

Sixty Years of Change in Human Geography

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This document comprises two parts. The first is the overview paper prepared for the seminar. The second is a piece currently with a journal on the politics of disciplinary change, on which I shall be drawing in the oral presentation.

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Human geography as practiced in the UK today is unrecognisable from what comprised the discipline sixty years ago. In the first two decades after the Second World War, few human geographers would have identified themselves as social scientists: theirs was a somewhat small and introverted discipline whose strongest external links were with geology and history. Similarly, it is doubtful whether any members of other member disciplines considered geography to fall within the social scientific orbit. Although there are still some lingering doubts as to whether human geography is a social science (as exemplified by the lack of any coverage of links between it and sociology in Halsey and Runciman, 2006), however, there is now general acceptance within the discipline that the great majority of its practitioners are correctly situated in the social sciences (something that was much resisted when geographers belatedly obtained recognition by and entry to the SSRC in the late 1960s: Chisholm, 2001; Johnston, 2004b): some, mainly historical geographers, identify more strongly with the humanities, and they have gained recognition for their work within the AHRC.

Understanding the nature of the changes that have taken place, and the growing pluralism that has characterised human geography, especially since the 1970s, requires an appreciation of the context, not just the wider intellectual milieu within which geography was set in post-war UK society but also the particular institutional settings experienced by human geographers. The nature of that institutional context is set out in the first section of this paper, as a preface to an outline of the changes that have taken place. A further paper, presented as an appendix to this paper, discusses the politics of how the changes have occurred.

The institutional context

As an academic discipline, geography is a creation of the late nineteenth and early twentieth centuries, thus making it older than many of other disciplines that comprise the contemporary social sciences. Geography as a subject is much older than that, and geographical material was being taught at the country's ancient universities for much of the modern period – albeit not necessarily identified as geography per se (Withers and Mayhew, 2002; Livingstone, 2003). The Royal Geographical Society (RGS) was founded in the 1830s to promote geography in the widest sense, and comparable societies were established in several provincial cities – mainly to sustain commercial interests – in the subsequent fifty years.

Many contemporary disciplines within the academic portfolio have been created by individuals promoting a new, almost always a research, agenda, usually by 'breaking away' from a 'parent discipline'. Geography, on the other hand, was created from below, to meet a teaching rather than a research agenda. In the mid-19th century, the officers of the RGS became concerned with the quality of geography teaching in the country's secondary (mainly public at that time) schools, and commissioned a report which would draw international comparisons. This provided material with which to press for more, and more rigorous, geographical teaching throughout the school

curriculum but with particular emphasis on the emerging grammar schools. But the RGS found that geography lacked the status and credibility as a subject within educational circles because it was not taught at the 'ancient' English universities of Cambridge and Oxford. It thus began a campaign to get geography taught there, which was eventually successful, not least because it provided the money which sustained the staffing for several decades (Scargill, 1976; Stoddart, 1986). The main teaching was of a diploma for intending school teachers, alongside – at Oxford – very large and successful summer schools for those who were already teaching and wanted a formal qualification in the subject.

Full degree schemes were not established at Oxford and Cambridge until the 1930s, however, by which time small geography departments offering honours degrees were available at several 'redbrick' universities (Slater, 1988). Their main rationale was the preparation of grammar school teachers, for which there was a continuing demand because of the success of the campaigns to win a substantial place for geography in primary and, especially, secondary school curricula and in the relevant public examination systems. Much of the credit for this is due to the Geographical Association, established in 1893 to promote geography teaching (Balchin, 1993), which remains a very potent lobbyist for the discipline – not least in the post-1988 debates over the national curriculum (Rawling, 2001; Walford, 2001). The interaction between the schools and universities sustained the subject in both places, ensuring, for example, a continuous flow of students to the small university departments.

By the time of the Second World War there was a geography department, headed by a professor, in almost all of the UK's universities and university colleges (the main exceptions were Imperial College London and University College, Cardiff). These were small, but prospered in the first post-war decades with the increased flow of students wanting to study a subject they had enjoyed at school and with which they perceived offered clear career opportunities – not only in teaching but also in the burgeoning profession of town and country planning. But – as practitioners of the time have reminisced – their status was not high in some of those institutions as research became a more central part of universities' missions and individual academics' career trajectories (Johnston, 2003a). Geography, unlike some other disciplines, did not have a research-based foundation and struggled for several decades to establish one. For most, by the early 1950s (as set out in Wooldridge and East, 1958) its rationale was the study of regions – identifying, describing, and to some extent accounting for (if not 'explaining') areal differentiation or the varying characteristics of the earth's surface as the 'home of man'. This involved synthesising material on the natural environment (some of it drawn from other disciplines and some from specialist studies by physical geographers) with that on human occupation: the goal was to depict different assemblages of physical and human features – at a range of spatial scales – which comprise a mosaic of environments with their own genres de vie. To many outwith the discipline – and increasingly to some within (see David, 1959) – this was not a rigorous scientific practice. Geography was tolerated in the universities because it could attract students and 'pay its way' (something that still characterises the discipline), but it was not seen as a major research discipline. A learned society – the Institute of British Geographers – was founded in 1933 to promote the research interests of academic practitioners, because many of them (especially human geographers) felt that the RGS largely ignored their work (Steel, 1983). Although it launched a serial (*Transactions*) at the outset, however, this only

published the occasional monograph and didn't become a regular journal carrying papers until the 1950s. Research was not a high priority among the country's geographers – perhaps one reason why none of them were elected to the British Academy until 1967 (a historical geographer, Clifford Darby, was the first).

The emphasis on the interaction between humans and their physical environments in this conception of geography points to a crucial feature of the context in which human geography has changed in the UK. All university geography departments, to a greater or lesser extent, include both physical and human geographers, the former practising as natural scientists. In the first half of the twentieth century, most physical geographers were also 'regional specialists', studying and teaching about areal differentiation in one part of the world. From the 1950s on, their specialist interests – notably in geomorphology (the study of landforms and land-forming processes), but also in biogeography and climatology – came to predominate. As a result, and as human geographers too deserted the regional focus, the two 'halves' of geography have become more separate activities, with distinct sets of practices. Nevertheless, for political reasons at least the two have remained together institutionally, offering students courses in both social and natural science approaches to the discipline (with most offering specialisation in one or the other, from the second year of their degree programme only). The consequences of this togetherness for the development of each are difficult to unravel (given the absence of a counterfactual case), but there can be little doubt that – as described below – it was crucial in the 1950s-1970s for the development of certain types of practice and has sustained work on society-nature interactions.

These changes really only became widespread in the mid-/late-1960s, however, and until then, despite prospering in terms of student numbers and the appointment of staff to teach them, geographers had little contacts with the burgeoning social sciences – including the relatively 'new' disciplines of politics and sociology as well as the longer-established fields of economics and anthropology. Thus the discipline was largely ignored by the 'new universities' established in the late 1950s: only Sussex included geography from the outset with Lancaster belatedly joining it in the 1970s (Johnston, 2004a). Similarly, geography was not part of the agenda of most of the former CATs which were elevated to university status (e.g. Aston, Bath, Surrey). There were geography departments in some of the polytechnics, in most cases based in the former teacher training colleges that merged into those new civic institutions. Thus although the discipline continued to grow very substantially – and suffered less than some other disciplines in both natural and social sciences during the downturn of the late-1970s/early-1980s, before prospering again after 1988 – this was not across the university system as a whole.

One final feature of the institutional context is central to appreciating the last sixty years of change in UK human geography: it is increasingly difficult to separate UK trends from those in the English-speaking world more widely, and especially in the USA. Geography is not a strong discipline in relative terms in US universities (especially when compared with the three core social sciences), in large part because it has not been a part of the high school curriculum. But it is large in absolute terms, and had big graduate schools before comparators were established in the UK. In the 1960s-1970s many aspiring British academic researchers went to North America to do a PhD. Some stayed, but others returned and had a substantial impact on the British

departments which appointed them. Others took the opportunity of teaching at summer schools, not only to obtain extra income but also to experience the ‘American way’, and increasingly UK geographers made regular trips to the USA: a contingent of several hundred can usually be found at the annual conference of the Association of American Geographers, for example. The discipline has become very much an Anglo-American construct (though there are important differences: Johnston and Sidaway, 2004b).

Five tumultuous decades

Until the early 1960s, change in British geography was slow and slight, although the foundations were being laid for what was to follow. The regional focus predominated in most department’s teaching portfolios and although physical geographers were beginning to develop specialist research agenda – albeit without grant funding of any proportions – there was very little movement in human geography: historical geography (mainly emphasising landscape change) was the largest ‘specialist’ interest, but there was little economic geography beyond descriptive studies of, for example, resource availability and manufacturing activities, and virtually no study of towns or of social geography.²

The first ‘new geography’

Then came a major shift – a so-called ‘theoretical and quantitative revolution’. This had several origins, of which three stand out:

1. The need for *rigour in description*, particularly description using quantitative data – empirical statements should be replicable and unambiguous (see Cole, 1969). This led to the use of descriptive statistics, initially in climatology, and a recognition of the need for introductory courses in such methods. The first text was written by a climatologist working at the University of Liverpool (Gregory, 1963) and a specialist study group on Quantitative Methods was established within the Institute of British Geographers in the mid-1960s.
2. The *search for order*, based on the belief that there were underlying principles not only in the operation of the physical processes studied by geographers interested in landscapes and the natural environment, but also in the spatial patterning of human occupation of the earth’s surface (see Johnston, 2003b). The department of geography at the University of Cambridge was at the heart of this shift, involving a physical geographer (Dick Chorley who had done graduate work as a geologist in the USA and been strongly influenced by those bringing a more ‘scientific’ approach – involving the hypothetico-deductive method associated with systems thinking – to geomorphology) and a human geographer (Peter Haggett, who, although his early work was in biogeography, spent the decade 1955-1965 developing a course of lectures

² I was an undergraduate at the University of Manchester, 1959-1962 – a large department with eleven staff and an intake to the honours school of 48. There were specialist courses in geomorphology, biogeography and climatology in the second year (all compulsory) but only in historical geography within human geography. There were compulsory regional courses in both second and third years (Great Britain and Ireland in the former; Western Europe in the latter) plus a range of regional options and something of a rag-bag of other ‘specialist courses’ (history of geography; applied geography). Although a ‘revolution’ was already being fomented across the Atlantic and could be accessed through some journals, it had no impact on the Manchester department then – or many others.

which became a classically-influential text on Locational analysis in human geography: Haggett, 1965). Chorley and Haggett and a growing range of contributors also promoted this 'new geography' to schoolteachers through a series of summer schools, two of which resulted in major edited volumes that became important texts in promoting their ideas at university level (Chorley and Haggett, 1965, 1967). Haggett moved to Bristol in 1966, establishing another 'pole of development' there, and graduates from the two universities rapidly 'colonised' the discipline as more departments embraced the need to teach and research in this 'new geography' – albeit somewhat grudgingly in the case of some senior staff: adherents to the 'new' were welcomed but few members of the 'older generation' were fully converted to the cause (Johnston, 1978; Taylor, 1976).

