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Geography and the Social Science Tradition

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Definition

Social science is the study of human society and activity; its member disciplines include economics, political science and sociology. These social sciences expanded rapidly after 1945, using scientific methods to analyse problems and suggest how they may be solved. Before the 1970s few human geographers identified their discipline as a social science, but many now do. This shift was initially linked to the adoption of a positivist ontology and its associated 'scientific method', but many contemporary human geographers who identify as social scientists have challenged this orthodoxy, drawing on a diverse range of theories and approaches, including Marxism, feminism, postmodernism and post-structuralism, to create a very broad and diverse contemporary discipline.

INTRODUCTION

Geography in general, and human geography in particular, has moved among the major divisions of academic life within universities over the last century. Before the 1970s, very few human geographers identified their discipline as a social science: two decades later, most did. That shift was neither 'natural' nor necessarily obvious: it resulted from conflicts over the discipline's identity and over the willingness of 'the social sciences' to accept geographers within their orbit. This chapter traces some of those conflicts and the changes in geography that they involved, with particular reference to the situation in the UK and North America.

GEOGRAPHY'S ORIGINS

Geography as both an intellectual and a practical activity has a long history (Livingstone, 1992); geographical material was being taught in the ancient British universities by the late sixteenth century (Cormack, 1997; Withers, 2002; Withers and Mayhew, 2002) and in several American colleges in the early nineteenth (Koelsch, 2002). But in both countries it became a recognized segment of the academic discipline of labour – only with separate university departments of, and degrees in, geography – only in the early twentieth century. In the UK, by 1950 virtually every university had a geography department (and a professor, indicative of the discipline's status), but most of these were small, with few graduates each year and no more than five staff members (Johnston, 2003a). In the USA, there was no time when there was a geography department in the majority of universities.

Much of the early pressure for the discipline's establishment in British universities came from the Royal Geographical Society (RGS) (founded in 1830), whose major concerns were with the promotion of British imperialism and associated notions of citizenship (Ploszajska, 1999; Driver, 2001; see also Chapter 1 in this volume and Schulten, 2001 on early geography in North America): it focused attention on Cambridge and Oxford. Elsewhere, the demand for geographical teaching came from a variety of sources. In some universities its introduction was linked to a major donor's wishes. In others, economists made the case for courses in commercial geography (Chisholm, 1886; Wise, 1975; Barnes, 2001a).[1] Indeed, the first professorship in geography was held by L.W. Lyde (a classical scholar and author of numerous school texts with sales of over 4 million), who taught courses for the Department of Economics at University College London.[2] In others, a separate geography presence emerged from the geology departments to cover the study of contemporary landscapes. Whatever the origin, in most UK universities the main rationale for full geography degrees was to train students who would then teach the discipline in the country's public and grammar schools. In these ways, geography as an academic discipline was established by individuals from a variety of backgrounds (Johnston, 2005b).[3] The USA had no central body pressurizing universities to introduce geography courses and departments, and those established reflected local demands; most departments originated (such as the oldest, at the University of California, Berkeley) with the appointments of geographers to teach courses for either geology or economics/commerce students – as was the case also in the universities of the then British Dominions (Australia, Canada, New Zealand, South Africa).

There was a very strong symbiosis between secondary schools and universities in promoting geography in the UK – as in Germany (Schelhas and Hönsch, 2002): the schools provided the university students, many of whom returned to be schoolteachers after graduation. This symbiosis was enhanced by the Geographical Association, founded in 1893 to promote geographical education at all levels, but which focused on schools. It remains an extremely important pressure group (Balchin, 1993): without it (spearheaded for much of its existence by a few senior academics), it is very unlikely that geography would be as large a discipline in the country's universities as it is now (Rawling, 2001;

Walford, 2001). In this, the UK situation contrasts with the American where, although there was early pressure for training geography teachers in the 'normal schools' in some states, the discipline was not in the high-school curricula and thus very few proceeding to university had much knowledge of it.[4] Student interest there had to be captured by professors offering attractive and interesting introductory courses within much broader curricula than was the case with the highly specialized UK honours degrees; indeed, very few American undergraduates today go to university with the specific intention of majoring in geography.

Geography's origins were reflected in how it was practised for the first half of the twentieth century. The roots in geology were the basis for the development of physical geography – especially geomorphology, as with the influence of the Harvard geologist, William Morris Davis (Chorley et al., 1973). Those in economics stimulated interest in patterns of economic activity – of agriculture, industry and trade[5] – whereas links with anthropology (very strong at Aberystwyth and Belfast in the UK, for example) generated work on less developed societies. This was enhanced by the creation of geography departments in the universities in the then British Empire, which were at least partly staffed by expatriates who did research on the local area; a number of British geographers also developed regional interests based on their experiences during the Second World War.

