Going out on a Limb: Postmodernism and Multiple Method Research

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Abstract

The article argues that 'moderate postmodernism' can in certain respects be reconciled with a methodological practice, triangulation, that is based on mainstream methodological foundations. A connection is made between moderate postmodernism and triangulation's orientation to multiple methods. The evolution of social science approaches to triangulation towards a position less concerned with convergent validation and more concerned with using multiple methods to create greater analytic density and conceptual richness facilitates a conciliation between postmodernism and triangulation. The argument is illustrated by contemporary empirical examples.

The familiar expression comprising the article's main title is sometimes represented by a cartoon image in which one character tries to escape the others by going up a tree and onto one of the branches. When they come up the tree the character decides to saw off the branch so the others cannot climb onto it. Unfortunately, since the character is still sitting on the branch, when it is sawn off the character promptly falls down into the arms of the pursuers. There are two ways in which this article is about going out on a limb. First, the expression is about going too far, a charge made against postmodernism. Second, the article goes out on a limb, because it argues that elements of the methodological position associated with (moderate) postmodernism can be reconciled with a methodological practice, 'triangulation' (or multi-method research), which is based on mainstream methodological foundations. That is, there may be common ground between two positions that are conventionally treated as antithetical. The 'common ground' is modest but could provide one pole of reconciliation to help sociology produce cumulative social knowledge.

There has always been a tension in multiple method research between the flexibility required to provide openings for the integration of multiple methods, and the impetus to lay down systematic procedures to effect such an integration with rigour. The case of the relationship between postmodernism and multiple method research helps us to recognize this tension. The canonical statement of triangulation was Campbell and Fiske's (1959) 'multi-trait, multi-method matrix', a highly systematic model whose components and procedures suggested a preoccupation with taming rather than exploiting the tendency of methods in combination to produce incommensurate, puzzling or contradictory findings. To equally overdraw the case, whereas postmodernism has often been received as a nihilism that

implies that, in the absence of agreed epistemological standards, anything goes, its epistemology can alternatively be read as erecting such stringent standards for demonstrable, agreed knowledge that 'nothing goes', where 'nothing' means 'conventional methodology'. Both the characterization of triangulation and of postmodernism are further discussed later. For now the point is that at an epistemological and a procedural level, both positions make play with conceptions of flexibility and systematicity.

This article argues that the relationship of multiple method research and postmodernism illustrates that it is possible to have rigour without rigidity. It suggests that moderate postmodernism and methodological triangulation come together in their common emphasis on the value of documenting multiple perspectives. Incorporating elements of postmodernist perspectives in mixed method research can help researchers engage with the complexity of social phenomena, and the engagement of postmodernists with mixed method research can encourage a recognition that some of the epistemological concerns highlighted by postmodernism are thoughtfully negotiated by mainstream sociology.

While extreme formulations of postmodernism repudiate the notion of method, moderate variants do orientate to empirical work, and indeed postmodernism is particularly associated with methods such as deconstructionism. Extreme postmodernism may simply paralyse enquiry, but 'affirmative postmodernism' is not necessarily averse to cumulative knowledge (Rosenau, 1992). It has deep doubts about methodological assumptions but does not regard them as insuperable, and in fields like the sociologies of technology and of everyday life, postmodernist work builds on previous postmodernist and non-postmodernist work (Wakeford, 2004). In that postmodernist perspectives increasingly inform empirical research, it is worth considering means by which such work might contribute to collective sociological endeavour.

It is not intended to address all of postmodernism's tenets or concerns, but to explore how postmodernism's analytic organization around a decentred subject may inform a methodological posture of valuing multiple perspectives. Insofar as it does, there is a connection with mainstream thinking in respect of multiple method research. To indicate the space such a connection occupies, a comment on rationales for multiple method research is required. Early rationales were cast in terms of 'triangulation', a term suggesting the precision and fixity associated with land surveying that has proven elusive in sociology.

Social science triangulation was originally developed in the context of psychology (Campbell and Fiske, 1959) and is prominent in the theory of method associated with post-positivism (Campbell and Russo, 1999). Its premise was that validity, understood as agreement in the outcomes of more than one independent measurement procedure, was enhanced relative to studies employing a single procedure. The approach requires that there are realities that exist independently of the observer, that have stable properties that can be measured and that can be related together as the

basis of internally consistent explanations of social phenomena. Such tenets provide a necessary basis for triangulation because it seeks to relate findings from different methods, and to do this it assumes that variations in findings arise from the phenomenon or the particularities of the methods being combined rather than methods haphazardly producing different findings on different occasions, or there being no predictable consistencies in how given methods work. The latter is especially important in the convergent validation approach to triangulation, as it is premised on the combined methods having different and distinctive biases; if methods are susceptible to the same biases, combining them may simply multiply error (Fielding and Fielding, 1986). It is in this sense that Levins' (1966: 423) declaration that 'our truth is the intersection of independent lies' is so apt.

Thus, the doctrine of convergent validation requires agreement of results from diverse but systematic uses of methods, data sources, theories and investigators (Denzin, 1989). An abiding criticism of this approach is that triangulation cannot be a validation strategy where different ontological and epistemological assumptions underpin the methods in combination (Blaikie, 1991). Combining methods or drawing on different data sources only enhance validity where each is associated with cognate ontological and epistemological perspectives. Post-positivists have diluted the original doctrine of convergent validation, sidestepping the ontological/epistemological critique with the argument that datasets are open to interpretation from a range of theories. Another response to the critique is that combining different methodologies and interpretations does not necessarily enhance validity but can extend the scope and depth of understanding (Denzin and Lincoln, 2000; Fielding and Fielding, 1986; Fielding and Schreier, 2001). Such a position informs the present argument.