3. *Trans-Atlantic contacts.* Both of these trends were also being promoted in the USA, where they became more visible within the discipline slightly earlier – notably from the University of Washington at Seattle (Johnston and Sidaway, 2004a). Increased contacts among geographers from the two countries – both face-to-face and through journals and other publications (Johnston, 2004c) – facilitated a rapid spread of the new ideas. This shift accentuated the growing isolation of British geographers from their counterparts in continental Europe: until then the discipline's core (as in the USA) was very much based on late-nineteenth and early-twentieth century German and French conceptions of geography. The 'new geography' only reached those countries in the 1970s, however. Geographers in the Netherlands and the Scandinavian countries were much more receptive (and innovative) from the outset – and they tended to publish in English. The distancing from other continental European traditions has characterised British human geography for most of the last sixty years.

Most of the impetus for this work came from outwith the discipline: there was little in human geography's foundations on which to draw. (There were two main exceptions to this. 'Central place theory' is an idealisation of settlement patterns produced by a German geographer – Christaller, 1933 – which assumed rational economic behaviour by both service providers and their customers and suggested that this would result in a hierarchical arrangement of towns of various sizes serving hexagonal market areas: it had little impact until taken up by the human geographers at Seattle in the mid-1950s. Work on the diffusion of innovations was developed by a Swedish geographer – Torsten Hägerstrand (1953) – through detailed empirical studies of migration patterns there. He identified a 'distance-decay' pattern in migrations and other interactions – as indeed did sociologists and 'social physicists', but his work had little impact on Anglo-American human geography until he visited Seattle in the later 1950s – Duncan, 1974.) The bibliography to Haggett's 1965 book illustrates how much he drew on work by economists and sociologists on spatial order – economic theorists such as von Thünen, Hoover, Lösch, and Weber; sociologists such as Zipf and Stouffer.

The impact of these ideas launched on a largely-unsuspecting geographical community in the mid-1960s was both massive and rapid (and also traumatic). Though many established figures in the discipline were reluctant to embrace such a major change in ways of thinking, with the implicit (often explicit, though rarely in print) rejection of the regional approach, the pressures to accommodate the new ways of thinking were strong and, in a period of expansion with new appointments

available in most departments, it was not long before almost all had at least one practitioner of the 'new human geography' on their staff and teaching practices were very substantially altered: compulsory courses in statistics became de rigueur, accompanied in some by parallel courses in computer use and programming (see Whitehand, 1970).

At the core of this 'new geography' were two main themes. The first was the search for order in the landscape and spatially-expressed aspects of human behaviour, through application of the hypothetico-deductive 'scientific method' associated with positivism. For the first time, geography students were introduced to aspects of the philosophy of science – with the key book being Harvey's (1969) *Explanation in geography*. The second was the use of mathematical reasoning and statistical analysis in this search for order. Human geography was to become a spatial science.

The foundations laid down in this fairly short period have endured and been built upon ever since, although contemporary practices are very different from those on which they are built. This is very clear in the area of statistical analysis, for example. By the end of the 1960s, researchers – particularly Haggett and his colleagues at Bristol – had appreciated that there are major problems applying standard statistical techniques, notably those associated with the general linear model, to spatial data, because of biases in coefficients and their error terms introduced by spatial autocorrelation (an extension of the one-dimensional temporal autocorrelation of such importance in econometrics to two dimensions). Development of valid tools for spatial analysis was initiated, and remains important today. In this, as in so much else, change has not only been facilitated but made entirely possible by developments in computing technology. Spatial statistical analysis is now an extremely sophisticated activity.

One aspect of the development of computing technology that has been fundamental to much of this development has been the creation of geographical information systems (GIS) – combined computer hardware and software for the capture, storage, checking, integration, manipulation, display and analysis of spatially-referenced data (Longley et al, 1999, 2001). These integrate data that can be 'mapped' (in the widest sense of that term) and provide a technology that has not only been at the core of developments in spatial analysis in geography (physical as well as human) but in many other disciplines too as well as providing an enabling technology for a wide range of industries. This has stimulated a growth industry in Geographical Information Science (GISc) where geography is to the fore – something that has been developed more in the USA than in the UK as a core of the rationale for the academic discipline's financial survival (see Murphy, 2006).

A further change has been in the nature of the theory driving spatial analysis. It was soon realised that the models of economically-rational behaviour of *homo economicus*, on which many of the theories studied in the revolution's early years were based, were too unrealistic to be applied to contemporary behavioural patterns – increasingly so, because those were also based on strong assumptions that distance (because of the time and cost involved in crossing it) was a major constraint to spatial behaviour; its importance has declined substantially (perhaps even exponentially) over recent decades. Thus an approach termed behavioural geography was formulated, which sought for regularities in human spatial behaviour in a rigorous but

more inductive manner – searching for patterns within the context of general theories of how people make decisions in and about space (see Golledge and Stimson, 1997).

The ‘radicals’ arrive

No sooner had human geographers accommodated the massive changes in research and teaching practices induced by the ‘quantitative revolution’ – plus and their implications for relationships with the social sciences – by the early 1970s than a new ‘revolution’ arrived. In large part, this was a product of the social unrest throughout the western world, focused on the USA because of concerns about the Vietnam War but also covering issues such as social and economic inequality, poverty and civil rights. This stimulated a reaction to what was being done in spatial science, largely on the grounds that its descriptions and attempted ‘explanations’ of spatial patterns and behaviour were largely irrelevant to such major concerns and had little or nothing to offer to those who wished to tackle such major problems. The alternative offered was Marxism.

Although this movement started in the USA it soon spread to the UK, not least through the work of David Harvey, who had been at the forefront of the ‘theoretical and quantitative revolution’ but was now in the vanguard of the next. His collection of essays in *Social justice and the city* (1973) galvanised postgraduates and young academics, not only with his excoriating views on the work that he had promoted a few years previously but also with his promotion of a Marxist (or historical-materialist) approach. While Harvey supported and was personally involved in political campaigns for social justice (he was by then working in Baltimore) he also stressed the importance of a deep grounding in Marx’s thinking and dialectic methods. Capitalism had to be understood, and this involved theoretical work. For the next decade he worked to extend Marxian thinking by incorporating a spatial element to the theory – most notably in his *The limits to capital* (1982: published just before he moved to Oxford) – and in a number of works focusing on urbanization (e.g. *The urbanization of capital*: Harvey, 1985).

The ‘radical revolution’ stimulated some, like Harvey, to move away from geography as a spatial science and won over a new generation of graduates and young academics. But its influence on British human geography was different from its predecessor. Some of the ‘radicals’ were appointed to geography departments and introduced courses/research that broadened their portfolios, but this was not widespread – certainly nothing like the rapid and deep spread of ‘quantification’. In part this probably reflects the context. British universities were contracting and losing staff under Thatcherism, and many, whatever the sympathies of the established senior staff to this further ‘revolution’, lacked space for individuals promoting this approach – especially as they were also being driven to become more commercially-minded in their operations, not critical of the entire apparatus they were seen as there to serve. There was no take-over.

Perhaps more important, however, was a broad general acceptance of the radicals’ case, that studying the superstructure of capitalism – the spatial patterns of settlements and individual behaviour – was offering neither a full appreciation of what underpinned it (the so-called infrastructure) nor tools to do other than manipulate that superstructure: the fundamental problems of inequality could not be addressed within

geographers' largely descriptive paradigm, however quantitatively rigorous. Few established academics embraced Marxism fully, let alone signed up to radical reform agendas, but they at least recognised the argument that 'real explanation' required more than a distance-decay regression equation.

Further impetus toward this appreciation came from two directions. The first was a classic book from Derek Gregory (1978) – *Ideology, science and human geography* – which introduced human geographers to a much wider literature in the philosophy of science, social science and the humanities and focused their attention on the role of human agency in the continuous creation and re-creation of structures (including spatial structures) – what later became known through Giddens' (1984) work as structuration. A few years later, Andrew Sayer's (1984) *Method in social science: a realist approach* broadened the agenda by setting the base-superstructure-infrastructure model in a wider, not-necessarily-Marxist context. Such books and the debates that they reflect resulted in a more philosophically-aware human geography, which distanced itself from the geometrical determinism of some forms of spatial science and the economic determinism of some forms of Marxism by stimulating an awareness of the spatially-varying structure-agency interactions as people made their own histories and geographies but not in circumstances of their own choosing – as illustrated empirically by the important work of Massey (1984) on *Spatial divisions of labour*. Place was replacing space as geographers' leitmotif.

Alongside the radicalism of Marxism from the 1980s on was a further radical agenda reflecting one area of inequality within geography itself as well as within society more widely – sexism. The arrival of feminism within human geography, as in other social science disciplines, focused at first on the small number of women geographers and the institutionalised patriarchy that characterised the discipline, as well as on the invisibility of women in so much geographical scholarship. The agenda – led by a Women and Geography Study Group established within the IBG in the early 1980s, which produced an early collective text on *Geography and gender: an introduction to feminist geography* (1984) – soon broadened, however, as it drew on a wide range of sources from beyond the discipline concerned with difference and positionality, and the politics thereof (an extension reviewed in McDowell, 1993a, 1993b). This informed not only a growing volume of work in feminist geography – and a significant change in the composition of the academic discipline – but also a wider concern with the politics of difference which could be applied not only within feminism itself but also to other marginalized groups within society (and the study of geography). The feminist impulse also introduced human geographers to a wider range of theory – especially the burgeoning area of cultural theory – than they had heretofore encountered.