These divergent scholars shared concerns with the interrelations between the physical environment and human activity. For some, the environment was a determining influence on human activity; to others, increasingly the majority, it was a strong constraint, but the ultimate determinant was human free will. Whichever position was taken, however, the outcome was the same: a mosaic of areas with particular environmental characteristics and human activities (see Chapter 9 on place and human geography). Such areas were regions, separate areas with distinct landscapes (both natural and human) that distinguished them from their neighbours. Geographers saw the main rationale of their discipline as identifying, describing and accounting for the characteristics of these areas (at a variety of scales and on a range of criteria; see also Chapter 1 and Johnston, 2005a). The region was the core geographical concept; defining regions – largely through map comparison techniques – occupied the heart of the discipline's methodology; and studying regions was the ultimate purpose of a training in geography. (Many honours degree courses in the UK, and especially their final years, were dominated by regional courses until the 1960s.[6])

SOCIAL SCIENCE ORIGINS

This orientation of the discipline meant that there was little contact with the social sciences. In the first half of the twentieth century only economics from that group of disciplines was established in most UK universities, but there were few links between its theoretical approaches and geographers' empirical concerns. After 1945, neoclassical economists sought accounts for market operations through deductive model-building while geographers mapped patterns of economic activity and related them to the physical environment. With few exceptions,

geographers made no use of professional economists' tools in their research and teaching (as illustrated by Rawstron, 2002: see also Barnes, 2001a, on the history of economic geography in both the UK and the USA).

The other social sciences were but minor presences in UK universities before the Second World War; only anthropology was firmly established in some institutions (on which see Kuper, 1996: geography's links with anthropology are discussed in Taylor, 1993). Geography was institutionalized into UK academic life long before either sociology or political science in the twentieth century. The Royal Geographical Society was founded, as we have seen, in 1830; the Geographical Association (GA) in 1893; and the Institute of British Geographers (IBG) in 1933.[7] By contrast, the Political Studies Association was founded in 1950, and the British Sociological Association in 1951. There were just two sociology departments in British universities in the mid-1950s and, of the 54 academic sociologists across 16 universities a decade later, fully 16 of them were at the LSE (Platt, 2003; Halsey, 2004). In the USA, sociology and political science departments were founded much earlier in many universities and their presence made it difficult for geography departments to be established there, a situation exacerbated when separate teaching of geography in high schools was squeezed out by the establishment of social studies programmes (Schulten, 2001).

In the 1950s, therefore, there were some links between geographers and anthropologists, and a few with economists, but geography largely existed outside the social sciences, instead occupying a claimed bridging-point between the arts and the sciences, combining the study of human activity within its environmental context through a focus on regions. Its nearest academic neighbour, according to one much-referenced North American scholar at the time (Hartshorne, 1939), was history. Both disciplines employed 'exceptionalist' approaches: historians studied particular time periods whereas geographers studied particular places. Both provided explanatory accounts of their periods/places through a synthesis of available material; both eschewed generalization; and they came together – especially in the UK where a strong tradition developed around one scholar, H.C. Darby (Prince, 2000) – in the study of historical geography.

The mid-1950s saw the onset of a major change in human geography, its identity and links with the social sciences. Those other disciplines were already growing rapidly, reflecting their perceived relevance and applied worth. Economics became increasingly important as states became larger actors in and regulators of economies and as individual businesses became more professional in their operations, with ownership and management shifting from individuals and families to company shareholders. Economists played major roles in wartime governments, for example, and remained important thereafter, as the expanded state took on wider peacetime roles in economic management.

Economists' roles also increased within the growing state apparatus because of the growth of the welfare state, which provided economic and social protection for the vulnerable, invested in the future through universal schooling and widening university education, and redistributed wealth to produce a more equal society – a dominant ideological force of the times in the UK. Sociologists played important roles too, providing intellectual foundations for the more applied disciplines of 'social administration' and 'social policy' as well as through

the importance of their core concept of class to those promoting a redistributive state. The applied relevance of political science, which emerged as a separate discipline from roots in history and philosophy, came through desires to understand the working of the state apparatus and ensure the efficient operation of state bureaucracies – public administration (both national and local). And as globalization increased, with all the associated political tensions and conflicts, and with the Cold War stimulated by the ideological gulf between east and west, so the study of international relations increased in importance.

These three disciplines at the core of the social sciences – economics, sociology and political science – became major components of the academic world from the 1950s on. Anthropology failed to expand at the same pace, however, as interest shifted from 'primitive' to 'modern' societies and the stimuli to studying the former were reduced with decolonization and 'modernization' (Peel, 2006). Other disciplines which overlapped the social sciences similarly increased in academic importance – notably psychology, which assumed increased importance in understanding and managing human behaviour in a range of contexts.