Postmodernism and Interpretive Adequacy

Postmodernism is a contested school of thought. Rosenau (1992: 15) differentiates two broad orientations, the 'sceptical' postmodernists, who assert the 'impossibility of truth', and the 'affirmative' postmodernists. The 'affirmative' postmodernist has a more positive worldview, an orientation to process, and 'a philosophical and ontological practice that is nondogmatic, tentative, and nonideological' (Rosenau, 1992: 16). While the sceptical postmodernists hold as a central tenet the death of the subject (as in the subject/object distinction), 'affirmatives' believe it is not necessary to eliminate the concept of a subject to be cautious about generalization and a unified frame of reference. Rosenau's is not the only view on the differentiation of perspectives within postmodernism but it does help us to identify degrees of radicalism concerning empirical scepticism. At its least radical, where decentring the subject is construed simply in terms of perspectival relativism, postmodernism is on common ground with some of the earliest positivist approaches to qualitative methodology, a point pursued later on.

Rosenau (1992) is not alone in differentiating strong and moderate forms of postmodernism. McRobbie (1994) identifies a bifurcation between a postmodernism of the arts whose tokens were a concern with image and the ironic reworking of classical artistic themes, and a postmodernism revolving around an anti-foundationalist critique of social theory whose business was to reveal the oppressive metanarratives under which modern social thought had emerged, derived from Lyotard's idea that 'the science which promised knowledge of and mastery over nature was part of a much bigger story of conquest, decimation and militarisation' (McRobbie, 1994: 5). Lyotard's position is associated with a wariness of 'the big picture'. McRobbie observes that this 'means being attentive to the assumptions which shape social theory, the criteria which it uses, . . . to boundary-marking, and to what exactly is being excluded from or included in the fields of knowledge' (McRobbie, 1994: 5). Allied with postmodernism's interest in difference and 'local images of postmodern society as a fragmented and diverse social reality' (Turner, 2004), these are the parts of the postmodern canon of most interest to a project seeking connections between postmodernism and mainstream methodological debates. The concern with what Laclau (1991) called the 'radical incommensurability' of divisions like age, sex, nation, ethnicity and class feeds postmodernism's insistence on the elusiveness of a unitary vision. Laclau meant the point politically – his target being post-Marxism – but the extension to sociology is clear enough. An exploration of difference threatens claims to generic or axiomatic understanding and complicates generalization. In a feminist context, Spivak (1988) offers the example of black women, for whom the women's movement, a product of modernity, does not speak. The postmodernist criticizes the foundations that secure the idea of a single womanhood, insisting that analysis accommodates the view of those who dispute the terms in which they are represented. Here the ideas of decentring, deconstruction and relativism are closely allied.

While Rosenau's sceptical postmodernists repudiate generalized theory and objective truth, 'affirmatives' simply question the truth claims of theory and the assertion of privileged status for sociological understandings of society. There is a focus on everyday life, and 'the daily life focus, empiricist in character, would emphasise concrete reality . . . [and] is offered as a basis of generalizable statements' (Rosenau, 1992: 16). Such formulations are not unlike conventional statements of qualitative sociology in preferring a reflexive to a positivist epistemology, being dubious of claims to objectivity and valuing difference over similarity. Naturally, these positions challenge an epistemology that both assumes an independent reality and that it can be directly and unproblematically perceived, but it is important to acknowledge that such challenges were mounted long before postmodernism and that even if they see knowledge as organized around personal, intuitive concerns or as marking particular epistemological assumptions, moderate postmodernists implicitly accept that a knowledge is possible.

The 'affirmatives' hold a constructivist theory of reality. The very concept of reality construction implies that some accounts are valid and others are not (Edelman, 1988), a position that necessarily constrains relativism. For example, postmodernists share a radical critique of modernity, whereby Enlightenment understandings of reason and even equality are read as forms of domination; as McRobbie (1994: 8) neatly puts it, 'to enlighten some was to regulate many others'. However, 'this kind of questioning . . . need not mean the abandonment of all reason; instead it asks after the construction of reason or reality.' Moderate approaches engage with different subjectivities, pointing out, for example, that black women do not read patriarchy as do white women and young women do not read the feminism/femininity dualism as do women who experienced the adversities of the early women's movement; 'we have to attend to the inventiveness of women as they create new social categories'. The methodological indication is that postmodernism is interested in complex, dynamic categories. A sociology that wants to capture the contemporary in matters such as social identity, cultural affiliation, political disaffection and deviant behaviour needs methodologies that can register a richer variety of perspectives.

Moreover, the belief in 'intertextuality' (the connection of everything with everything) that problematizes causal explanation for postmodernists can plausibly be read as no more than an insistence that causal explanation of social phenomena is complex. Postmodernists have asserted the difficulty in establishing the temporal priority that is a precondition of causal explanation in a social world where everything is related in an absolutely interactive way (Tyler, 1986), but engagement with that kind of temporal complexity has long been the business of systems theory (Buckley, 1967) and is at the heart of Archer's (1982) concept of 'morphogenesis'. The effect may be to 'multiply' complexity but the position can also be read as an attempt to identify methods that better address complexity: 'postmodernism is oriented toward methods that apply to a broad range of phenomena, focus on the margins, highlight uniqueness, concentrate on the enigmatic' (Rosenau, 1992: 117).

As Kvale (1995: 21) suggests, while moderate postmodernists may reject the possibility of objectivity and axiomatic knowledge they do acknowledge both obdurate social realities and 'specific, local, personal and community forms of truth'. Arguing that obdurate social realities cannot be directly represented does not preclude assessing pragmatically or consequentially the relative validity of different empirical analyses. The concerns raised under this rubric by postmodernists are consistent with those raised from the earliest days in qualitative methodology, covering such matters as the relationship of research to its social and political context (Bogardus, 1924; Ervin-Tripp, 1967; Rice, 1929), the location of research in its own micro-history and the development of the observed phenomenon at the time of the research intervention (Riesman and Benney, 1955; Wax and Shapiro, 1956; Whyte, 1953), and the multidimensional and sometimes ambiguous character of social reality (Becker, 1956; Dean and Whyte, 1958; Lazarsfeld, 1944). If these concerns are as alien as is suggested by the more

trenchant critics of postmodernism their target cannot be postmodernism but the canons of qualitative methodology itself.