Followed by the 'cultural turn'

From the late 1980s on, this growing appreciation, and participation in the development, of cultural theory was to bring yet a new major strand to human geography's agenda. It was not the first attempt to promote the role of individual agency, however. Alongside the 'radical' revolution of the 1970s there had been a small number of dissenting voices criticising spatial science for its denial of individual free will in a form of spatial (or geometrical) determinism – a critique which also extended to the Marxist alternative. A range of philosophies – such as

phenomenology, idealism and existentialism – was explored, but although none of them achieved more than a token following among geographers the basic point was appreciated: it remained acknowledged but largely unrealised until the ‘cultural turn’ a decade or so later. Increasingly, geographers acknowledged the importance of constrained free-will within structural imperatives – imperatives that were changing markedly as the structure of capitalism was being reworked through globalisation and neo-liberalism.

The big change was initiated in the late 1980s in a small number of departments and came to the fore in the early 1990s. It became known as the ‘cultural turn’ not only because it drew much inspiration from cultural theory and the burgeoning multi-disciplinary enterprise of cultural studies but also because it sought to break down the barriers between different ‘types’ of geography – such as economic, industrial, political, urban etc – into an awareness that common human traits and behaviour patterns (‘culture’) underpin most (if not all areas) of life and thus are inscribed in spatial structures which constrain and yet facilitate further action.

One area of cultural studies which provided particular impetus – to human geography as to several other social science disciplines – was the growth of interest in post-modernism and its stresses on heterogeneity, particularity and uniqueness. This was expressed in a wide range of work which (at least implicitly) respected the arguments derived from Marxist, realist and structurationist scholars but distanced itself very much – and often aggressively so – from spatial science. The latter was seen as not only incorporating a version of economic/social determinism but also failing to ‘take seriously the complexity of human beings as creative individuals’ (Cloke et al, 1991, 17), with behavioural geographers restricting themselves to ‘a fairly narrow conception of how human beings think and act’ (p. 67). Instead, geographers were offered a plethora of approaches which, according to a major introductory textbook promoting the genre:

avoids the easy and ultimately dull options of retreating into worlds of compiled fact or modelled fantasy. It engages with real life and real lives, embracing their wonderful complexity. It seeks to do more than record or model; it tries to explain, understand, question, interpret and maybe even improve these human geographies (Cloke et al, 1999, p. ix)

Its focus, according to a parallel book (Cloke et al, 2004, 283) is describing and explicating the ‘meaningful nature of life’.

This body of work challenged much that continued to be done within human geography, especially within spatial science, and indeed created deep breaches within the discipline that make it easy for some to portray it as split in irrevocable ways. Some approaches have been reconciled with the ‘cultural turn’, at least partly, as in Harvey’s (1989) interpretation of the nature of societal and economic change since the 1970s within his firmly-held Marxist approach, the major thrust within economic geography involved with understanding the new forms of capitalism that have emerged with globalised neo-liberalism and how economies are now regulated, and the appearance of a structurally-based critical human geography with its emphasis on the ‘ought’ as much as the ‘is’ and its concerns with ethics and justice (Harvey, 1996; Smith, 1994). But the challenge has gone much further, as geographers have addressed material way beyond previous agenda – as in feminist-inspired studies of the body, of sexuality, and of children’s geographies – and stimulated much

rethinking about the relationships between humans and not only nature but also a wide range of other 'things', such as books.

This emphasis on subjectivity and the social construction of knowledge is grounded by geographers through a stress on the crucial role of place (at a range of spatial scales, a concept of much contemporary concern) within which subjectivity is developed, where identities are created and recreated, and where political strategies are enacted. In this they have not been alone, and there is talk of a parallel 'spatial turn' within the humanities and some of the social sciences reflecting wider appreciation of that key geographical concept – place – in the constitution of society. Space and place have been introduced to subjects and narratives which, according to geographical protagonists, have been for too long dominated by time: geography and history should run in parallel (if not interweave), rather than a privileging of the former.

A parallel source of inspiration for geographers working within this broad agenda is post-structuralism, with its emphases on language, texts, discourse and power. Drawing on a wide range of stimuli – not least French philosophers and social scientists such as Foucault, Derrida, Deleuze and Latour – this has emphasised the problematics involved in representing the empirical world (and not only the empirical world of 'things' but also the non-representational worlds of, for example, emotion and affect). Writing and other textual forms (including geographers' traditional medium, the map), as well non-textual representations (such as landscapes) reflects the author's positionality – and how it is interpreted reflects the readers'. The transmission of 'facts' and meanings is thus unstable as texts are constructed and deconstructed in spatial contexts – as illustrated superbly in Gregory's (2004) analyses of *The colonial present*: a book much influenced by, among others, Edward Said and his work on the presentation of 'others' – a theme also taken up by a growing body of work in critical geopolitics which stresses the role of political power in the creation and maintenance of such representations.

The 'cultural turn' has seen the nature of human geography change at least as much in the last fifteen years as it did in the period from 1960 to 1980. Again while much of this must be put down to the power of the ideas and their attractiveness to new generations of scholars (relatively few adherents of more 'traditional' views have been 'converted'), the rate and extent of the change has been facilitated by the changed academic environment. Universities have expanded rapidly in the UK since 1988, and (many) geography departments have enjoyed the fruits of this growth (albeit constrained by financial circumstances, which have not expanded to the same extent) because they have been able to attract undergraduate students – many of whom now find they have enrolled into a very different discipline from that which they studied in school. Operation of intra-disciplinary politics has enabled geographers associated with the 'cultural turn' to capture a significant proportion of the available resources – such as new/replacement staff positions – and to rewrite undergraduate curricula to emphasise their practices. This has not gone unchallenged in some departments, or in the discipline more widely: spatial science remains a strong contender for disciplinary resources (Jackson et al, 2006) – and not always associated with the burgeoning growth of GIS. But just as the discipline in 1975 bore little resemblance to that of 1945 or 1955, so the discipline in 2005 is different again.

Putting it all together?

This review of changes in human geography over the six decades since the end of the Second World War has stressed issues of geographical practice – what geographers do – rather than of geographical knowledge – what geographers study and how their knowledge is used. The former have been very substantial, however, and have been associated with comparable changes in subject matter for geographical study – although, as is often claimed, the key geographical concepts of space, place and environment have remained at the core of all that is done.

These changes in geographical knowledge can be characterised as both a broadening and a deepening of the discipline's content. Clearly defined subdisciplines were few in the first 10-20 years of the period; most practitioners identified themselves simply as human geographers, usually with a regional specialism. By the late 1970s, although there was still some teaching in a regional context, few identified a regional specialism as the main focus of their research. Instead, there were economic geographers and social geographers, urban geographers, industrial geographers and transport geographers, resource geographers – even quantitative geographers. Few were called cultural geographers until the 1990s, however (the term was usually associated with a particular school of human-environment studies founded at the University of California, Berkeley, in the 1920s-1930s). From then on, many more adopted that identification, but the intra-disciplinary boundaries became much less rigid.

Today, human geographers have been characterised in two main groupings only – spatial analysts and social theorists (Sheppard, 1995). Although an over-simplistic binary split, this emphasises the main difference between two main groups in their dominant practices – quantitative vs qualitative. Although some individuals practice on both sides of the divide – either in different substantive areas of study or by successfully deploying elements of both sets – and, of course, both have underpinning theories, nevertheless this is clear distinction can be found throughout the contemporary discipline, including the practices emphasised in some departments and their teaching programmes.

The presence of these two sets of distinctive portfolios of geographical practices in the contemporary discipline indicates that – as in other social sciences – the changes that have occurred in human geographer do not conform to Kuhn's model of normal science interrupted by occasional revolutions. None of the revolutions that have occurred have been totally successful, in that they have resulted in the elimination of previous practices (although some, like 'traditional' regional geography, slowly disappeared as their adherents retired from the scene). Instead, they have increased the range of work – some more so than others: geography is, and has been since at least the early-1960s, multi-paradigmatic, at every scale of that concept.

It has been suggested here that the two major changes in human geography since 1945, in terms of their volumetric contribution to the discipline's portfolio, occurred during periods of growth in the university system, when new practices could be readily incorporated as the discipline expanded – recruiting more students and appointing more staff. This may have been a necessary condition for change, but it was certainly not a sufficient one. Those wishing to alter the disciplinary agenda had

to convince others of the desirability of adding the new to the old – as a precursor, for some of the proponents at least, to replacing it and engineering a complete revolution. This is a political task involving competition for resources. The nature of such politics is discussed in more detail in a separate paper attached as an appendix to this one. It adopts Latour's (1999) model of disciplinary change and inserts a political element, showing how those promoting the 'new' – whether the 'quantitative revolution' or the 'cultural turn' – have used a range of political strategies to mobilise support for their agenda. This provides yet a further exemplar of structuration processes, of human agency operating within structures and contextual constraints to change those structures. Some human agents have been more successful than others, and the results show in the human geography's recent history and contemporary situation.

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The politics of changing human geography's agenda: textbooks and the representation of increasing diversity

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The politics of changing human geography's agenda: textbooks and the representation of increasing diversity

ABSTRACT. A discipline's changing agenda involves the introduction of new practices which challenge those already deployed and, if successful, at least partly replace them. Historians of human geography have identified such changes over recent decades but have been less successful in accounting for them. This paper adopts a recently-formulated model of disciplinary change, to which it adds a missing political element. It argues for the importance of mobilising support for a new agenda among students and other new entrants to the discipline, in which textbooks can play a substantial role. Several recently-published texts are analysed to illustrate their use as political tools in attempts to promote particular visions of human geographical practices.

KEYWORDS: human geography, change, politics, textbooks

Physical geographers make progress by standing on the shoulders of others; human geographers do so by standing on the faces of others. (Eric Sheppard)³

A topic of continuing interest in the history of human geography is the nature of recent changes in geographical practices. For a short period, the concept of disciplinary revolutions attracted adherents (as in Haggett and Chorley, 1967), but although this had considerable rhetorical value it was soon clear that the changes which had taken, and were taking, place could not be successfully accounted for by the model developed by Kuhn (1962) for the physical sciences. (On the Kuhnian model's relevance for human geography, see Johnston and Sidaway, 2004a.⁴) There was no evidence that new sets of practices were totally replacing those already being deployed, and little indication that substantial numbers of adherents of one set were being won over to the other (though see Sheppard, 1995). Instead, new sets of practices were being established alongside those already adopted, mainly by new generations of scholars (Johnston, 1978), with considerable debate among those committed to the varying positions. The result was an increasing diversity of practices within the (numerically expanding) discipline, with each group seeking adherents among new entrants – notably students (under- and post-graduate) – as in the responses to Harvey's (1973) revolutionary call! The changing shape of the discipline thus reflected the relative success of the various approaches on offer in attracting people to practice geography in the proposed ways.

