork into textual transcripts, with researchers engaging in limited explicit reflexive processes to 'put back in' and take into account the contexts, subjectivities and research relationships through which these texts and knowledge are produced and made meaningful.

## The Separation of Data Collection and Data Interpretation

In cases where contract researchers analyse the data they collected (e.g. Reay, 2000) and are involved in writing up publications (e.g. Easterby-Smith and Malina, 1999) they have recourse to a 'bodily memory of fieldwork' (Okely, 1992: 16; see also Bourdieu, 1977). More typically, however, contract researchers collect data and may be involved in the initial interpretation by 'coding' the data thematically. The final interpretive work and moulding of the data into theoretical knowledge is often done by lead researchers or grant holders (Erickson and Stull, 1998), who are required to make sense of textual data in the absence of much of the 'contextual, taken-for-granted, tacit knowledge' that plays a subtle but significant role in providing meaning (Altheide and Johnson, 1994: 493; see Bourdieu et al., 1999; Platt, 1976; Porter, 1994). Wax (1971: 266–7) explains:

> There were many times when I found sitting in the classrooms or driving many miles to call on Indian mothers so tiring and time-consuming that I was tempted to stay home and busy myself with 'analysing my materials' and letting the younger research assistants do the hard, dirty, and sometimes very depressing legwork. But

circumstances forced me to do much of the observation and quasi participation myself. When the time came to write our report, I was intensely grateful that I had done this, for there were all manner of statements and remarks in our field notes (and the fill-in interviews) that we would otherwise have been unable to understand. Somehow, by sitting in so many Indian homes … I, consciously or unconsciously, had picked up the cues that helped us to 'understand'. And we picked up these cues, not through introspection or by extrapolation from someone else's notes, but by remembering what we saw and listening to what we heard.

Senior members of a team may bring distinctive types of knowledge and a broader understanding of the intellectual and social context of the research, acquired through years of research experiences. But they may face particular constraints in generating meaningful interpretations and knowledge in the absence of field-based contextual and experiential understanding. For Wax these constraints were such that she advised: 'Do not make or let other people do your fieldwork' (1971: 266).

## Privileging Textual over Embodied Forms of Knowledge

One of our key epistemological objections to divisions of labour as currently practised is that they privilege textual over contextual knowledge, 'text beings' (Markham, 2004: 358) over embodied ones, and textually mediated over embodied research relationships as sources of knowledge. Knowledge that can be *objectified* in textual form takes precedence over the contextual and embodied knowledge surrounding the production of texts, which is acquired through physically *being* in the field. As Altheide and Johnson (1994: 496) point out, social scientists 'are taking it for granted – indeed, insisting – that text can be "read" through a series of interpretive procedures and decoding books, usually produced in the confines of academic offices or libraries'. Through their insistence on 'discursive' or 'textual' materials, these practices disown 'the eyes, ears, and skin through which we take in our intuitive perceptions' of the world (Scheper-Hughes, 1992: 28) and marginalize non textual, embodied and sensual knowledge which come to be viewed as 'background information' rather than as data or knowledge in their own right (see Mauthner et al., 1998).

However, scholars are increasingly highlighting how, *in practice*, our understanding of the world draws on a much broader 'ecology of knowing' (Altheide and Johnson, 1994: 496) than suggested by dominant textual approaches (e.g. Ingold, 2000). For example, in his advocacy for a 'carnal sociology', Wacquant (2005: 465) argues that 'standard modes of social inquiry typically purge from their accounts … the visceral quality of social life'. He writes:

Ethnographers are no different than the people they study: they are suffering beings of flesh and blood who, whether they acknowledge it or not, understand much of their topic 'by body' and then work, with varying degree of reflexive awareness and analytic success, to tap and translate what they have comprehended viscerally into the conceptual language of their scholarly discipline. (2005: 467)

## Hierarchies of Knowledge: Epistemology Meets Politics in Team Research

The research practices described above effectively assume and create 'hierarchies of knowledge' (Reay, 2000: 19) in which textual knowledge is regarded as more objective and accorded higher status than embodied and contextual knowledge, which is seen as more subjective. While, in theory, social scientists within a postfoundationalist tradition recognize that knowledge is tied to the contexts, conditions and relations of its production, in practice these are devalued and not drawn upon as sources of knowledge *in their own right*.