Postmodernism is simply the most recent approach seeking to revisit assumptions behind established methods and criteria of validity. It highlights the extent to which questions of validity are tied to the ways that research questions, research designs, methodological procedures and the conceptualization of findings are contingent on the approaches of researchers. Decisions at each stage of enquiry represent a framing of reality. Some regard this long-standing perspective as indicating the need to reconstitute the disciplines of social research (Clifford, 1986: 2) and have drawn deeply on textual criticism, cultural history, semiotics and the techniques of the dramatist and poet in an effort to revise social research, especially ethnography, which is seen as 'always caught up in the invention, not the representation, of cultures'.

However, scepticism about assumptions underlying research methods is hardly the monopoly of postmodernists (e.g. Burawoy, 2000). Perhaps the most elaborated debate is over the status of interview data. McRobbie (1994: 180) claims that sociology has treated interview data 'as transparently meaningful and as evidence in themselves, rather than as complex social constructs which are the products of pre-given discourses'. One might take this as demonstrating the need for conciliation between postmodernism and the mainstream, since the latter anticipated McRobbie's claim by at least two decades. Lyman and Scott's (1970) view of interview data as 'accounts', Cicourel's (1982) treatment of interview data as product of a ritual interaction and Holstein and Gubrium's reflexive conception of the relationship between validation and pre-theoretical orientations to empirical reality (Brekhus et al., 2005; Gubrium and Holstein, 1997; Holstein and Gubrium, 1995) are instances of non-postmodernist moves to treat interview (and other qualitative) data as topic rather than resource. However, these treatments do not conclude that, because the status of interview data can be questioned, such data are meaningless. Classic engagements like Deutscher (1973) accommodate epistemological concerns through careful research design and alertness to threats to validity during operationalization. Thus, while many question the status of interview and observational data, the fact that fieldwork cannot be regarded as a communicative conduit tapping directly into empirical information and that it carries implicit theories of social reality does not mean that the ontological status of field data affords researchers no analytic purchase at all.

Attempts to negotiate a *via media* between naive objectivism and crude relativism precede 'moderate postmodernism', despite the postmodernist tendency to draw a straight line from Enlightenment 'hyper-rationalism' to contemporary mainstream thinking (Southgate, 2003). This bypasses, for example, Weber's position on objectivity, with its moderate perspectivism, the mediated approach to social reality based on community standards of validity found in contemporary hermeneutics (Bernstein, 1983), and current debates over the relationship between findings from survey research and interpretive sociology, such as Williams' (2000) work on

'moderatum' generalisation'. The argument is not that postmodernism innovates in its critique of objectivism and rationalism, or is more perceptive than earlier efforts. Indeed, the distinctive accommodations between objectivism, rationalism and relativism offered by Weber, symbolic interactionism, phenomenology and hermeneutics, may be more helpful to research practice in that they more vigorously cast problems of subjectivity as susceptible to self-monitoring by researchers.

Nevertheless, postmodernism's orientation to multiple perspectives does provide a bridgehead to a key element of mainstream methodology and thus a means of communication across the divide. Moreover, there is more to postmodernism than openness to multiple perspectives. Postmodernism's orientation to multiple perspectives is connected with the position that research is never entirely disinterested and thus empirical phenomena can be differently understood for reasons independent of the phenomenon itself. When validity is defined in terms of consensus within a research community, such a position alerts us that values and interests lie behind the consensus. However, it is possible to acknowledge such postmodernist concerns without abandoning reliability and validity or being unable to adjudicate between methods as they are applied in given cases. Altheide and Johnson (1994: 290) argue that, while postmodernist concerns call for criteria that acknowledge competing perspectives, they do not negate a concern with validity. One approach is Denzin and Lincoln's (1994: 14) endorsement of 'credibility, transferability, dependability and confirmability [to] replace the . . . positivist criteria of internal and external validity, reliability and objectivity'. Tashakkori and Teddlie (2003) have gone furthest in advocating validity criteria specific to mixed methods research in their notion of 'inference quality', which essentially combines internal validity with standards of trustworthiness and credibility but downplays external validity/transferability (Bryman, 2006). These commentaries are largely sympathetic to postmodernist-type concerns but insist that validity criteria are primarily informed by the particularities of given methods. Even in postmodern ethnography, 'practitioners recognise that all methods impose perspectives on reality by the type of data that they collect, and each tends to reveal something slightly different about the same "symbolic" reality' (Brewer, 2000: 76; emphasis added). One cannot argue that different methods apply different frames of reference to the same empirical phenomenon without also accepting that there is a stable, if multifaceted, phenomenon to which researchers are applying different methods.

Thus, capturing multiple perspectives and interpretations is one criterion for evaluating research, but many otherwise sympathetic commentaries on postmodernism agree that it is counter-productive when taken too far. The fear many have of postmodernism is 'that of . . . excessive skepticism, and of a paralysing relativism – of a crossing of limits beyond which "anything goes"' (Marcus, 1994: 403). Unrestrained relativism not only embraces multiple perspectives but declines to differentiate between contradictory perspectives. However, decentring the subject does not necessarily make for absolute relativism. Postmodernist empirical work may sometimes take the form of demonstrating that using a multiplicity of methods produces dif-

ferent results, but this does not mean it is unable to arbitrate between them. As Williams (2000: 220) observes, 'a generalising statement . . . about the design of fruit machines is more dependable than a statement about the players' strategies, which in its turn is more dependable than (say) statements about "trust regarding money" amongst the players'. The statements share an objective probability of zero but this does not justify assigning the same status to inferences drawn from each statement. Acknowledging that there are multiple perspectives need not mean that all perspectives are equal. It is only at the extreme that caution about arbitration is replaced by refusal to accept that contradictory accounts can be weighed and evaluated (Hammersley, 1992). Such epistemological relativism is solipsistic, its effect being to prevent researchers engaging with difference (Boudon, 2004). However, this is not the position of all postmodernists, whereas a common thread is certainly that multiple perspectives must be acknowledged and that sociologists have no privileged insight into the valid explanation of social phenomena.