³ Comment made by Eric Sheppard in discussion of a paper by Marston et al (2005) at the Denver meetings of the Association of American Geographers, 7 April 2005, though he claims not to have been the first to use it.

⁴ Note that Hubbard et al (2002, 25ff) wrongly claim that Johnston's *Geography and geographers* is an application of Kuhn's model of paradigm shifts to human geography. The claim is repeated in Kitchin (2005).

This growing plurality of perspectives could be presented as a relatively neutral process, in which the various approaches are presented to students and others who select what they perceive as the 'best practice' that they want to follow. Few of the presentations they evaluate are avowedly neutral, however. The choices on offer, as critics of Kuhn's original formulation indicated and he accepted in later publications, are made at three separate (hierarchical) scales: the world view – of epistemology and ontology – which is concerned with the nature of knowledge and how it can be obtained; the disciplinary matrix – the accepted generalizations and methodologies for creating new knowledge shared by members of a community; and the exemplar – the accepted best-practice for tackling a specific problem. For individual practitioners, changes in world view at some stage(s) in their career are rare; those at the level of the exemplar are most common. Within contemporary human geography, choices have been offered at all three scales: between different world views (see Sheppard, 2005); within them, between different disciplinary matrices; and, within them again, between exemplars. Textbooks are important in structuring those choices, especially in the exposure to disciplinary practices they provide for introductory students, hence the focus later in this paper on their role in recent attempts to re-shape human geography.⁵

Making such choices is rarely undertaken in a neutral context because competitors for students' attention operate within what are effectively zero-sum games. At any time, the resources available to a discipline – the number of student places, both undergraduate and postgraduate, the number of faculty positions, the amount of money for research grants, and so forth – are limited, so that if one approach captures a large share of the available resource base, others (necessarily) suffer. The outcome is that the former increases its relative size within, and perhaps dominance over, the discipline. There is thus a necessary politics to the process. Those promoting an approach to human geography have to 'out-manoeuvre' opponents pressing alternatives in the contest for disciplinary 'hearts and minds', in order to secure resources necessary to their own project. Those manoeuvrings mostly involve a large number of separate – though far from independent – local (institutional and intra-departmental) contests for resources. The zero-sum games thus comprise searches for and exercise of power, which may well make them asymmetric – some are better able to mobilize such power than others. As the games are repeated, successful protagonists increase the probability that they will be succeed again in subsequent resource contests, thereby increasing their potential hegemony within their institution and the discipline.⁶

The conduct of such political contests might be entirely positive in its use of language, with each group only stressing its approach's advantages. This is rarely the extent of the rivalry, however. Negative aspects of alternatives are frequently identified: we choose an approach not just because it appears 'better' but also because

⁵ Harvey (1973, 123) favourably quotes Johnson (1971) that one of the criteria for a successful revolution is that 'the new theory had to appear both difficult enough to challenge the intellectual interest of younger colleagues and students' while simultaneously having 'the appropriate degree of difficulty to understand ... so that senior colleagues would find it neither easy nor worthwhile to study' and offering 'the more gifted and less opportunistic scholars a new methodology more appealing than those currently available'.

⁶ This continued interplay between individual scholars and the disciplinary portfolio suggests the relevance of Giddens' structuration theory to an appreciation of change in the latter (Johnston, 1984a).

the alternatives are claimed to be either inferior or, even, unacceptable. The latter situation is particularly likely where those promoting a position – especially one relatively novel to the discipline – are at least partly doing so because they have serious reservations about one or more of the (established) alternatives. Competitiveness between rival groups becomes the norm; the politics of the contest for adherents reflect this with both positive and negative claims and counter-claims.

What political strategies are deployed in campaigns to change a discipline's agenda? How do people negotiate a space within a discipline's portfolio for a favoured approach, thereby almost necessarily restricting opportunities for others? This paper addresses such questions using a model recently adapted for study of disciplinary change within the social sciences, and extending it with a political dimension. It accepts Frickel and Gross's (2005, 207) basic premise that 'Scientific/intellectual movements are constituted through organized collective action' because they 'are contentious ...[and] inherently political'. Some substantial changes in a discipline's agenda and practices may occur without any great political activity (as defined below): they just happen because suggestions are taken up without overt proselytising and debates over the pros and cons of different approaches. That is unlikely, however, especially in a large discipline such as contemporary human geography, in which new agenda items threaten the sustainability of established approaches and (almost necessarily) stimulate political debates about the discipline's agenda.⁷

Several political strategies are identified below and their relevance to changes in human geography over recent decades explored, stressing the role of introductory textbooks in promoting change – without claiming that these are the only media through which change is promoted. Textbooks are treated as mirrors of course syllabi, of both those who write/edit them and those who use them. That some authors/editors produce books which promote an agenda for change indicates their perceived importance as *entrées* to the discipline. A plethora of textbooks is available and those responsible for introductory courses choose those which best fit their own approaches and agenda. (If indeed they do use a textbook; some prefer not to – even for introductory courses – and instead provide a range of readings.)

Having introduced a model of disciplinary change and the political strategies deployed therein, the paper illustrates its arguments with reference to a major issue that has characterised Anglophone human geography over the last fifty years – the use of quantitative methods. Debates have raged over these, and the (sometimes implicit) philosophies within which they are generally deployed. Initially, the conflict was between those promoting and those resisting their usage; currently, the 'quantifiers' are on the defensive (against views such as 'the dark days of the quantitative revolution': Crang, 1998, 43). The centrality of these debates to human geography over a fifty-year period, and the existence of textbooks which illustrate the autonomization strategy identified here, makes them an excellent case study of the politics of disciplinary change, as a descriptive exercise without debating the pros and cons of the varying causes.⁸

⁷ As detailed below, such debates are much more likely at the world view and disciplinary matrix scale of paradigm than at the exemplar.

⁸ Human geography is not alone within the social sciences with regard to debates over how they have changed, in many cases using the Kuhnian framework: see, for example, Gunnell (2005), Smelser (1999) and Wallerstein (1999).

A model of disciplinary change

The model of disciplinary change deployed here was outlined by Bruno Latour in *Pandora's hope* (1999) and adopted in Trevor Barnes' (2003, 2004) analysis of the rise and decline of regional science.⁹ Latour argued that changes within a discipline involve four separate, inter-linked processes, all of which are necessary if a project – such as creating a new discipline-subdiscipline or changing its dominant practices – is to succeed.

1. *Mobilization*. Individuals (perhaps just one at the outset) introduce a new agenda item, stressing its novelty and desirability and, in order to win attention, suggesting its superiority over at least some of the currently deployed approaches. Although the proponents' arguments will initially be rehearsed in relatively informal settings, to reach a wide audience they need to be presented through more formal media – what actor-network theory refers to as mobile immutables, which within academia generally means either books or journal papers. (Such published media are much more likely to be 'mutable' rather than 'immutable', however. The context in which they are read strongly influences how they are interpreted, creating the possibility of radical differences in their impact across different audiences: see Longino, 2002; Livingstone, 2003.) This can achieve a relatively wide circulation of the ideas, but publication alone is usually far from sufficient: many books and papers receive relatively little attention and have little impact, despite later 'revivals' as prescient harbingers of subsequent changes (see Johnston 1993, 1996, 2002).
2. *Autonomization*. Having launched a project/agenda its promoters invite others to embrace and advance the cause. The greater the number won over, and of students attracted to the project, the greater the potential for success, especially if new adherents are spread over a range of institutions. This strategy will almost certainly involve a range of media – such as seminars, colloquia and conferences – to attract attention and solicit support, as well as through the teaching of under- and post-graduates.
3. *Building alliances*. At this stage – undoubtedly overlapping with the second – the goal is to win space for the new agenda within the wider disciplinary project. It involves gaining places in undergraduate and/or postgraduate curricula for courses/modules promoting the new project – important for winning support from students who will carry the project forward – as well as for disciplinary resources, notably faculty positions and, where relevant, library, technical, field and other media. This stage, more than the preceding two, involves explicit political action since resource requests for employing faculty, funding students and so forth are frequently contested, as too is access to curriculum modules in many cases. This may involve seeking wide support among colleagues and important opinion-leaders/decision-makers: winning the backing of one or more key potential sponsors may be important, depending on the local/institutional context.

⁹ Frickel and Gross's (2005) model, which draws strong parallels between Kuhnian paradigmatic changes – what they term 'scientific/intellectual moments' – and social movements has much in common with Latour's, though they do not refer to *Pandora's hope*.

4. *Public representation.* Whereas the third stage largely involves political activity within the disciplinary project, this final stage involves winning support from a wider community, both within and beyond academia, including learned societies and the editors of their publications. For some approaches and/or disciplines more than others, acceptance of a new agenda within a disciplinary project may be insufficient to ensure its continuation. Certain types of resource – such as large research grants from public bodies – may not be available unless the project is accepted as part of the discipline’s portfolio. Without acceptance that an approach is a credible element of that portfolio, the agenda-setting may fail.

These four stages form a necessary sequence, with elements of each naturally following the predecessor. One does not have to be completed before the next is initiated, however.

The model’s overall argument is that achieving disciplinary change – adding a new set of practices to its portfolio and perhaps eliminating others – involves pioneers setting out an agenda for a new approach and attracting adherents through proselytising among colleagues and students. Having won such support and trained some students, wider institutional backing and a fixed place in the curriculum at an increasing number of institutions are then sought, followed by outside acceptance. Once the four stages have been knotted together, change has been achieved, though the process may be far from straightforward and the politics fraught. Failure to mobilize a substantial body of co-workers and to get wider support within the discipline (for example, from adherents of other approaches who nevertheless agree to reserve space within the disciplinary portfolio for the new project – a process that will usually be institution-specific) will almost certainly mean that the fourth stage politics are unsuccessful.

These four stages apply more to changes in either the world-view or the disciplinary-matrix conception of a paradigm (a community of scholars with shared goals and means for attaining them) than with the exemplar. With the latter, although debate may continue for some time over whether an alternative offers a better way of pursuing agreed research goals than those already widely deployed, it is probably easier for a consensus decision to be reached that one practice is better/worse than another, since the basic approach to knowledge-creation is unaffected.¹⁰ Hence the following discussion is about alternatives promoted at the world-view and/or disciplinary-matrix scales.