This epistemological contradiction stems in part from the *political* organization of research in that divisions of labour reflect and reinforce the differential status, value and worth of research tasks and of the researchers carrying them out (Mauthner and Edwards, 2007). As Platt (1976: 75) points out, 'there are high and low-status tasks as well as high and low-status people' (see also Reay, 2000: 15). In particular, the division of academic labour between grant holders and contract researchers becomes constituted as a 'mental/manual' one (McKenna, 1991: 125) in which fieldwork is downgraded to and trivialized as the mechanical '"collection of data" by a dehumanised machine' (Okely, 1992: 3), which is contrasted with 'the superior invention of theory' (Okely, 1992: 3; see also Hey, 2001). This division of labour gets translated into 'academic hierarchies of knowledge' (Reay, 2000: 19) in which '(d)istance is equated with objectivity' and 'understanding [is] acquired through a detached positioning as superior to that gained through conducting fieldwork' (2000: 16).

Fieldwork tends to be viewed as a technical activity that can be done by anyone, rather than an intellectual process in which meaning and knowledge are being shaped and created by subjective researchers. But to recognize fieldwork as a knowledge-producing activity means regarding contract researchers as intellectual partners equally engaged in the production and construction of knowledge, and as creative scholars drawing on their experiences of the world in 'crafting' knowledge. This entails a radical shift in power relations and dynamics within research teams (see Easterby-Smith and Malina, 1999; Olesen et al., 1994).

## The Craft of Research

Research teams are highly valued as ways of training the next generation of qualitative researchers (e.g. Rogers-Dillon, 2005; Salzman, 1986). But we need to question the kind of training research teams are providing in their current form. As Pirie (1997: 571) observes, 'One of the hallmarks of contract research in the present environment is its extreme functionalism'. Ritzer (1998: 41) has similarly commented that the production of sociological knowledge, particularly when involving teams of specialized researchers, has increasingly come to resemble an 'assembly-line process'. This functionalist and rationalized

approach is in danger of eroding the 'artistic creativity' (Ritzer, 1998: 44) and 'craft of research' (Bourdieu and Wacquant, 1992: 46; see also Bourdieu et al., 1999; Law, 2004; Mills, 1959; Seale, 2004). As Ingold (2000: 291) suggests, learning or passing on a 'skill' and 'craft' entails 'practical, 'hands-on' experience'. Bourdieu similarly writes:

> There is no manner of mastering the fundamental principles of a practice – the practice of scientific research is no exception here – than by practising it alongside a kind of guide or coach who provides assurance and reassurance, who sets an example and who corrects you by putting forth, *in situation*, precepts applied directly to the *particular case* at hand. (Bourdieu and Wacquant, 1992: 221)

Seale (2004: 418) has advocated an 'apprenticeship system, in which witnessing and reflecting on others' practice leads to their incorporation into their own studies'. Bourdieu further argues that:

> One can really supervise a research project … only on condition of actually *doing it* along *with* the researcher who is in charge of it … It is clear that under such conditions, one can supervise only a very small number of research projects and that those who pretend to supervise a large number of them do not really do what they claim they are doing. (Bourdieu and Wacquant, 1992: 222)

## Translating Theory into Practice: From Divisions of Labour to Relations of Labour in Research Teams

Theoretically, qualitative social science research is now firmly rooted within a postfoundational epistemological paradigm which rejects 'absolute foundations for knowledge' (Seale, 2004: 410). Knowledge is understood to be produced by a particular and situated researcher who is 'grounded as an actual person in a concrete setting' (Stanley, 1990: 12), and who produces knowledge claims that are 'partisan, partial, incomplete' (Altheide and Johnson, 1994: 487). 'Understanding and theorising are located and treated as material activities' where the 'act of knowing' is examined as the crucial determinant of 'what is known'' (Stanley, 1990: 12).