Connecting Postmodernism and Triangulation

The connection between moderate postmodernism's emphasis on the need to reflect different constructions of social reality and the practice of methodological triangulation is that incorporating multiple perspectives helps us look at the research issue from 'all angles'. If we take account of a range of interpretations we maximize the elements of the phenomenon that are exposed to analysis. Triangulation encourages researchers not only to acknowledge multiple perspectives but to relate them analytically. Addressing empirical phenomena from a single perspective, employing a single explanatory variable or relying on a single method result in compartmentalization of analysis (Sokal and Bricmont, 1998). By using research designs that employ different methods to capture different aspects of the phenomenon, drawing samples purposively so as to contrast the perspectives of different groups and so on, multiple method research can act as a corrective to analytic tunnel vision. It is a way to achieve 'analytic density'.

Classical triangulation for convergent validation is, unsurprisingly, taken as implying there is one 'right answer'. However, in practice, studies pursuing convergent validation often reach conclusions that place different factors or variables in proportion, accounting for different amounts of variance, or that suggest that methods such as surveys and field observation expose related but distinct 'dimensions' of the phenomenon. Moreover, convergent validation is but one model for multiple method research. Kelle (2001) suggests three models: (1) triangulation as the mutual validation of results obtained using different methods (the validity model); (2) triangulation to obtain a fuller picture of the phenomenon (the complementarity model); and (3) triangulation in its original land-surveying sense, where methods must be combined to locate the phenomenon at all (the trigonometry model). The present argument develops Kelle's second model. In philosophy, the classic account is Lesniewski's (1992) demonstration that multiple conceptual schemes can be used to describe the same reality. To argue for multiple perspectives is not to preclude the possibility of a single, empirically adequate

understanding but to emphasize that, while there may ultimately be only one adequate perspective, we need multifaceted sources of data to develop it. Importantly, Kelle also argues that triangulation on its own cannot solve analytic puzzles. It has to be informed by theory.

Endorsing triangulation as a means to access a richer array of perspectives and factors does not mean that any new information automatically adds analytic density. Consistent with hermeneutics, contributing to analytic density requires orientation to the empirical and analytic deficits left by previous contributions. Gadamer (1975) emphasizes participation in the collective endeavour from which community constructions of knowledge emerge. Dialogue between differently committed minds enables progressive refinement of understandings. Healy (2005), in formulating an account of rationality commensurate with contemporary postfoundationalist thinking and pluralistic intellectual communities, advances a dialogical approach to rationality as a way to address paradigm disputes between positivism and interpretivism. The construction of 'analytic density' is here intended as greater degrees of hermeneutic elaboration. Enhanced analytic density does not necessarily presage enhanced certainty. The benefit of triangulation may not so much be that it enables researchers to demonstrate that their findings mutually reinforce each other but that it 'give[s] different viewpoints the chance to arise, and postpone[s] the immediate rejection of information or hypotheses that seem out of joint with the majority viewpoint' (Trend, 1978: 353).

Indeed, multiple method enquiry may challenge the researcher's assumptions and the precepts animating the enquiry in ways that are consonant with postmodernism but that arise empirically rather than being taken as a given. Commendations of multiple method research tend to fix on the outcome of the process, the knowledge that results when the jigsaw puzzle has come together. Less remarked are the unsettling steps along the way. A researcher who engages with accountants' job satisfaction may begin by assuming that 'job satisfaction' is a tangible object of study, but become less certain as her or his awareness grows of competing conceptualizations. The researcher may find that the cultural significance imputed to the phenomenon does not register with research participants, or that the indicators taken as signs of the phenomenon are so extensively mediated that 'sign' cannot be distinguished from 'noise'. The fact that self-reflexive engagement with multiple method research can lead researchers to question the very focus of a study, and open a normatively oriented 'research problem' to reformulation and even repudiation, in a similar way to the heuristic offered by postmodernism, is a story less often told. The process by which the 'research problem' is itself problematized is likely to be more complex and unsettling than any linear progress from theory to hypothesis, data collection and findings. It may require the researcher to consider whether the research problem is actually a normatively based construction behind which sits a more profound social phenomenon (as in Grey's [1994] postmodernist analysis of accountants' careers). Thus, the researcher who engages with accountants' careers may be led to accept neither member-validated accounts of the pleasures of calculation nor the construction of

'career' as a form of *déformation professionnelle*, but come to see the concept of career as a story that professionals tell themselves to counter the sense of contingency arising from the evidence daily before them of the risks posed by market economies.

Whether engendered as a starting assumption, as in postmodernism, or provoked by confrontation with challenging empirical data, as in mixed method research, the impetus towards analytic density is a productive scepticism. It is sceptical in its alertness to the points of weakness in given methods, sampling strategies and analytic strategies, and in exercising caution whenever generalization is attempted, but it is productive in demanding rigour, the making explicit of assumptions and in seeking analyses that explicitly negotiate the basis for, and limits of, any generalization. These, of course, are virtues in any enquiry, as Payne and Williams (2005: 304–5) outline in their critique of 'generalisation issues' in interpretivist sociology (e.g. 'generalisation is more likely to be plausible if it is approached with caution, moderating the range of the generalising conclusions . . . generalisations are more credible if the exposition connects the generalisation to the specifics of data that provide its foundation'). It is not claimed that these virtues are unique to multiple method research. However, such research does provide opportunities and make demands that encourage researchers to pursue them. Moreover, postmodernists will find mixed method researchers engaging with some of the same issues that postmodernism emphasizes.

To look beyond the obvious is a mark of analytic density, as the cases following seek to show. Multiple method research is a world away from the paralysis of 'epistemological relativism', yet it does require a relativist element, so that it can sincerely engage with difference. Community standards of knowledge emerge from a practice of dialogic perspectivism, and triangulation puts findings from different methods into dialogue.

Analytic Density and Empirical Research

Let us consider Erzberger's (2000) account of the operation of the job placement scheme facilitating transitions of university graduates into employment in former socialist East Germany. The scheme had been regarded as successful on the basis of patterns revealed by quantitative analysis of official labour market statistics. However, qualitative research suggested the system was being manipulated by job-seekers, who were finding their own work using informal channels, then colluding with employers to report a 'vacancy' to the scheme, which was then quickly 'filled' by the collusive job-seeker, yielding an apparent success for the system. Does this example represent effective triangulation or mean we always need qualitative methods, since the quantitative findings do not seem to have been accurate?