The politics of disciplinary change

Although in an ideal world competition for space within a disciplinary portfolio should involve rational decision-making in the face of evidence – arguments for a new approach are advanced, debated and then accepted or rejected (Longino, 2002) – this is rarely likely at the scales discussed here, for two reasons. First, winning space

¹⁰ An example is the debate over whether ordinary least squares or logistic regression procedures should be used when analysing categorical data; this was relatively soon resolved (largely through the refereeing procedure in journals) in favour of the latter, which is now accepted as best practice in many circumstances. The introduction of King’s (1987) *EI* method for tackling the ecological inference problem is a further example, with the debate as yet unsettled (Sui et al, 2000).

and resources for a new agenda almost certainly involves denying them to others, so that potentially impacted-upon groups will defend their status, position and resource base. Secondly, and more importantly, in many (most?) cases promotion of a new approach will involve (at least implicit) rejection of one that already has a substantial number of supporters. These may be convinced that the alternative is better, but they are quite likely to resist, defending their position against the attacks and downplaying, if not totally denying, the benefits of the proposed approach. Such situations form the arena in which the politics of disciplinary change are practised, within which six possible strategies are identified here – with one or more likely to be deployed alongside presentations of the positive aspects of the new agenda item

1. *The politics of denigration.* Either the proponents of a new agenda or/and the defenders of (part of) the status quo dismiss the alternative(s) as unworthy of a place within the disciplinary portfolio, arguing that what is done/proposed is poor practice which will not advance knowledge and its potential applications (and whose adoption/continued use could lower the discipline's status).
2. *The politics of critique.* In this less assertive version of the first strategy, rather than dismiss an opponent out-of-hand, its arguments are addressed and perceived relative advantages and disadvantages weighed-up. The goal is to demonstrate that one approach is superior rather than just assert it.
3. *The politics of dismissal.* One or more elements of a discipline's portfolio of practices is summarily dismissed as no longer viable. It is committed to the discipline's past, thereby making room for the proposed alternative(s).
4. *The politics of silence.* In this case, dismissal is assumed – even though the practices which promoters of a new agenda wish to replace remain part of the discipline's active portfolio. If approaches are ignored and their attributes not even addressed, their relative merits need not be discussed. Such a strategy is particularly important in the autonomization stage when the targets are students. If they are not made aware of certain elements within a discipline's portfolio, thus narrowing the overall disciplinary project, working within those 'unknown' elements is not an option (unless they 'discover' them serendipitously). Their choice set is restricted to elements favoured by those using the strategy, which they adopt rather than deploying the politics of critique.¹¹
5. *The politics of accommodation.* Whereas the previous four strategies are most likely to be used in the mobilization and autonomization stages, this and the next are more usually adopted when building alliances and canvassing public representation. Disciplines themselves, like their component parts, permanently compete for resources and attention within the academy, against others claiming a greater share of resources because of, for example, the quality and relevance of their science. In this, it is considered undesirable for a discipline to be seen as internally divided. Hence those promoting the discipline more widely may suggest that – undesirable though they may view certain approaches – it is politically more

¹¹ David Livingstone – personal communication – has suggested that a *politics of ignorance* may be associated with the politics of silence in some cases. Textbooks become parasitic on each other, creating a 'citationary structure' in which one citation builds on another without referring back to the original source – on citationary structures, a term adopted from Said, see Gregory (2004).

expedient to accept arguments that new agenda be added to the portfolio than it is to challenge them and perhaps be denied resources for the discipline as a whole. A 'politics of the broad church' is presented as the best way forward; it is better to incorporate one's opponents (perhaps hoping that their campaign will falter and the discipline return to the status quo ante) than contest their right to be within the wider project.

6. *The politics of unity.* This extends the previous strategy, based on arguments that disciplinary survival in keen battles over resources within the academy requires all associated with the institutional project to support a common stance. Commonalities among various approaches within the discipline are stressed, so that a unified and united front can be presented against threats and when realising the potential of opportunities.

As with the four stages of the change process, these six political strategies form an ideal-typical structure in which to place arguments over change. Many debates will see several deployed alongside the positive cases being made for new approaches, however. Separating them out in this way, however, provides a framework within which individual case studies of change can be appreciated, as illustrated in the remainder of this essay.

The politics of the 'quantitative revolution'¹²

The five decades since the mid-1950s have seen considerable debate within human geography regarding the role of quantitative practices and the epistemologies and ontologies with which they are widely (if sometimes falsely) associated. These illustrate all of the above stages and most of the political strategies. They are briefly reviewed here, to illustrate the general argument and as backdrop to a more specific example in the next section.

Launch of the so-called 'quantitative revolution' (hereafter referred to as spatial science, in which I include GIS) in the mid-1950s involved a small number of geographers mobilizing support in a few university departments. A new way of working was outlined, very different from the then dominant regional geography, and small cohesive communities of scholars were attracted to it, initially almost all of them in institutions where the original instigators were active (Johnston and Sidaway, 2004a). The graduate school in the Department of Geography at the University of Washington, Seattle is the paradigm example, where a few key change-agents (notably William Garrison) not only attracted able disciples but also rapidly built alliances within the department – through its chairman's committed support – in order to gain a place in the curriculum and other needed resources.

From such bases, the protagonists rapidly moved into the autonomization stage by seeking converts elsewhere, by publishing papers and also by widely circulating mimeographed documents which rapidly reached wide and receptive audiences. (Free access to the department reproduction and postal facilities was crucial to this strategy at Seattle: Johnston, 2004c.) They also made presentations to regional and national

¹² Choice of this case study is clearly not neutral since it is a 'revolution' to which I was a relatively early convert and whose basic tenets I have since sought to sustain (see Johnston, 1984b).

learned societies' conferences plus important international gatherings such as the 1960 Lund symposium on urban geography, and launched specialist journals that would put their ideas into wide circulation, given the resistance of established outlets to publishing their papers. Alliances were built by getting people appointed to other graduate schools and forging links with related disciplines, such as regional science.¹³

With growing support within the discipline, the public representation strategy was deployed. Promoters of spatial science sought to prove their relevance through applied research, for example, and to convince the wider academic community of their credibility. Assistance was gained from bodies such as the US National Science Foundation for training courses,¹⁴ and the 'new geography' was promoted through influential reports such as *The science of geography* (NAS-NRC, 1965) and *Geography* (Taaffe, 1970; this review – in a series produced by the Committee on Science and Public Policy of the National Academy of Sciences and the Problems and Policy Committee of the Social Science Research Council – involved substantial political activity illustrative of the 'public representation' stage because of uncertainty among members of other disciplines over whether geography should be considered a social science: Gauthier, 2002). These activities resulted in geography obtaining a funding niche within the American scientific establishment. In the UK, however, the changing discipline failed to gain recognition when new universities with strong social science presences were founded in the early 1960s, and geographers initially failed to get representation and access to resources when a Social Science Research Council was established (Johnston 2004a, 2004b).

Exploration of those debates over spatial science shows most of the political strategies used as its promoters mobilized support. The politics of denigration was deployed by both the 'perks (or hyperquantifiers)' and the 'pokes (or hypoquantifiers)' – the terms are Robinson's (1961): Gould's (1979) broadside against regional geography falls into this category, as do reactions to quantitative analysis exemplified by Stamp's response – 'a sledgehammer to crack a nut' – to one of Haggett's early papers, who was instructed by his head of department not to continue presenting such material (see Chorley, 1995). Debates over later proposed approaches were similarly marked by denigration – as in Berry's disputes with Harvey over Marxism (on which see Halvorson and Stave, 1978) and Openshaw's (1992, 1995) reaction to the 'cultural turn'. (An excellent discussion of those debates – with discussions of the arena on which they were set and of the individuals and communities involved – is Taylor, 1976.)

Not all of the contributions used the politics of denigration. Spate (1960) exemplifies the politics of critique, for example, and Berry (1964) deployed the politics of accommodation when seeking common ground between 'traditional' and 'modern'

¹³ As the bandwagon rolled, other departments would want to make similar appointments in order to 'keep up with the Joneses', as in the UK in the 1960s-1970s with the so-called diffusion of 'quantitative geography' out from the Bristol-Cambridge axis (Whitehand, 1970).

¹⁴ The role of these courses in the autonomization and building alliances stages is illustrated by the Ohio State University Department of Geography. One of its faculty members attended an NSF-funded summer workshop at Northwestern University – at which Ed Taaffe was an instructor – and returned convinced that this was the way forward for the discipline. He convinced his Dean, and Taaffe was hired with the brief of creating a department in which spatial science predominated (Gauthier, 2002).

paradigms in 'Approaches to regional analysis'.¹⁵ The NAS-NRC (1965) report similarly included a range of paradigms to demonstrate a politics of unity when addressing an outside audience in the 'building alliances' and 'public representation' stages. (The attempted accommodation implicitly placed some types of geography – and thus geographers – as inferior to those promoting spatial science: see James, 1965.) Two decades later, however, a similar report presented a unified position by a partial politics of silence: *Rediscovering geography* (NAS-NRC, 1997) stressed the spatial science paradigm when arguing for geography's role within the academic division of labour and significantly downplayed other widely practiced paradigms (Johnston, 2000a).

Textbooks and the politics of disciplinary change

...despite the much-vaunted information revolution ... no new technology yet surpasses the textbook in providing structured syllabus coverage.
(Steven Kennedy, *The Times Higher Education Supplement*, 27.11.1998, xi)

The previous section has illustrated some of the politics involved in human geography's 'quantitative revolution' launched in the 1950s. This section presents an examination of the recent politics of 'anti-spatial science' using the example of textbooks as a medium for political strategies deployed in the contest for students' attention and commitment to particular geographical practices at the autonomization stage. The type of textbook discussed here is that which claims to introduce students to a discipline as a whole – in this case, human geography. Texts used for introductory courses in US geography departments, most of which are empirical surveys of world physical, human or regional geography, are not considered here.¹⁶

The role of textbooks in disciplinary progress was set out in Kuhn's (1962, 10) classic description of 'normal science':

... research firmly based upon one or more past scientific achievements, achievements that some scientific community acknowledges for a time as supplying the foundation for further practice. Today such achievements are recounted, though seldom in their original form, by science textbooks, elementary and advanced.