Commitment to a postfoundational epistemology and to a reflexive social science demands not only that we recognize the contexts of knowledge production, but also the 'subjectivities through which our research materials are produced' (Pink, 2004: 397), and the embodied and experiential ways in which we come to understand the world. It also requires that we *translate* this commitment into *concrete* methods of *practising* research. Yet critical examination of team-based practices suggests they are premised on foundational principles. These practices disembody knowledge and the knowledge production process, and render invisible the researchers, the *act(s)* and contexts of knowing, and the intersubjective construction of knowledge. They imply that meaning or knowledge can be 'collected' by one set of researchers, reduced to textual parcels of 'data' and later 'uncovered' by another set of researchers through the application of

analytic procedures. Constructing knowledge is reduced to a set of neutral procedures carried out by detached researchers using cognitive processes to act upon and put together external building blocks of raw, unmediated data that usually take textual form, and that are assumed to be independent of the conditions and relations of their production, and of the specific and individual researchers who 'collect' them, 'analyse' them, and 'write them up'. Even if in theory we explicitly distance ourselves from such assumptions, they nevertheless are *implicitly* built into the ways in which we *practise* our research. A reflexive social science requires that we continually and critically examine what Bourdieu terms this 'epistemological unconscious' (Bourdieu and Wacquant, 1992: 41) embedded in our research practices.

Some scholars may argue that the discrepancy between the epistemology of our theories and that which underpins our practices can be addressed by putting contextual knowledge and subjectivities 'back into' textual data. They may suggest that the knowledge that has been divided through the separation of data collection from its analysis can be 'put together again'. This can occur, for example, if field-based researchers provide more detailed field notes that recover more fully the contexts of knowledge production or if all team researchers engage in reflexive practices of routinely scheduled intellectual exchanges (e.g. Salzman, 1986). However, we maintain that there are more fundamental limitations on the extent to which contextual, tacit, embodied knowledge and multi-sensory field-based experiences can be articulated, recorded and exchanged in discursive form. As Okely (1992: 16) points out, 'We cannot write down the knowledge at the time of experiencing it' in the field and 'fieldnotes may be no more than a trigger for bodily and hitherto subconscious memories'. Wacquant similarly suggests that much of the knowledge that we acquire through our embodied practices is 'incarnate, sensuous, situated "knowing-how-to" that operates beneath the controls of discursive awareness and propositional reasoning' (2005: 466).

Recognizing embodied and pre-discursive elements of knowledge does not mean discounting discursive forms of knowledge and ways of knowing. But the distinctive feature of empirical research, in which data are collected in a physical field through embodied research relationships, is that it allows access to non-textual knowledge which can enhance our understanding of the phenomenon in question. We need to ensure that our research practices value and harness this knowledge in its own right alongside textual data and knowledge. Moreover, while field-based researchers may be able to record some elements of this knowledge and pass them on 'second-hand' to other researchers, this may always be second-best to a more relational division of labour in which all team members are involved in *all* aspects of knowledge production processes in reflexive, synergistic and collective ways.

It is important to recognize that the institutional, financial, political and cultural contexts of research may work against the kinds of collective and reflexive research practices we are advocating. Similarly, management structures and the micropolitics of research teams may constrain our abilities to implement team-based research that relies on principles of craftsmanship, and shared relations of

knowing between all researchers on the team (see Mauthner and Edwards, 2007). Moreover, it may be that for certain types of research, the practices we describe are 'fit for purpose'. While this may be the case, we nevertheless need to engage in a *reflexive* social science that acknowledges, recognizes and critically examines these conditions and constraints, and the ways in which they shape our knowledge construction practices, processes and products.

## Acknowledgements

## Notes

1  Platt (1976: 90).
2  The term 'collaboration' has been used in the context of academics working with each other, but also in the context of partnerships with non-academic actors. In this article we use the term to discuss research (rather than writing) partners, 'where the entire process of research, not just the product, results from the work of more than one person' (Mitteness and Barker, 2004: 282).
3  http://www.nature.com/nature/authors/gta/index.html
4  We draw a distinction between contract researchers, usually employed on short-term contracts to carry out mainly research activities, and lecturing staff employed on longer term contracts to undertake teaching and administrative duties in addition to research. Core research staff also tend to be employed on longer term research contracts. The terms 'grant holders' and 'research managers' are used interchangeably in this article to refer to lecturing and core research staff who tend to hold primary responsibility for research grants and projects.

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