A complementarity case would be that, without the quantitative data providing one version of job placements, we would not know how to assess the reports from the qualitative study about the job-seekers manipulating the system. To see that the qualitative data raised a point worth pursuing, we had to have the quantitative data suggesting that the system was operating successfully. But even with both enumerative and interpretive data, doubt remains. Due to the generally limited samples in qualitative work, perhaps it simply uncovered those few renegade graduates who had manipulated the system. We could address that within the confines of a qualitative method by inspecting the data in which job-seekers reported satisfaction with the system. Perhaps manipulation was not the only interpretation. Alternatively, we could conduct a survey into precisely how respondents learned of job vacancies. In this approach, initial quantitative data give an official version, this is questioned by qualitative findings, and we seek to relate the conflicting versions by highlighting the process suggested by the qualitative findings and testing whether it is generalizable.

Where Kelle's 'theoretical' element of triangulation pertains is the observation that German reunification prompted acute awareness of the manipulation of official data by the former German Democratic Republic (GDR). The application of methodological triangulation is guided by theory – general suspicion of GDR information – without which there would be less inclination to see the interview data as challenging the official employment statistics. Thus, the real value of triangulation is that its orientation to multiple perspectives helps researchers pursue a more critical stance towards their data.

Such considered enquiries may appear unduly orchestrated, with researchers setting out to find things they are already committed to finding. However, the practices of research design, instrument design and sampling all involve looking ahead to what the findings might be and designing in ways of accommodating them. Awareness of multiple perspectives, empirical indicators and analytic facets facilitates this. Having an informed appreciation of what may emerge is not the same as foreclosing the analysis. This approach promotes more complex research designs that enable researchers to be more clear about what their findings demonstrate and produce analyses that systematically indicate qualifiers and constraints on the relationships they reveal (see, for example, Deacon et al., 1998).

A further example of how triangulation helps build analytic density comes from work on gender and criminal victimization (Allen, 2001). Fear of crime is conventionally regarded as much lower in males than females but this may reflect inadequate methods and essentialist assumptions (Ditton, 2000). Many crime surveys combine percentages of those reporting they are 'very' or 'fairly afraid' and find that the male response is much lower, concluding that men are relatively fearless about crime.

However, if we examine the 'very' afraid response, leaving out the 'fairly' category, which attracts a much larger percentage response from women than men for all crimes, the inaccuracy of male fearlessness is revealed. In light of this, Allen (2001) designed a survey questionnaire with items that finely discriminated situations that were 'very' or 'fairly' anxiety-provoking. The survey gauged levels of fear and secured an interview subsample. Interview guides were tailored to each respondent based on their survey responses, focusing on the determinants of fear of crime they identified in the survey and asking respondents to expand on the experiences behind them. Striking similarities between male and female responses emerged. Respondents also volunteered second thoughts behind their survey ratings of risk, and questioned certain survey items. On this basis, Allen (2001) argues that fear of crime is not as gendered as was thought. Here multiple method research provided both a richer understanding of gendered risk perception and substantial methodological refinement. Both the disaggregation of survey response sets and the attunement of risk scenarios to interview response has been applied in subsequent risk research and accord with postmodernism's refusal to privilege the researcher's perspective, treating research participants as co-enquirers into social phenomena. Latour (2000) observed that objectivity in research can be 'to allow the object to object'. A very practical way of accommodating multiple perspectives at the level of primary data collection is to grant respondents maximum scope to reject the implications of researchers' questions and put forward their own (Tinggaard, 2007).

When we describe a research field as 'mature', we often mean that a substantive problem has been addressed by a variety of methods and theoretical orientations. There will be works that variously address the phenomenon's historical, structural and cultural dimensions. An adequate understanding is assumed to require attention to these several dimensions. This is a further point of connection with postmodernism. McRobbie (1994: 39) commends analytical work that is 'structural, historical and ethnographic' and calls for an 'integrative' and 'connective' mode of analysis that draws on ethnography but also registers structure and social institutions. For McRobbie (1994: 26), the most useful aspect of postmodernism is not its 'anti-foundationalist philosophical concept whose basis lies in the disavowal of truth-seeking in intellectual inquiry' but its recognition of 'the new global and local social relations and identities set up between individuals, groups and populations as they interact with and are formed by the multiplicity of texts, images and representations which are a constitutive part of contemporary reality and experience' (McRobbie, 1994: 26). McRobbie makes the important point for our argument here that its effect has been to shift fields like the study of the mass media from textual analysis towards a more holistic frame that includes the ownership and control of communications media, and the cross-breeding of stylistic forms, as well as attention to the underlying narratives borne by advertising and other cultural products. She consequently calls for 'a return to the phenomenological/empirical field (with all the complexity that this involves)' (McRobbie, 1994: 27). The fragmentation associated with a decentring of consciousness is not read as dis-

abling enquiry but as complicating it. How this works in mainstream social science is apparent in a final example, from research on the career paths of female science graduates.

A major puzzle in the gender gap in recruitment, retention and advancement in scientific occupations is the case of physics (see Glover, 2000). Females have largely exceeded parity with males in undergraduate biology and biochemistry and are close to it in chemistry and mathematics. While recruitment to first degrees and first destination employment has been getting more equitable in these disciplines, it seems that the modest increases in the proportion of female physicists in the US and UK are accounted for by the subject's declining attraction to men. Yet many more women are getting qualified and working in mathematics. Since physics is mathematically based, one might suppose that more women would enter physics.

International comparison shows variations between countries with different economic circumstances and scientific establishments. Table 1, taken from Glover (2000), combines data from Dresselhaus et al. (1994) with a supplementary attrition measure.

While the US and UK show similar circumstances, Hungary, with different economic circumstances, has a high representation of women in first degrees in physics and academic employment. Attrition between these two stages is also low.