When there is considerable agreement within a disciplinary community, textbooks summarise the current situation, synthesising what is known and setting out the procedures for extending knowledge – condensing the discipline and providing the foundation for further research:

These textbooks expound the body of accepted theory, illustrate many or all of its successful applications, and compare these applications with exemplary observations and experiments. (Kuhn, 1962, 10)

Such books invite students to embrace a paradigm – 'accepted examples of scientific practice ... [that] provide models from which spring particular coherent traditions of scientific research'; to join a scientific community and become 'committed to the same rules and standards for scientific practice. That commitment and the associated

¹⁵ Recent editorials by Berry in the journal *Urban Geography* are not as collegial in a search for common ground, however. (See, for example, three in Volume 23, 2002, on 'My Cheshire cat's smile' (pp. 1-2), 'Paradigm lost' (pp. 441-445) and 'Big tents or firm foundations?' (pp. 501-502).)

¹⁶ In the context of the case studies below, one of those texts (Fellmann et al, 2001) stands out because of its use of spatial science material (see Johnston, 2000c).

apparent consensus are prerequisites for normal science, i.e., for the genesis and continuation of a particular research tradition' within which 'subsequent practice will seldom evoke overt disagreement over fundamentals' (Kuhn, 1962, 11).

Textbooks are authoritative sources (Johnston, 2000b), addressing 'an already articulated body of problems, data, and theory, most often to the particular set of paradigms to which the scientific community is committed at the time they are written. Textbooks .. aim to communicate the vocabulary and syntax of a contemporary scientific language' (Kuhn, 1962, 136): this makes them 'pedagogic vehicles for the perpetuation of normal science' (Kuhn, 1962, 137). Giere follows Kuhn in this (Giere, 1988, 62-3, his emphasis: note that he is writing for a US audience, hence the reference to advanced textbooks):

The transmission of scientific knowledge has now become quite uniform. It relies heavily on the *advanced textbook*. Until beginning dissertation research most scientists in most fields learn what theory they know from textbooks – in conjunction with lectures that also follow a textbook format.

After a scientific revolution, when a new normal science tradition replaces a predecessor, the textbooks 'have to be rewritten in whole or in part whenever the language, problem-structure, or standards of normal science change'. Previous paradigms (and the revolutions that replaced them) are excluded, so that textbooks 'begin by truncating the scientist's sense of disciplinary history'; frequently they 'refer only to that part of the work of past scientists that can easily be viewed as contributions to the statement and solution of the texts' paradigm problems' (Kuhn, 1962, 138). Scientific history is written backwards!

Kuhn's presentation of the role of textbooks is set within his model of scientific change – of widely-agreed paradigms of normal scientific practice punctuated by occasional revolutions – which has been widely rejected for social sciences such as human geography. (Indeed, Kuhn never claimed its relevance to those areas of inquiry.) Those disciplines, increasingly so over recent decades, have been characterised by several competing paradigms not only where they might be expected at the scale of the exemplar (how best to pursue agreed goals) but also at those of the disciplinary matrix and the world view (what the goals should be). There is thus no agreement over what is known and how knowledge can be obtained, no single community of scholars with shared practices. Instead a range of approaches competes for attention among potential adherents who might commit to a particular set of shared practices.

In an idealised world, where all options are treated as equally valid and no zero-sum games are played over resources, introductory textbooks – those first encountered by students being enlisted to a discipline – should set out all the options and leave readers to determine which they should follow if they become disciplinary practitioners. Textbooks may be deployed by adherents of particular paradigms to attract converts to their chosen practices and prevent them adopting others, however.¹⁷

¹⁷ This may involve explicit decisions to omit/ignore certain perspectives on/approaches within the discipline. It may, however, be a sub-conscious outcome of previous decisions on approaches that are considered desirable and undesirable, with the latter then at best marginalised, at worst totally ignored because they have been rejected by the textbook's author(s).

By so using textbooks, their authors deploy (some of) the political strategies outlined above as they mobilize support for their agenda.

Textbooks are commercial products whose publication reflects marketing decisions regarding potential markets. Publishers' editors compete to exploit existing market niches (where other books cover the same material, but theirs claim to do so in 'better' ways) and identifying new niches where they hope to establish the market-leader in areas of growing demand: they are important gatekeepers in determining what mobilization media will be presented to student audiences.¹⁸ If authors want to use a textbook to promote a new agenda, they have to convince them that a market exists (or will exist).¹⁹ In most cases, it will be the former: some may be 'leaders' but texts are more likely to help build a wave once it is formed rather than start it.²⁰ Texts are much more likely to be used in the autonomization than the mobilization stage of a project to change the discipline's shape.

Before the 1960s there were no widely-used textbooks which introduced university students to the discipline in the mode described by Kuhn; the field apparently had no core and no agreed methodological canons to which all students should be introduced – though some books, such as James and Jones (1954: see Johnston, 2005a), sought to crystallise the discipline's content and agenda.²¹ The proselytisers for spatial science changed that, notably with two textbooks that exactly fitted the Kuhnian mould. Haggett's (1965) *Locational analysis in human geography* and Abler, Adams and Gould's (1971) *Spatial organization* both summarised existing knowledge about what soon became known as the 'new geography' and presented the methods deployed in extending that knowledge base: Haggett dealt with knowledge first and methods second (they became the subject of separate volumes in a second edition), while his American counterparts began by discussing methods.²² Both illustrate the politics of silence, ignoring what had been done before within geography: Haggett did set his pioneering framework for the study of spatial systems within a regional matrix, in a brief introductory chapter, but Abler, Adams and Gould, in a chapter briefly summarising the history of geography, claimed that their approach involved no more than addressing 'traditional geographical questions in a new spatial context' (Abler et al, 1971, 82).²³

¹⁸ Little has been written on the political economy of academic publishing – though see Barnett and Low (1996) and Davey et al (1995).

¹⁹ Haggett also promoted his agenda by bringing the 'new geography' to the attention of school teachers through courses at Madingly Hall, out of which two major collections emerged (Chorley and Haggett, 1965, 1967) and teachers produced their own texts (e.g. Everson and Fitzgerald, 1969).

²⁰ I am grateful to Alec Murphy for this metaphor.

²¹ Hartshorne's (1939, 1959) monographs set out a clear agenda, but they were hardly introductory textbooks: Wooldridge and East (1958) did essay the task, but was not widely influential.

²² A third book – Morrill (1970) – essayed the same task, but without treating methods. The relatively late appearance of both this book and that by Abler et al (1971), some years after Burton (1963) claimed that the 'revolution' was over, illustrates the contention (see below) that most textbooks lag rather than lead changes in the discipline. Haggett's (1965) was a 'leader', however, as the 'revolution' had hardly got under way in the UK by then: its early appearance reflected the willingness of the publisher – John Davey – to gamble on what he saw as an innovative approach.

²³ Haggett's title also suggests that he was trying to 'insert' spatial science within contemporary geography rather than totally replace what had gone before, and in later books he recognised other approaches. Abler et al were much more assertive. Their Preface (p. xiii – my emphasis) says the book 'is an outgrowth of our attempts to introduce students to *the* way geographers think about the world. Fortunately or unfortunately, depending on your viewpoint, geographers do not share a single, unified

The contemporary politics of introductory human geography textbooks

According to Hamnett (2003, 2: my emphasis), since the 1980s

...there has been a radical shift in the dominant methodology of much human geographical research. Quantitative techniques and aggregate social research have been largely *abandoned*, in favour of small scale, interpretative, qualitative, in-depth methodologies. Analysis of large data sets has become *totally* passé, the object of suspicion or even derision as ‘empiricist’.

Arguably, methodological development has been characterised by a shift from much mindless quantification and measurement to an unquestioning use of qualitative techniques.

If this were so, it would not be surprising if contemporary introductory textbooks ignored spatial science: its practices are obsolete and no more than a footnote for disciplinary historians since – in the Whig tradition of history that Kuhn associates with textbook-writing – its achievements are irrelevant to current paradigms. It is not the case, however (Johnston et al, 2003; Jackson et al, 2006): quantitative analysis is still widely practiced (and increasingly sophisticated) within human geography (see Johnston and Sidaway, 2004a) and Geographical Information Science is a substantial, vibrant and fast-expanding disciplinary component.

Given the current plurality of approaches, how do introductory textbooks (mostly aimed at first-year undergraduates in the UK context, but those at more senior levels – including graduate students – in the US) treat the situation. Do they – as suggested above would happen in an idealised world – outline all of the current practices in a relatively neutral fashion? Do they promote some paradigms over others (in this case that represented by spatial science), using one or more of the political strategies outlined here? Or do they focus on their preferred paradigms only, using the politics of silence to prevent students becoming aware of alternative practices? The following sub-sections identify examples of both of the last two strategies, having failed to identify any texts which undertake the first.

This section does not take issue with the authors/editors’ views but only uses their textbooks as exemplars of various political strategies deployed in mobilizing support for their agenda. Nor is it my case that all textbooks are deployed in the politics of agenda-changing: most are not. Many set out to synthesise a portion of the discipline only, within clearly-stated bounds. Some seek to cover the field’s full range – as in several recent texts on approaches and methods (for example, Clifford and Valentine, 2003; Flowerdew and Martin, 1997; Kitchin and Tate, 2000; and Robinson, 1998).²⁴ Most texts have to be selective, of course – even those which set out to cover the entire field (such as Haggett, 1983, 2001). By their silences they influence what students/readers are exposed to – either directly or through the recommendations of those teaching them. They differ from those discussed below, however, in that,

way of thinking about man’s spatial experience’. The whole tenor of their presentation suggests that – much more than Haggett – they see their approach as the only one that the discipline should pursue.

²⁴ Even so, not all such books are neutral in how they present various methods. For example, Hoggart et al (2002) have two chapters respectively entitled ‘Superficial encounters: social survey methods’ and ‘Close encounters: interviews and focus groups’. The choice of the first word for each title is revealing of their position!

explicitly at least, they are not part of a project seeking to alter the discipline's agenda and shape. All textbooks are political media, but some are more political than others.

Spatial science happened, but ...

Some recent introductory texts acknowledge the existence of spatial science and its influence on human geography's development, but in presenting their own preferred world views and disciplinary matrices their authors significantly play down the current role of, particularly, quantitative work. They deploy combinations of the politics of critique and dismissal, but neither silence nor denigration.