This demand for the social sciences, from users and potential students, stimulated growth at the universities – though less so in England's ancient establishments than elsewhere. (Sociology and political science have only recently achieved departmental status at Oxford, for example, although a major centre for postgraduate research in those disciplines was established at Nuffield College in the 1940s.) The LSE became a major UK centre for social science teaching and research, having been a pioneer in those areas for more than half a century.[8] Furthermore, almost all the new UK universities established in the early 1960s invested heavily in the core social science disciplines, whose postgraduate training and research activities were funded when a Social Science Research Council (SSRC) was established in the mid-1960s.

BELATED MEETING: HUMAN GEOGRAPHY AND SOCIAL SCIENCE

Where was geography when all this was going on? What was its contribution to the war effort and to the burgeoning demand for social science expertise thereafter? With regard to the former, geographers were involved in a range of intelligence-gathering and provision activities – much of it in the UK associated with mapping, air-photo interpretation, and the production of handbooks on countries where military operations were likely (Balchin, 1987; Clout, 2003). In the USA, a large number of geographers was assembled in Washington to work in the Office of Strategic Services, alongside other social scientists (see Kollmorgen, 1979; Barnes, 2006; Barnes and Farrish, 2006). Some of those involved concluded that their contributions were not of high quality, stimulating campaigns for changes in the nature of the discipline (Ackerman, 1945, 1958): one of those convinced of this need – Edward Ullman – was among the early promoters of a 'new geography' less than a decade later (see below).

One potential area for geographers to apply their knowledge and expertise was identified as the growing activity of town and country planning (called city and regional planning in the USA). There were increasing concerns for the

most efficient use of land, for example, to ensure an adequate food supply during wartime. Subsequently, attention shifted to the need to distribute economic activities efficiently rather than allowing an overconcentration in certain areas, which would make them vulnerable to air attack: the US interstate freeway system was a response to this. The need to protect high-quality agricultural land, to prevent urban sprawl, to reduce concentration on certain regions and to distribute land uses within cities efficiently (notably though their transport systems) stimulated planning legislation. This was enacted in the late 1940s in the UK, with both national planning (extending the regional policies of the 1930s enacted to deal with the problems of industrial 'depressed areas') and a requirement for all local authorities to produce local plans within a national framework.

Geographers' knowledge and expertise about regions could provide information for the production of national and local land-use plans – and a major Land Utilization Survey mounted by Dudley Stamp at the LSE in the 1930s (by far the largest geographical 'research project' in the first half of the century) provided both valuable information and a template for such data-gathering exercises (Stamp, 1946). But could geographers be more than just data-gatherers and displayers? From the early 1930s, one of the first urban geographers, Robert Dickinson, argued for geographers focusing attention not on 'formal regions' (the separate parts of the landscape mosaic defined largely by their physical characteristics), but on 'functional regions', the tributary areas of towns and cities that formed the basic spatial framework within which society was organized. He argued that local government should be restructured to fit this pattern of functional organization, and that intra-urban planning should recognize the 'natural areas' of cities. In 1947 he published a major book based on US and European as well as British sources – *City Region and Regionalism* – which promoted these goals. City regions, according to his Preface, are 'aspects of the inherent spatial or geographical structure of society upon which planning must be based' and he presented the book as '... not about planning. It is concerned with certain aspects of the inherent spatial or geographical structure of society on which planning must be based' (Dickinson, 1947: xiii). By the end of the 1950s, many geography graduates were entering the planning profession but, although some occupied leadership roles (see Willetts, 1987), most were at the level of data-gatherers and displayers: the leadership in spatial planning of the 'brave new world' was provided by architects, surveyors and engineers (see Hall, 2003). Had geographers missed the boat? A new set of disciplines had come to the fore, from which they were largely excluded, although a few, seeing the potential, allied themselves closely to the new disciplines and transferred their allegiance accordingly.

In the 1950s and 1960s a new generation of geographers sought to reorientate their discipline towards the social sciences (Johnston and Sidaway, 2004). Much of the early impetus occurred in the USA, where a number of British geographers went for postgraduate training and other experiences, bringing the new ideas back to their country in the early 1960s (Johnston, 1997a; Johnston and Sidaway, 2004). A major centre for this 'revolution' was the Department of Geography at the University of Washington, Seattle, where a group of postgraduates converged to study with Ullman, but who switched to work with William Garrison. They rapidly spread their ideas through circulating discussion papers

and making conference presentations (Martin and James (1993: 372) call it spontaneous, although networks linking the various groups were soon established). Other groups were established elsewhere (at the University of Iowa, for example, at Northwestern University and the University of Chicago – both in Chicago – and at Ohio State University). Very soon 'revolutionary' success was being claimed (Burton, 1963), and a new suite of disciplinary practices was being spread – not only through the USA but also in the UK, where it was led and diffused from Cambridge (and later Bristol) by two relatively junior lecturers, Dick Chorley (a physical geographer) and Peter Haggett (a human geographer).