There are historical, structural and cultural explanations of the case of physics. Rossiter (1982) offered a structural analysis using historical data. In the late 1930s, 30 percent of women scientists in US government employment were in biology, and only about 1 percent in physics. In research employment, 51 percent of women scientists were in biology, only 6 percent in physics. So there are long-standing differences in the 'quantitative feminization' (Glover, 2000) of scientific disciplines. Rossiter's explanation hinges on whether disciplines needed large numbers of research associates for repetitive work like routine data processing, taxonomy and classification. She maintains that women were clustered into such work and were welcome in such capacities even in all-male universities. Sciences with high demand for classification work, like biology, biochemistry and chemistry, gained a cheap source of efficient, self-effacing labour. Physics did not need this sort of work. Only the women's colleges offered significant opportunities. But such colleges lacked the facilities necessary for 'big science' and it was thus harder for women physicists to research the areas needed to access the discipline's senior positions. Rossiter makes a historical case that the low representation of women physicists has long-standing structural roots. This is plausible, but why are the patterns of the 1930s still with us?

Table 1 Cross-National Women's Representation at Different Educational and Employment Levels in Physics, 1990

Country	(a) First degrees %	(b) Doctorates %	(c) Academic employment (%)	Difference between (a) and (c)
France	24	21	23	-1
Hungary	50	27	47	-3
Italy	29	21	23	-6
US	15	9	3	-12
UK	16	12	4	-12

Source: Selected data from Megraw's work cited in Dresselhaus et al. (1994).

Table 1 suggests that countries where women's attrition in physics is at its lowest are those with large public sectors. Countries with large physics establishments, high levels of industrial development and strong women's movements had the lowest representation of women among physics faculty. Because explanation based on macro-level analysis could not address such patterns, the editors of *Science* conducted qualitative interviews with women scientists in countries having a high female representation in academic physics (Dresselhaus et al., 1994). These suggest that several explanations are necessary and that they relate to the characteristics of individual countries. For example, simply because Portuguese women accounted for 35 percent of physics faculty does not imply Portugal is an exemplar of equal opportunities (Glover, 2000: 95). Portugal has a relatively recent history of institutional science. Newly industrialized countries offer more opportunities for women since science begins to be developed when women's employment is already accepted. Further, the interviews suggested that in recently industrialized countries like Portugal and Hungary, academic physics is unpopular with men. During rapid industrialization, opportunities in business and industry are more appealing. Keeves and Kotte (1996) found that, in Hungary, boys were spurning physics in favour of potentially more lucrative vocations. Such explanations are again plausible, but too narrow for some.

Broader, postmodernist-oriented explanations suggest the problem is the culture of physics. In Wertheim's (1997) account, physics is a pseudoreligious belief system akin to Catholicism. Both feature a male-only priesthood that pursues a goal of 'transcendent abstractions'. Wertheim believes the goals of physics must change and that women can do this because of their self-reflexivity, suggesting that women brought to biology a perspective on evolutionary features emphasizing cooperation among organisms, not antagonism. However, Wertheim assumes these qualities can be unproblematically imported to scientific disciplines. She also assumes scientific agendas are determined by scientists rather than material interests, and that women lack men's hierarchical worldview. So her account begs a

lot of questions. But so do the other single-cause explanations. Subsequent research found that female scientists gained fewer than half the patents awarded to males, with interviewees reporting the lack of an 'old girls network'. The implication of a confidence factor led the researchers to reanalyse their panel data for inverse probability of treatment weight (Ding et al., 2006). This indicated that male scientists were apt to construe their careers in commercial terms, while women, as newer entrants, remained satisfied with traditional constructions of academe as a vocation. The case suggests that we only get a rounded picture when we can draw on studies of the historical, structural and cultural dimensions, on studies founded on different theoretical precepts and employing different methods. If these are virtues in respect of a field of enquiry, so must they be in respect of the individual research project.

Postmodernism and Community Knowledge

This article has argued that postmodernism is not all methodological nihilism and that, although postmodernist concerns were anticipated by more conventional social science perspectives, moderate versions orientate to empirically based knowledge that can contribute to sociology, particularly through postmodernism's interest in multiple perspectives. It has further argued that, since triangulation has moved away from convergent validation towards methodological combination for analytic richness, and multiple method research encourages testing of multiple perspectives and experiences, there is a connection between multiple method studies done within a conventional framework and postmodernism's interest in multiple perspectives. A philosophical position that accommodates this approach is found in contemporary hermeneutics, where no single account offers the whole 'truth' but each contributes additively to a progressively richer understanding (Tate, 1998).

Problematizing truth and objectivity does not amount to rejecting the standard of truth or the attempt to be objective. Sociology cannot generally aspire to more than conclusions with identifiable and defined limits, implying the constant necessity for interpretation. This is the ultimate warrant for multiple method work, and its connection with postmodernism. Taking a reflexive approach, engaging with the enigmatic, and alertness to facets of the phenomenon that can only be pursued with methods not already used, replicates in micro the process of debate and refinement of argument that enables cumulative knowledge in research communities and is analogous to the local, community versions of knowledge to which moderate postmodernism subscribes.

The desirability of a middle ground is recognized even in applied research. Tilley (2000) advocates a process of 'realistic evaluation' that negotiates 'that aspect of postmodernism which casts doubt on the possibility of objective knowledge and . . . that aspect of modernism that promises universal unconditional truths' (Tilley, 2000: 110). From moderate postmodernism, McRobbie (1994: 184-5) calls for 'a research mode which

prioritises multiple levels of experience, including the ongoing relations which connect everyday life with cultural forms. This would be a way of breaking down the division which has emerged between the study of cultural texts and the study of social behaviour and experience.' Similarly McClellan (1992: 20) advocates a combination of elements of 'Enlightenment sociology' with postmodernist insights 'to generate a series of productive and taxing tensions', and Barrett (1992) looks to convergence to prompt in sociology a better understanding of subjectivity to inform its customary perspective on social facts as things.