Peet's (1998) *Modern geographical thought* – 'a gargantuan' work on 'contemporary thought in geography' (p. vii) – recognises spatial science's role in focusing geographers on the need for explicit use of theory. (Pre-spatial science human geography is usually presented as a-theoretical as its implicit theoretical underpinnings were rarely acknowledged.) Harvey's (1969) *Explanation in geography* is Peet's exemplar (indeed, little other work is discussed in the relevant 14 pages in a book of some 300): Harvey 'turned the heavy artillery of logical positivism and scientific method against the "mere description" of unique regions', thereby providing an 'entry into modern science [which] saved the discipline, especially in the United States' (p. 32). However, the positivism that it embraced is dismissed as serving

...merely to summarize some tendencies which form the prelude to the main work, human geography as social theory [but it] contained too much stress on generalization (p.33).

Harvey introduced geographers to the need for theory, but theory of the wrong sort (which he recognised a few years later: Harvey, 1973).²⁵

Thinking geographically: space, theory and contemporary human geography (Hubbard et al, 2002) was designed to assist students – who, the authors claim, have 'an aversion to studying theory' (p. viii) – by demonstrating 'why addressing theory is important by showing how it shapes the production of geographical knowledge'. The authors recognised that spatial science and other late twentieth century approaches still attract practitioners:

Far from being "dead" or killed off, the theory and practice of spatial science, Marxism, humanism, feminism and behaviouralism are all alive and well ... positivism in its various guises continues to underpin much research in human geography (p.55).

Nevertheless, although covered in an introductory survey of human geography's recent history these are excluded from the five illustrative chapters on 'Practising theoretical geographies' (entitled geographies of the body, text, money, governance and globalization respectively) which detailed contemporary modes of thinking. Hubbard et al (2002, 93) claimed that they 'didn't wish to constrain choice' by

²⁵ Elsewhere, Peet recognises that complete revolutions have not occurred and practices that he clearly considers passé continue as part of the discipline's portfolio: 'of course, it is not the case that everyone joined each wave of interest, being carried along on the wave until it broke under criticism, then jumping to the next upswell of concern. Each new interest has left a residue of knowledge in all and made committed adherents out of some' (Peet and Thrift, 1989, 24). Indeed, the next chapter in their book deals with such a residue – mathematical models – before moving to discussions of their preferred agenda.

students, but presented a constrained choice set confining their detailed attention to 'some of the new theoretical impulses shaping contemporary human geography'. This involved a politics of neither critique nor silence; it was a politics of dismissal through grudging recognition only. They state that 'While it has been tempting for us to forward our own opinions as to the most appropriate and valid means through which to think geographically, we feel it has been more pedagogically constructive to allow you to make your own decisions about which approach seems most plausible in explaining the world' (p.235) – but those decisions are much constrained by the authors' silence about some options currently available within the 'singular diversity' (p.234) of geography that they recognise but fail to detail. That their coverage is 'both partial and selective' (p. 93) is acknowledged: what is not is that by illustrating 'the varied and ever-changing nature of geographical thought' through their own selection of 'key theories' they are steering students in particular directions. (Of course, the students may reject that direction!)

The politics of dismissal is also demonstrated in a text which devalues spatial science. *Key thinkers on space and place* (Hubbard et al, 2004) comprises 52 brief biographical essays on 'those who, in our opinion, have contributed significantly to *theoretical* discussions on the importance of space and place in shaping cultural, social, economic and political life in recent years' (p. 1: their emphasis: only 27 of the 52 can, by any stretch of criteria, be identified as geographers). Five essays cover individuals whose contributions are firmly set in the spatial science mould: Brian Berry, Reginald Golledge, Torsten Hägerstrand, Peter Haggett and Waldo Tobler – Peter Taylor has also made major contributions in that genre but these are ignored by his biographer, who references none of his pre-1982 work (on which see Johnston, 2001).²⁶ Four of the five 'spatial scientists' are virtually dismissed by the editors – their 'version of spatiality still informs *certain* geographical writing ... [but] the more widespread understanding of space among human geographers is that social, economic and political phenomena are the product of spatial-temporal locality and the articulation of inter-relations brings space into being' (p. 2: my emphasis). Spatial scientific work is then characterised as a '*rabidly* objective type of analysis' (p. 4 – my emphasis).

Like the editors, authors of the five entries also exercise the politics of dismissal: for Clark, Berry's work was 'In turn, unfashionable, fashionable, and now again unfashionable' (p. 48); Kitchin – while accepting that 'behavioural geography continues to be widely practised within human geography' – deems Golledge's work 'no longer considered at the cutting edge of geographical theory and praxis' (p. 141); and Flowerdew – again noting that spatial analysis 'remains as an important if minority interest in contemporary human geography' ('if only because there are many applications to commercial and public location problems') – sees Haggett's work as emblematic of the 'unfashionability of modelling, quantification and positivism for the last two decades' (p.158) whereas Tobler's 'lays him open to accusations that he is more concerned with methods to describe and manipulate geographical reality than he is to explain or understand phenomena' (p.305). Only Hägerstrand comes out in a positive light as producing work still relevant to contemporary geography: 'Unlike other quantitative geographers' his ideas have 'been of interest to geographers of

²⁶ As, of course, have Trevor Barnes, Michael Dear, David Harvey, Michael Storper, and Nigel Thrift, but those aspects of their careers are largely ignored too. The editors do say that the entries are not meant to 'offer a thorough or balanced overview of the career of each thinker' (p.13)!

different persuasions [including humanistic geographers such as Buttimer and Pred] and remain an important part of social and cultural geography's conceptual toolkit' (p. 153).

As one reviewer noted, this combination of selection decisions and the politics of dismissal means that the book 'could prove as potent in silencing certain voices within geography as was the so-called paradigm shift of the quantitative revolution' (Graham, 2005, 182). The editors' only, indirect, response was that they wished to 'focus on those who have made an important contribution to the theorisation of space and place in the last forty years', having judged (their term) that 'many educators focus on the evolution of geographic thought in the aftermath of the 'quantitative revolution'' (Hubbard, Kitchin and Valentine, 2005, 86).²⁷

An even more partial example of work in this genre is *Thinking space* (Crang and Thrift, 2000) which portrays 'the relationships between space and theory, inspired by developments within and beyond the discipline of geography' (p. xi). Its 16 chapters entirely ignore any work by geographers (Haggett, Hägerstrand, Harvey and Massey, to name but four: Harvey gets 12 items in the index, but no coherent evaluation of his major works; Massey gets one mention only and Haggett and Hägerstrand none.) In a book intended to stimulate 'a two-way exchange between the appropriation of geographical ideas and the work that those spatial sensitivities perform in various theories' (publisher's back-cover 'blurb') this presents a very asymmetric view: its implication is that geographers have nothing to offer to the social theorists who have recently 'taken a spatial turn – using geographical concepts and metaphors to think about the currently complex and differentiated world'.

Did spatial science happen and is it still here?

The textbooks discussed above acknowledged, however grudgingly, not only the role of spatial science in human geography's recent history but also its continued existence within the disciplinary portfolio (if not its relative size: GIS and its large number of adherents gets but the briefest of mentions in Hubbard et al, 2002, p. 33, and only six cursory mentions in Hubbard et al, 2004). Others deploy the politics of critique and dismissal – even silence. This is illustrated by four introductory textbooks in human geography produced by a group of authors/editors who were colleagues in the Department of Geography at St David's College of the University of Wales, Lampeter, during the late 1980s and early 1990s;²⁸ two of those books, presented as introductions to the discipline, are discussed in detail here as examples of using textbooks as mobilization media.

Introducing human geographies (Cloke et al, 1999) is an edited collection that:
... maps out the "big questions" that Human Geographers *past and present* are fascinated by; explores in more depth the key topics that are being pursued in the subject today ... to introduce ... a Human Geography that has a strong

²⁷ They also claimed that 'the word 'geography' in a book title apparently kills sales, particularly in North America where geography is a relatively weak discipline' (p.186).

²⁸ There are clear parallels between this group which worked in the same institution for a short time and that which was so crucial in launching quantitative work at Seattle in the 1950s.

intellectual coherence at its heart associated with the “cultural turn” (p. ix: my emphasis).²⁹

The book explicitly does not

... have much space for the sorts of simplistic models of spatial laws and forms that for a while came to dominate many Anglophonic school curricula. The Human Geography we want to introduce you to, and the Human Geography you will find to be predominant in the subject’s intellectual arteries of research journals and books, avoids the easy and ultimately dull options of retreating into worlds of compiled fact or modelled fantasy. It engages with real life and real lives, embracing their wonderful complexity. It seeks to do more than record or model; it tries to explain, understand, question, interpret and maybe even improve these human geographies (p. ix).

Students are introduced to a constrained choice set within the ‘substantive diversity’ (p. xii) of contemporary human geography, one claimed to have ‘a strong intellectual coherence at its heart, but which applies this with an invigorating catholicism’. After 34 chapters, the book returns to that choice set, noting that ‘Human Geography is, or certainly should be, a meeting ground for many voices’ (p.332) – but not all of the voices currently deployed within the discipline will be heard by student users of this text.

The politics of silence and dismissal underpin this book. By implication, spatial science is not only defunct now: even when it was a substantial practice it did not address the “big questions” that fascinated past geographers.³⁰ Spatial science may have existed, but there is no need to tell students that: even if it still exists, it is not part of a geography that has ‘intellectual coherence’, and not worthy of mention. *Introducing human geographies* is intended for adoption as *the* text for introductory courses, but only introduces a partial and privileged section of the contemporary discipline.

A second, substantially enlarged edition (Cloke et al, 2005) is described in the publishers’ blurb as a ‘new edition of *the* bestselling’ text (my emphasis): it cites favourable comments such as ‘THE text for first year students who are looking to understand the wide initial approach used in contemporary human geography’ and ‘the best first year introduction to geography I have seen’. It had clearly identified a market among teachers whose appreciation of human geography’s ‘wide initial approach’ accepted the constraints imposed by the editors. The much-expanded book (368 pages in the first edition; 653 in the second) covers nothing explicitly identifiable as spatial science.³¹ The introductory section on ‘What is human geography?’ (pp. viii–xii) makes no reference to such material being present in the discipline’s past, let alone currently – despite claiming that ‘having an understanding

²⁹ Which of course begs the question whether introductory students will appreciate the reference to the ‘cultural turn’!