The 'exceptionalism' of regional geography was rejected by these 'revolutionaries' – as providing 'mere description' – and the newly emerging social sciences were lauded, in part at least because their approaches and methods were closer to those of the natural sciences than to the arts. Three aspects of the new work were especially attractive to postwar generations of scholars:

1 *Its concern for scientific rigour* which involved geographers interrogating literatures in the philosophy of science and knowledge, which they had previously largely ignored. Much current geographical practice was portrayed as theoretically weak and lacking the objectively neutral approach associated with the 'natural sciences'. Schaefer's (1953) damning critique of 'Hartshornian orthodoxy' argued that geographers should focus on identifying the laws underpinning spatial arrangements. This involved adopting the hypothetico-deductive 'scientific method', fully explored by Harvey's pioneering examination of the methodologies associated with this philosophy of science, *Explanation in Geography*, which concluded with the statement 'by our theories you will know us' (Harvey, 1969: 486): explanation and prediction were to be human geography's research goals.
2 *An argument that quantitative methods formed a necessary component of this more rigorous approach* to the portrayal and analysis of information, including geographical information, although not all the early proponents of this cause necessarily tied it directly to the philosophical claims regarding 'scientific method'. The adoption of standard statistical procedures was seen by some simply as the correct way to use data (as in Gregory's *Statistical Methods and the Geographer* (1963)). To be rigorous, geographers had to be quantitative.
3 *A realization that rigorously obtained research results could be applied to a wide range of problems*. Many geographers were concerned that their discipline lacked status among decision-makers (see Coppock, 1974; Steel, 1974). The social science disciplines were much more influential because they took a more rigorous approach to problem-solving associated with 'scientific method' and 'quantification'. Geographers should promote their expertise in the creation of spatial order – increasingly needed with the growth in spatial planning – but should do this as scientists (which increasingly physical geographers were becoming too).

Those attracted to this cause explored the literature (past and present) for inspiration. They found it in the general concept of spatial organization, the spatially ordered arrangement of human activities. Exceptional among those stimuli

was the work of a German geographer, Walter Christaller (1966), who developed central place theory in the early 1930s to understand settlement patterns. Individuals who journey to shops and offices for goods and services want to minimize the time and cost involved: the needed facilities should be as close to their homes as possible and clustered together so that they can make as many of their purchases as possible in the same place. And the owners of businesses want to maximize their turnover – with people spending as much as possible in the shops and offices and minimizing their transport costs. An efficient distribution of services was in the interests of both suppliers and customers. Christaller showed that this would result in a distribution of service centres across a uniform plane (i.e. with no topographical barriers) in an hexagonal arrangement, with the smaller centres (providing fewer services) nested within the market areas of the larger, although the details of that arrangement would depend on whether the goal was to minimize the number of settlements or the total length of roads. (On central place theory and its early influence, see Berry (1967) and Barnes (2001b).) A little later, thanks largely to a visit he made to Seattle in 1959, the work of a Swedish geographer, Torsten Hägerstrand, on spatial diffusion (Hägerstrand, 1968) was similarly a major stimulus for further research (as exemplified in Morrill, 2005).

Other works – all by non-geographers – also provided stimuli. Economists such as Hoover, Palander, Lösch and Weber, for example, suggested that manufacturing industries would be located so as to minimize their input costs (among which a major variable element was the costs of transporting them to the plant from a range of sources) as well as their distribution costs (getting the final goods to the market): least-cost location was the goal, which could be modelled as a form of spatial economics. (On these theories, see Garrison, 1959–60.) And a nineteenth-century German landowner-economist (von Thünen) derived a similar model for the location of agricultural production, suggesting a zonal patterning of different activities consistent with the costs of transporting the output to markets. Economists built on this to suggest similar zonal organization of land-uses within cities, which would be correlated with the pattern of land values. Such sources stimulated not only hypothesis-testing research at Seattle and elsewhere (Haggett first encountered much of the literature when teaching economic geography at University College London in the mid-1950s; some location theory, such as Hoover's, was already being taught there and at the LSE) but also applied work, such as that done by Garrison and his students on the impact of transportation improvements (Garrison et al., 1959).

Work on spatial patterns was complemented by studies of flows of goods, people and information. Their modelling was also based on principles of least effort, assuming that people wish to minimize travel costs. The Newtonian gravity model was adapted, using the analogy that the larger the places of origin and destination the greater the movement between them, but that this would decrease, the greater the distance separating them. The various models of patterns and flows were brought together and a new discipline, regional science, was launched, though it failed to gain the status its founder (Walter Isard) sought (see Isard, 2003; Barnes, 2003, 2004). These location–allocation models integrated locations and flows, suggesting both optimum locations for facilities and efficient flows between them.