Postmodernism's anti-essentialist stance towards, for example, the study of race or sexuality takes form in its concept of difference (e.g. there are many ways of being black), 'but what is missing is a clear sense of what these different identities look like, how they are lived and within what institutional frameworks they are pursued' (McRobbie, 1994: 186). Thus, the concepts of difference and subjectivity that are so important in postmodernism await methodological means by which they can be 'explored within the landscape of everyday social relations' (McRobbie, 1994: 185). Mixed methods research is implied by McRobbie's methodological imperative to evidence theoretical assertions that co-relate trends in phenomena like fashion and mores with analysis of the flow of capital between electronics and broadcast multinationals.

The points of connection between triangulation and postmodernism suggest that the convergent validation approach to triangulation can seldom be wholly conclusive. Methodological combination cannot guarantee validity, but can provide a richer account. Neither postmodernism nor triangulation are as inflexible as their critics claim. Both contain an impetus for making connections and a potential to deliver rigour without rigidity. Finally, when we try to evaluate social science accounts we cannot simply do so on our own terms, or those of any single perspective. In our field, evaluation is by reference to community standards rather than absolute standards. We will never enjoy what Needham (1983) called 'the tranquillity of axiom', but we can try to meet our pursuers without sawing off the branch we are sitting on.

References

- Allen, Jon (2001) 'Going Boldly: An Exploratory Investigation of Male Fear of Crime', unpublished dissertation, University of Surrey, Guildford.
- Altheide, David and Johnson, John (1994) 'Criteria for Assessing Interpretive Validity in Qualitative Research', in Norman Denzin and Yvonna Lincoln (eds) *Handbook of Qualitative Research*, pp. 485–99. London: Sage.
- Archer, Margaret (1982) 'Morphogenesis versus Structuration: On Combining Structure and Action', *British Journal of Sociology* 33(4): 455–83.
- Barrett, Michele (1992) 'Words and Things: Materialism and Method', in Michele Barrett and Anne Phillips (eds) *Destabilising Theory: Contemporary Feminist Debates*, pp. 2–24. London: Polity Press.
- Becker, Howard (1956) 'Interviewing Medical Students', *American Journal of Sociology* 62: 199–201.
- Bernstein, Richard (1983) *Beyond Objectivism and Relativism*. Philadelphia: University of Pennsylvania Press.
- Blaikie, Norman (1991) 'A Critique of the Use of Triangulation in Social Research', *Quality and Quantity* 25: 115–36.
- Bogardus, Emory (1924) 'Methods of Interviewing', *Journal of Applied Sociology* IX: 456–67.
- Boudon, Raymond (2004) *The Poverty of Relativism*. Oxford: Bardwell.
- Brekhus, Wayne, Galliher, John and Gubrium, Jaber (2005) 'The Need for Thin Description', *Qualitative Inquiry* 11(6): 861–79.
- Brewer, John (2000) *Ethnography*. Buckingham: Open University Press.
- Bryman, Alan (2006) 'Paradigm Peace and the Implications for Quality', *International Journal of Social Research Methodology* 9(2): 111–26.
- Buckley, Walter (1967) *Sociology and Modern Systems Theory*. Englewood Cliffs, NJ: Prentice Hall.
- Burawoy, Michael (2000) 'Introduction: Reaching for the Global', in Michael Burawoy (ed.) *Global Ethnography*, pp. 1–18. Berkeley: University of California Press.
- Campbell, Donald and Fiske, Donald (1959) 'Convergent and Discriminant Validity by the Multi-Trait, Multi-Method Matrix', *Psychological Bulletin* 56: 81–105.
- Campbell, Donald and Russo, Mary Jean (1999) *Social Experimentation*. Thousand Oaks, CA: Sage.
- Cicourel, Aaron (1982) 'Interviews, Surveys and the Problem of Ecological Validity', *The American Sociologist* 17(1): 11–20.

- Clifford, James (1986) 'Partial Truths', in James Clifford and George Marcus (eds) *Writing Culture*, pp. 1–26. Berkeley: University of California Press.
- Deacon, David, Bryman, Alan and Fenton, Natalie (1998) 'Collision or Collusion? A Discussion and Case Study of the Unplanned Triangulation of Quantitative and Qualitative Research Methods', *International Journal of Social Research Methodology* 1(1): 47–63.
- Dean, John and Whyte, William Foote (1958) 'How Do You Know if the Informant is Telling the Truth?', *Human Organization* 17: 34–8.
- Denzin, Norman (1989) *The Research Act*. Englewood Cliffs, NJ: Prentice Hall.
- Denzin, Norman and Lincoln, Yvonna (1994) 'Introduction: Entering the Field of Qualitative Research', in Norman Denzin and Yvonna Lincoln (eds) *Handbook of Qualitative Research*, pp. 1–18. London: Sage.
- Denzin, Norman and Lincoln, Yvonna (2000) 'Introduction: The Discipline and Practice of Qualitative Research', in Norman Denzin and Yvonna Lincoln (eds) *Handbook of Qualitative Research*, pp. 1–28. Thousand Oaks, CA: Sage.
- Deutscher, Irwin (1973) *What We Say/What We Do*. Chicago, IL: Scott Foresman.
- Ding, Waverly, Murray, Fiona and Stuart, Toby (2006) 'Gender Difference in Patenting', *Science* 313 (August).
- Ditton, Jason (2000) 'Crime Surveys and the Measurement Problem', in Vic Jupp, Pamela Davies and Peter Francis (eds) *Doing Criminological Research*, pp. 142–56. London: Sage.
- Dresselhaus, Mildred, Franz, Judy and Clark, Bunny (1994) 'Interventions to Increase the Participation of Women in Physics', *Science* 263: 1392–3.
- Edelman, Murray (1988) *Constructing the Political Spectacle*. Chicago, IL: University of Chicago Press.
- Ervin-Tripp, Susan (1967) 'An Issei Learns English', *Journal of Social Issues* 23(2): 78–90.
- Erzberger, Christian (2000) 'What Can We Learn from Potemkin?: Quantitative Results as Optical Illusions', *Social Science Methodology in the New Millennium: Proceedings of the Fifth International Conference on Logic and Methodology*. Köln: Zentralarchiv für Empirische Sozialforschung.
- Fielding, Nigel and Fielding, Jane (1986) *Linking Data*. Beverly Hills, CA: Sage.
- Fielding, Nigel and Schreier, Margrit (2001) 'On the Compatibility between Qualitative and Quantitative Research Methods', *Forum Qualitative Sozialforschung* 2(1); at: qualitative-research.net/fqs/fqs-eng.htm
- Gadamer, Hans (1975) *Truth and Method*. London: Sheed and Ward.
- Glover, Judith (2000) *Women and Scientific Employment*. London: Macmillan.