³⁰ This is illustrated by the first book to emerge from this stable – *Approaching human geography: an introduction to contemporary theoretical debates* (Cloke et al, 1991) – whose intention was ‘principally to provide a clear and concise ‘introductory survey’ of approaches taken by post-positivist human geographers’ (p. viii) and which either ignored or mis-represented (largely through caricature) the work of spatial scientists.

³¹ There is one entry in the index for GIScience, for example, linked to a (largely negative) discussion in a chapter on relevance of the promotion of GIS in the AAG *Newsletter* on how geographers and/or geography should respond to 9/11 (see also Cutter et al, 2003 – which isn’t referenced): quantitative methods are not included in the index.

of the traditions of Human Geography is enormously valuable'. A subsequent section on 'Doing human geography today' (pp. xii-xiv) ignores that tradition too, merely noting 'long-standing trends in Human Geography – towards humanistic, political-economic and discursive approaches' (p. xiv). In a book which 'provides you with a 'travel guide' into the academic subject of Human Geography' (p. vii) the politics of silence predominate. The editors are not 'much concerned with the ever more sophisticated tools for managing and manipulating geographical 'information', the sort of geography so successfully marketed to commercial and political organizations. Before engaging with the technologies of information management we feel it is important to have a wider sense of geographical 'knowledge'' (p. vii) – and not to provide students with any entrée, however slight, to that literature.³² their goal is to introduce students to a constrained choice set.³³ This is the politics of silence, totally ignoring spatial science (as is the case also in Massey et al, 1999.)

Practising human geography (Cloke et al, 2004) explores 'the many tasks entailed in conducting research on given processes and problems' – how geographical knowledge is created: it is a textbook about methods rather than substantive content. It deploys the politics of critique and dismissal, as in a chapter on 'enumeration' which recognises that

Numbers are a fundamental facet of our everyday lives ... It is inevitable, therefore, that human geographers will be informed by, and in turn will seek to inform, this numerical world using processes and practices of enumeration (p. 247).

These practices are not central to the authors' preferred geographical practices, however:

... enumeration in human geography is best seen as a form of thin description, capable of identifying certain characteristics and patterns of data, but incapable of describing or explicating the meaningful nature of life (p. 283).

By restricting human geography to work which explicates 'the meaningful nature of life', certain practices are – necessarily? – deemed largely irrelevant and, in effect, damned with faint praise. On quantification and GIS more generally,

... we do not think that such developments are central to contemporary human geography. They undoubtedly generate useful 'tools' to be deployed on occasion but we do not see how what are basically technical exercises can be more than a small part of the larger whole.

Furthermore, those who use those tools are dismissed as spatial scientists who ... tend to reduce methodology to technique, being bothered about the correct running of an appropriate statistical test but less about anything entailed in the deriving of the data on which the test is conducted (unless relevant to deciding on which particular test is suitable), not about anything following conceptually, politically, ethically or otherwise from choosing to tackle the data statistically rather than some other way. There is a further and possible simpler objection to raise in relation to the appearance of spatial science, moreover, in that it evidently led many human geographers to lose interest in

³² A further edited volume – *Envisioning human geographies* (Cloke et al, 2004) – is ed at more senior student audiences who, once introduced to the discipline and committed to the intellectually coherent view of the discipline associated with the "cultural turn", are interested in ways forward and research directions: it contains no reference – not even negative – to spatial science.

³³ Note also Thrift's (2004, 439) implicit statement that 'quantitative models, GIS' are not 'at the cutting edge of each [physical and human] part of the discipline'.

field-based *primary* data, given that they rapidly became far more interested in the enticing array of statistical-mathematical techniques available (and being refined) for analysing secondary data. (p. 21)

The authors conclude that

It is an exaggeration, but perhaps not too great a one, to state that this version of human geographical inquiry ceased to practise human geography except in the most minimal of senses.

These books aim to introduce students to contemporary human geography, its knowledge base and accepted procedures for knowledge-production – they are paradigmatic textbooks.³⁴ But their presentation of the discipline – of inculcating students – is, at best, partial. Their view of how the world can be understood uses a variety of political strategies, either avoiding focusing students' attention on other paradigms, of which the authors disapprove, or presenting them in a highly partial way, thereby expecting students to join them in rejecting such approaches.

As introductory textbooks, these illustrate autonomization strategies involved in promoting change within the discipline by establishing the primacy of one approach (that associated with the “cultural turn” and ‘explicating the meaningful nature of life’) over others in presentations to students. They invite other teachers to adopt the same approach and focus students' attention on the selected view of the discipline.³⁵ Like publishers, teachers are more likely to adopt a book (whose approach and contents they approve) as an introduction to the discipline's scope once it is clear that a new wave has been formed and is building. The more that the books are used, and the more adherents to the project that are won over, the greater the strength of those promoting the paradigm when building alliances, bidding for resources and seeking public recognition. Slowly, through the various political strategies, one paradigm gains ascendancy over others.

Conclusions

Textbooks are authoritative tools, setting out what a discipline or sub-discipline studies, how it does that, and what has been achieved. They are used, by those who direct learning and adopt them as authoritative statements for courses they are teaching, and also on occasions by students acting as independent learners, as ways in to the discipline/subdiscipline. Where the approach is relatively uncontentious – because the books are aimed at specific sub-disciplines only, enjoying general agreement on ways and means – they are neutral as political documents. But where there is debate and a variety of views about how the discipline should move forward, textbooks which purport to introduce a discipline as a whole but cover only sections of it are part of a political process, a contest for position and resources within that

³⁴ This raises interesting issues regarding use of the term ‘contemporary’. It could be argued that spatial science has been either omitted from or downplayed within those books because it has a relatively long tradition within human geography so the authors/editors are not suggesting that it is no longer practiced. Nevertheless, there can be little doubt that the books' authors/editors want to see that practice reduced in its importance within the discipline, if not removed from it entirely.

³⁵ If this were not the case publishers would not have produced them – certainly not in second editions. (A second edition of *Practicing human geography* is scheduled by the publishers for late 2005 – though it did not appear to schedule.)

discipline. Some are more overtly political – as part of the autonomization and mobilization processes – than others.

Human geography, according to the then-newly-appointed editor of one of its major journals, is ‘an open, vibrant and exciting place to be’ (Tickell, 2002, 1): he argued that ‘rather than police the margins of the discipline, let’s stretch them’. The textbooks discussed here do not illustrate that position. Instead, using a range of political strategies, their authors/editors have sought to move the margins by not only stretching the discipline but also by putting some geographical practices/paradigms (including at least one – spatial science – which remains ‘open, vibrant and exciting’) beyond them (or at least marginalizing such practices within the discipline). The (implicit) intent is to change the discipline’s shape by ensuring that few students become aware of those marginalized paradigms and so will not join them. Over time, marginalization increases and the approaches favoured in the textbooks achieve the sought-for domination of the discipline and its resources – until the next set of approaches and its (partially-)authoritative textbooks comes along.

The books used here to illustrate arguments about the politics of disciplinary change are by no means unusual. Many human geography textbooks are similarly restricted in the constrained choices presented to students (see, for example, reviews in Johnston, 1979a, 1998). Given the contests for resources within the discipline – as set out in the Latour/Barnes schema – this is not surprising. Scholars wish to advance their own agenda and use whatever means are available for that. Textbooks provide an excellent vehicle for mobilizing potential converts and advancing the cause of an autonomous presence within the discipline. Presenting a partial view of the discipline as – at least implicitly – embracing its entirety may raise interesting ethical issues, of course: what political strategies don’t?

Although all textbooks are necessarily partial to some extent – in either sense of the word – some are much less (and deliberately) so than others. Some deploy the politics of accommodation and/or unity, stressing the public representation aspect of disciplinary activity. Whatever the variety of approaches and debates within the discipline, a common front must be presented to external audiences. This is exemplified by *Unifying geography* (Matthews and Herbert, 2004), with a preface from the Immediate Past-President and the Director of the Royal Geographical Society stating that:³⁶

Geography has always been a diverse discipline. ... It can only be a strength, however, if it develops around a common core of knowledge with which the discipline can be identified.

That common core – for them and the editors – involves unification of physical and human geography, and involves deploying the politics of silence regarding some parts of the discipline.

A characteristic of any arena which is ‘open and vibrant’ is that debate is encouraged, with options being opened-up for the participants rather than closed-off. That has not always characterised human geography in recent years. When spatial science was rising to a considerable ascendancy within the discipline, debate between its

³⁶ Cooke and Gardner make this explicit: geography is under pressure to prove its relevance to society’s pressing concerns and to withstand challenges from other disciplines.

protagonists and opponents was loud and occupied many pages in its journals, with the politics of critique, dismissal and denigration commonly deployed. And yet – as the books by Haggett and Abler et al illustrate – when it came to introducing students to the discipline texts were partial and characterised by the politics of silence. That trend has continued. With a greater variety of approaches now on offer, and with a wider range of communities competing for disciplinary resources, increasingly textbooks have promoted only one view of the discipline to students, in some cases using the politics of critique and dismissal (if not denigration) but just as often using the politics of silence. Change within the discipline is being ‘advanced’ by introducing students through textbooks to favoured parts only, with others at best marginalized, at most ignored.

In rejecting Kuhn’s revolutionary model as valid for appreciating changes within human geography over the last 60 years, Johnston (1978, 1979b; Johnston and Sidaway, 2004a) suggested a generational model which retained Kuhn’s (1962, 11) concept of a paradigm – ‘accepted examples of scientific practice ... [that] provide models from which spring particular coherent traditions of scientific research’ – but denied the existence of any totally-successful revolutions. Change occurred when a generation of scholars, dissatisfied with currently-dominant paradigm(s), successfully launched an alternative and created a niche for themselves within the discipline’s academic division of labour, even if they could not dominate it. That model lacked any attention to the politics of the inter-paradigm struggles which characterize attempts to change a discipline’s shape. The Latour-Barnes model discussed here similarly ignores the politics involved, but provides a valuable framework within which a political element can be firmly inserted. That has been the purpose of the current essay, arguing – again, following Kuhn – that textbooks are key resources deployed in mobilizing support from new generations of students. This has been illustrated by a number of recent introductory textbooks in human geography which present a partial picture of the discipline only in an attempt to change its agenda and shape.

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