Geographers – especially those trained after the Second World War – were attracted to these models, as foundations for hypotheses that could be tested, using rigorous, quantitatively-based procedures to show both that locational decision-making was economically rational and that planning for new facilities and routes could be based on such models. In addition, they 'rediscovered' models of the internal spatial organization of cities into 'natural areas' developed by sociologists and others at the University of Chicago (Dickinson was the first to notice them, in the 1930s: Johnston, 2002). These various sources were brought together in innovative, influential textbooks which discussed both the patterns and the methods for analysing them, such as Haggett's *Locational Analysis in Human Geography* (1965), Chorley and Haggett's *Models in Geography* (1967), Morrill's *The Spatial Organization of Society* (1970) and Abler, Adams and Gould's *Spatial Organization* (1971). In different ways these emphasized the theme earlier pronounced by Watson (1955) that 'geography is a discipline in distance'. Cox (1976) argued that this new orientation brought geographical interests into line with contemporary society: in the pre-industrialized world, 'vertical' relationships between society and nature predominated as influences on regional patterns; in the industrial world, the horizontal relationships between and within societies were salient – and their study involved geography joining the social sciences.

Over the next couple of decades, the volume of work in this mould expanded greatly, applying and modifying the 'classic models', developing statistical and mathematical procedures for analysing spatial organization, exploring the underlying philosophy of the 'scientific method' (positivism: Harvey, 1969), and arguing that their models could be used as planning tools for cities and regions (Wilson, 1974). Substantive interests expanded, too, and a subfield of 'behavioural geography' evolved to embrace the 'scientific' study of human spatial behaviour and decision-making through the quantitative analysis of data obtained from questionnaires and similar instruments (Johnston, 2003b; Golledge, 2006; Golledge and Stimson, 1996).

GAINING RECOGNITION

Human geography was very substantially remade during the 1950s–1970s, therefore, though not without considerable conflict with those who sought to defend the *status quo* in, especially, regional and historical geography (Johnston, 1997a; Johnston and Sidaway, 2004). As such, the remodelled discipline presented itself as a social science, claiming a clear niche within that area of activity with its focus of location and space (identifying itself as spatial science or locational analysis). But it was too late to gain entry to most of the UK's new universities of the 1960s: of them, only Sussex had a (relatively small) geographical presence virtually from the outset, and one was added at Lancaster in the early 1970s (because geography departments could attract students). An attempt by the RGS to promote geography with the founding bodies for the new institutions was unsuccessful; its claims for the discipline failed to match the scientific mood of the times (Johnston, 2003a; Johnston, 2004a). A few of the others (East Anglia, Lancaster, Stirling and Ulster) included geographers within multidisciplinary

environmental science schools, but human geographers were in the minority there relative to their physical geography colleagues (who had also been seduced by the three characteristics of the 'scientific method' listed above, and were remodelling their part of the discipline too (see Chapter 2 on geography and the physical science tradition)).

Geography was also excluded from the Social Science Research Council (SSRC) when it was established. A group challenged this, presenting a case based on the 'new' geography (which was contested by some heads of geography departments and others, who wanted to maintain the *status quo* and did not identify with the social sciences). This was accepted, but geography, unlike the original disciplines, was not accorded separate committee status within the SSRC; instead it was linked with planning (Chisholm, 2001; Johnston, 2004b). Having achieved that status, the chief author of the case published a number of books promoting the new view of the discipline (Chisholm, 1971, 1975; Chisholm and Manners, 1973; Chisholm and Rodgers, 1973). Similar attempts were made in the USA, and two *ad hoc* committees made the case for recognition of geography both within the country's main research academy (NAS–NRC, 1965) and its social science community (Taaffe, 1970; Gauthier (2002: 577) records that the before the report was written the committee chaired by Taaffe 'faced a serious challenge ... geography had initially not been selected to participate in the survey, because the other panels in economics, sociology, psychology, anthropology, and political science did not view the field as a viable social science'). These were bolstered by a further attempt to sustain and enhance their position three decades later (NRC, 1997; see Johnston, 1997b, 2000). Even so, several US geography departments with graduate schools were closed in the last third of the twentieth century (including prestigious institutions such as the Universities of Chicago, Michigan and Pennsylvania, plus Columbia, Northwestern and Yale universities; Harvard's department was closed in 1948 (Smith, 1987)[9]), by the end of which only one of the country's Ivy League universities – Dartmouth – had a geography department. As Koelsch (2002: 270) expressed it: 'the closing of geography in the major private universities sent a powerful signal that geography is no longer valued by academic administrators in institutions that traditionally have turned out the country's economic decision-makers and its cultural and political élite'.