- Grey, Chris (1994) 'Career as a Project of the Self and Labour Process Discipline', *Sociology* 28(2): 479–97.
- Gubrium, Jaber and Holstein, James (1997) *The New Language of Qualitative Method*. Oxford: Oxford University Press
- Hammersley, Martyn (1992) 'Some Reflections on Ethnography and Validity', *International Journal of Qualitative Studies in Education* 5(3): 195–203.
- Healy, Paul (2005) *Rationality, Hermeneutics and Dialogue*. Aldershot: Ashgate.
- Holstein, James and Gubrium, Jaber (1995) *The Active Interview*. London: Sage.
- Keeves, John and Kotte, Dieter (1996) 'Patterns of Science Achievement: International Comparisons', in Lesley Parker (ed.) *Gender, Science and Mathematics*. Dordrecht: Kluwer Academic.
- Kelle, Udo (2001) 'Sociological Explanations between Micro and Macro and the Integration of Qualitative and Quantitative Methods', *Forum Qualitative Sozialforschung* 2(1); at: qualitative-research.net/fqs/fqs-eng.htm
- Kvale, Steiner (1995) 'The Social Construction of Validity', *Qualitative Inquiry* 1(1): 19–40.
- Laclau, Ernesto (1991) *Reflections on the New Revolutions of Our Times*, London: Verso.
- Latour, Bruno (2000) 'When Things Strike Back: A Possible Contribution of "Science Studies" To The Social Sciences', *British Journal of Sociology* 51: 107–23.
- Lazarsfeld, Paul (1944) 'The Controversy over Detailed Interviews', *Public Opinion Quarterly* 8: 38–60.
- Lesniewski, Stanislaw (1992) *Collected Works*. Dordrecht: Kluwer.
- Levins, Robert (1966) 'The Strategy of Model Building in Population Biology', *American Scientist* 54: 420–40.
- Lyman, Stanford and Scott, Marvin (1970) *A Sociology of the Absurd*. New York: Goodyear.
- McClellan, Gregor (1992) 'Sociology after Postmodernism', Faculty of Social Science Occasional Paper, Massey University.
- McRobbie, Angela (1994) *Post Modernism and Popular Culture*. London: Routledge.
- Marcus, George (1994) 'What Comes (Just) after "Post"? The Case of Ethnography', in Norman Denzin and Yvonna Lincoln (eds) *Handbook of Qualitative Research*, pp. 563–74. London: Sage.
- Needham, Rodney (1983) *The Tranquillity of Axiom*. Los Angeles: University of California Press.
- Payne, Geoff and Williams, Malcolm (2005) 'Generalization in Qualitative Research', *Sociology* 39(2): 295–314.

- Rice, Stuart (1929) 'Contagious Bias in the Interview', *American Journal of Sociology* 35: 420–3.
- Riesman, David and Benney, Mark (1955) 'The Sociology of the Interview', *Midwest Sociology* 3–15
- Rosenau, Pauline (1992) *Postmodernism and the Social Sciences*. Princeton, NJ: Princeton University Press.
- Rossiter, Margaret (1982) *Women Scientists in America*. Baltimore, MD: Johns Hopkins University Press.
- Sokal, Alan and Bricmont, Jean (1998) *Intellectual Impostures: Postmodern Philosophers' Abuse of Science*. London: Profile Books.
- Southgate, Beverley (2003) *Postmodernism in History*. London: Routledge.
- Spivak, Gayatri Chakravorty (1988) 'French Feminism in an International Frame', in Gayatri Chakravorty Spivak (ed.) *In Other Worlds: Essays in Cultural Politics*, pp. 134–54. London: Routledge.
- Tanggaard, Lene (2007) 'The Research Interview as Discourses Crossing Swords', *Qualitative Inquiry* 13(1): 160–76.
- Tashakkori, Abbas and Teddlie, Charles (2003) 'The Past and Future of Mixed Methods Research', in A. Tashakkori and C. Teddlie (eds) *Handbook of Mixed Methods*, pp. 671–701. Thousand Oaks, CA: Sage.
- Tate, John (1998) 'The Hermeneutic Circle versus the Enlightenment', *Telos* 110: 9–38.
- Tilley, Nick (2000) 'Doing Realistic Evaluation of Criminal Justice', in Vic Jupp, Pamela Davies and Peter Francis (eds) *Doing Criminological Research*, pp. 97–113. London: Sage.
- Trend, M. G. (1978) 'On the Reconciliation of Qualitative and Quantitative Analyses', *Human Organization* 37: 345–54.
- Turner, Bryan (2004) 'Foreword', in Raymond Boudon *The Poverty of Relativism*, pp. i–ix. Oxford: Bardwell.
- Tyler, Stephen (1986) 'Postmodern Ethnography', in James Clifford and George Marcus (eds) *Writing Culture*, pp. 122–40. Berkeley: University of California Press.
- Wakeford, Nina (2004) 'Developing Methodological Frameworks for Studying the World Wide Web', in D. Gauntlett and R. Horsley (eds) *Web Studies*, pp. 210–35. London: Arnold.
- Wax, Murray and Shapiro, Leopold (1956) 'Repeated Interviewing', *American Journal of Sociology* 62: 215–17.
- Wertheim, Margaret (1997) *Pythagoras' Trousers: God, Physics and the Gender Wars*. London: Fourth Estate.

Whyte, William Foote (1953) 'Interviewing for Organisational Research', *Human Organization* 12(2): 15–22.

Williams, Malcolm (2000) 'Interpretivism and Generalisation', *Sociology* 34(2): 209–24.