Although social scientific recognition has been achieved, nevertheless geography is still considered peripheral to some aspects of academic life. In almost every country there is one or more national academy, an elected body of the country's main scholars. In the UK, the two main bodies are the Royal Society (for the sciences) and the British Academy for the humanities and social sciences. Only five geographers have ever been elected to the Royal Society (Fleure, Wooldridge, Rhind, Battarbee and Wilson: the last three were elected in the last five years; Wooldridge was elected in the 1950s and Fleure the 1940s) and no geographer became a Fellow of the British Academy until 1967, when the historical geographer, Clifford Darby, was elected. Today there are some 30 fellows – a further five are now deceased – and four (Darby, Coppock, Haggett and Kain) have served as Academy Vice-Presidents. In the USA, there are two major comparable institutions. The National Academy of Sciences currently has some 1,900 active members, of whom just 11 are geographers in a 'Human environmental sciences'

section (with five previous members now deceased); only one geographer – Brian Berry – has served on its council. (There is also one foreign member who is a geographer, a Nigerian – Akin Mabogunje.) The other body is the American Academy of Arts and Sciences, which currently has some 4,000 fellows, of whom only 12 are geographers in its Archaeology, Anthropology, Sociology, Geography and Demography section (with one overseas member – Peter Haggett).[10]

OPENING OUT

But things did not stand still. The social sciences were changing fast during the last three decades of the century, and geographers were changing with them. They discovered stimuli in aspects of the core disciplines that they had previously largely ignored. In economics, for example, there were both welfare (Chisholm, 1966) and Marxian (Harvey, 1973, 1982; the first of these books – *Social Justice and the City* – was extremely influential in stimulating a new focus to much Anglo-American human geography) approaches to be explored. Sociologists, including the Chicago School, had studied a much broader range of subjects, with a wider range of methods, than those initially identified and adopted by geographers (as Jackson and Smith (1984) cogently argued). And a range of multidisciplinary approaches, such as world-systems analysis, offered new arenas within which a spatial perspective could be crafted (Taylor, 1982).

At the same time the quantitative/positivist 'revolution', which many welcomed for its 'conceptual rigour' (Davies, 1972), itself came under attack. By reducing most decision-making to economic criteria, subject to immutable 'laws' regarding least-costs, profit-maximization and distance-minimizing, geographers, it was claimed, were ignoring (even denigrating) the role of culture and individuality in human conditioning and behaviour. By suggesting the use of those 'laws' as the bases for spatial planning, they were simply seeking to reproduce the *status quo* – of capitalist domination. And by assuming universal patterns of behaviour they were patronizing those who chose to operate differently.

Out of these arguments grew three main strands of work, developments of which involved geographers in much wider-ranging discussions than heretofore about the philosophy of science and knowledge-production: issues of epistemology and ontology (to which many geographers were introduced in Gregory's pioneering book (1978)), as well as methodology, became central to debates over the discipline's rationale. One was *Marxist-inspired* (often termed radical), which explored not only the workings of the economy from that perspective, and added a spatial dimension to it (notably in Harvey, 1982 and Smith, 1984), but also the class conflict which underpins Marxian analyses of the economy and is central to a major area of sociological and political science literature (see Sayer and Walker, 1992). For such work, the positivist 'scientific method' was irrelevant since it assumes constant conditions within which economic decisions are taken whereas, for Marxist scholars, continuous change is the norm. Among alternative approaches within this broad 'radical strain', the most popular (either explicitly or implicitly) was critical realism (Sayer, 1984). This accepts that there are general (or immanent) tendencies operating within capitalism (or any other societal

context), but that they are only latent until implemented by individual human agents making decisions in context – as illustrated by Massey's (1984) classic study of the changing geography of economic activity in Great Britain. Since those decisions change the context – in Massey's analogy, a new round of decision-making imposes a new layer on the map of locational activity – then the contingent circumstances within which future decisions are made must change too. Furthermore, the decision-makers themselves change as they learn from the making and consequences of previous decisions. There is a continuous interplay between structure and agency, or context and decision-maker, which Giddens (1984) termed structuration in a major contribution to sociological theory that was also influential among geographers. Thus, for realists, it is possible to explain why an event occurred – why a factory was located at a particular site, for example – but not as an example of a general law of location: explanation refers to specific events in context when decision-makers react to circumstances in order to meet certain imperatives (such as making a profit) within the constraints of their particular situations (what they know; what they believe their competitors will do; how they manipulate that knowledge, etc. An early attempt to incorporate such factors to spatial decision-making was Pred (1967–9).

The second strand drew particularly on work in sociology, especially though not exclusively work on gender and the growth of *feminist scholarship*. The core of the argument was that individuals occupy multiple positions within society, not just the class position which is at the core of Marxian analyses. Feminist geographers argued that not only was geography a male-dominated discipline, but also that its concerns reflected masculine positions (Rose, 1993). Women were subordinated and ignored, and their goal was both to remove that ignorance and demonstrate that gender divisions in society could not be reduced to class position. From this emerged a wider concern with 'positionality', which embraced not only gender divisions within society but also ethnic, racial and national, plus age, disability, sexual orientation and other criteria on which individuals' identities were based – such as the position of those living in postcolonial situations. Thus even gender had to be subdivided recognizing, for example, the different positions (and politics) of white and black women, of women in developed and developing world contexts, in various religions and so forth (McDowell, 1993, 2003, 2006).

Appreciating those divisions, and people's positionality within them – and the many hybrids that emerge through, for example, mixing in multi-ethnic cities – cannot be achieved by the abstract theorizing of either spatial science or Marxian analysis. It calls for interpretative methodologies aimed at understanding through empathy, gained through a variety of methods developed in other social sciences – such as participant observation, focus groups, in-depth interviewing, the examination of archived resources (novels, diaries, biographies, works of art, maps, landscapes and homescapes, etc.) – which allow access to how people interpret their place(s) in the world, and how they act accordingly. This was the case with the burgeoning subdiscipline of critical geopolitics in the 1990s, for example, which, through links to parallel developments in international relations, sought to appreciate how influential political thinkers and politicians develop and propagate mental maps of the world as structures for action (Dodds and Atkinson, 2000; Gregory, 2004).

Much of this work came to be associated, more explicitly in some cases than others, with what become known as postmodernism, again a major development in the social sciences (outside economics). This argues that there are no absolute truths and therefore no grand theories that can provide both explanations and guides to action (political or otherwise). Truths are the beliefs on which people act, so there are multiple truths – none of which can claim primacy over others, although the 'value' of competing truths can be assessed ethically (Smith, 2000). People learn their truths from others, either directly or through indirect sources (such as books). Such learning is context-dependent and, since most live relatively spatially constrained lives, the spaces within which they learn are their homes, their neighbourhoods, their workplaces, the formal organizations they participate in and so on. Appreciation of the role of context has brought places back to centre-stage in much human geographical research (and has been introduced to other social science and humanities disciplines), not in the former regional tradition with contexts defined by environmental features but, rather, in a much more plastic way: places are made, remade and dissolved; they may overlap, or they may be bounded and defended (see Chapter 9 on place and human geography).

This revived interest in places, and a shift of focus away from space within the discipline, is a feature also of the third strand. Geographers are playing significant roles within a burgeoning field of *cultural studies*, which brings together scholars from the humanities and social sciences in new ways of approaching the study of human behaviour in context (see Chapter 4 for a discussion of geography and the humanities). This work ranges over many aspects of behaviour, including the micro-scale of the individual body, seeking to understand the meanings that underpin actions – many of which are never recorded during the processes of everyday life. The relationships between people and nature are also being reconsidered, breaking down the perceived artificial boundaries between these long-considered binary opposites (Whatmore, 2002). Here again, new approaches are being explored for the interrogation of actions, including places as their arena. Indeed, such is the geographical contribution to cultural studies that some identify a 'spatial turn' within the humanities (Anderson et al., 2002); other geographers continue to explore the interactions between humans and their environment in more 'traditional' ways (Turner, 2002).

CONCLUSIONS: HUMAN GEOGRAPHY – SOCIAL SCIENCE AT LAST

Geography came late to the social sciences, therefore, and by the time that human geographers sought to ally with them they found they were excluded. In response, while remaking their own discipline they also had to make strong claims that it was now clearly a social science. To do this, they initially emphasized a particular aspect of the social sciences, privileging economic over other forces as determinants of human behaviour, and emphasizing models of spatial behaviour – of organization and flows – in which those forces dominated. They achieved some success in this strategy. A stream of work was introduced which remains strong, although it has changed over the last four decades. Rigorous

analysis of quantitative data remains at the core of what is known as the spatial analysis tradition (Johnston, 2003b; Fotheringham, 2006). Formal models based on idealized spatial patterns derived from oversimplified principles have largely been jettisoned, however, though interestingly they were taken up by a school of economists in the 1990s, in a 'new economic geography' which geographers (with some exceptions) claim they disowned 20 years ago (Clark et al., 2000); the two 'strands' are being brought together through a journal – *Journal of Economic Geography* – which incorporates both.

Alongside the spatial analysts, with their increased technical sophistication and reliance on advanced technology (including GIS), other geographers discovered a wide range of approaches to explanation and understanding within the social sciences. Some have adopted approaches to explanation which differ from the positivism on which the original spatial analysts relied: others have argued that explanation is not feasible and only understanding is possible. They interact with very different areas of social science from the spatial analysts, and they too have won recognition and regard among their interdisciplinary peers. Nevertheless, it remains the case that in general (as can be seen from perusal of the literature referenced in articles in the leading journals of various disciplines – on which see Johnston, 2003c) human geographers are net importers, drawing more on other disciplines than vice versa.

'Positionality' is as central to academic life as to all other areas of society. Individual academics are schooled in particular approaches to the overall goal of understanding and changing society, within their own context – their own 'place'. Human geographers have their collective 'place' – a perspective based around the key concepts of place, space, environment and scale (Massey et al., 1999) – which they promote, and within the discipline different groups of geographers emphasize different concepts. From those bases, some located in 'real places' (particular graduate schools, for example), they interact with other social scientists, bringing separate perspectives to bear on shared subject-matter. Interactions among the practitioners create wholes that are greater than the sums of the parts, communities with new hybrid perspectives on worlds and how they should be studied. For the last three decades at least, human geographers have been party to these negotiations, largely abandoning their origins as a discipline built on firm foundations in the physical sciences, having come late to the conference table.

SUMMARY

- Over the last half-century human geography has moved from its position on the boundary between the arts and the physical sciences to become firmly established as a social science.
- The core social sciences (economics, sociology and politics) grew rapidly after the Second World War because of their relevance in understanding and managing the emerging global economy and changing social and political relations.
- In the 1950s and 1960s a new generation of human geographers sought to reorientate the discipline towards those social sciences.

- Initially, that reorientation involved a concern with scientific rigour and the adoption/adaptation of quantitative methods to analyse spatial patterns and develop models of spatial organization.

- This 'scientific orthodoxy' was subsequently challenged and contemporary human geographers who identify as social scientists draw on a more diverse range of theories and approaches, including Marxism, feminism, postmodernism and post-structuralism.

Further Reading

For overviews of the history of geography, see Martin's (2005) ***All Possible Worlds***, Livingstone's (1992) ***The Geographical Tradition***, Johnston and Sidaway's (2004) ***Geography and Geographers: Anglo-American Human Geography since 1945*** and the essays in Dunbar's (2002) ***Geography: Discipline, Profession and Subject since 1870***. Much of the discipline's nature and development is charted, and its terminology outlined, in the many essays and entries in Johnston et al.'s (2000) ***The Dictionary of Human Geography***. A useful anthology of relevant materials is Agnew et al.'s (1996) ***Human Geography: An Essential Anthology***.

Note: Full details of the above can be found in the references list below.

NOTES

1 Chisholm's book appeared in 20 separate editions, the last (rewritten by Sir Dudley Stamp) in 1980.
2 University College briefly had a chair in geography in the 1830s, occupied by Alexander Maconochie, who was also influential in establishment of the RGS (Ward, 1960).
3 One, Kenneth Mason – the first professor of geography at Oxford – had no academic degrees, having been a military surveyor and explorer.
4 One of the leading American geographers of the early twentieth century – Mark Jefferson – taught at a 'normal school' (Martin, 1968).
5 The University of Melbourne had two geography departments until the late 1960s: the oldest was a Department of Economic Geography in the Faculty of Commerce; the other, established in the early 1960s, was in the Faculty of Arts.
6 As an undergraduate between 1959 and 1962, the courses I took in the first year were all compulsory; none were regional in orientation. The second year included compulsory courses on Great Britain and on Ireland, and there was one optional course – I did the regional geography of India. In the final year, in addition to a dissertation, there was one compulsory course (on the geography of France and Germany), one major option (I did applied geography) and one minor option (I did the regional geography of southwest Asia). There were also two

papers in the final exams (on map interpretation – using French and German maps – and a general essay) for which there were no courses. There were some systematic courses in physical geography, but none in human geography (e.g. nothing on urban geography or industrial geography, etc.).

7 The RGS's goal has always been to promote geography and its study in all walks of life, whereas the GA focused on geographical education and the IBG was a learned society for researchers – most of its members were either academic geographers or postgraduate researchers: the IBG and the RGS merged in 1995. The comparable organizations in the USA are the Geographical Society of America, the National Council for Geographical Education and the Association of American Geographers (which merged with the Association of Professional Geographers in the 1940s); there is also the National Geographical Society, renowned for its popular magazine *National Geographic*.

8 Sir Halford Mackinder, who founded the School of Geography at Oxford in 1887, was Director of the LSE in the early twentieth century before developing a career as an MP and diplomat.

9 Harvard reintroduced geography in 2006 with the establishment of a Center for Geographic Analysis, which stresses 'modern' spatial analysis and the deployment of GIS as 'one of the technology platforms in Harvard's Institute for Quantitative Social Science': http://www.gis.harvard.edu/icb/icb.do.

10 There are currently 19 geographers who have been elected as Fellows of the Academy of the Social Sciences in Australia, out of a total of some 400, and yet geography is rapidly losing identity in the universities there (Holmes, 2002; Johnston, 2006).

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