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## Chapter 2

# Foundations

the central core of our discipline – why we call ourselves geographers and why what we do has so much in common – has been essentially European in derivation and characteristics . . . developed over a remarkably short space of time at the end of the eighteenth and beginning of the nineteenth centuries . . . these characteristics have persisted as enduring concerns through the series of ‘revolutions’ to which the discipline is said to have been subjected . . .

(David Stoddart, 1986, p. 28)

any analysis of how nature is understood in geography is necessarily one about the nature of geography.

(Noel Castree, 2005, p. xix)

**geographical imagination** A sensitivity towards the significance of PLACE and SPACE, LANDSCAPE and NATURE in the constitution and conduct of life on earth. As such, a geographical imagination is by no means the exclusive preserve of the academic discipline of GEOGRAPHY.

(Derek Gregory, 2009, p. 282)

For all the battles which geography has witnessed since the nineteenth century . . . none has been anyway near as profound or thoroughgoing as that which destroyed the empirical descriptive geography of the early modern age and replaced it with the connective causal discipline of modern geography. Modern geographers are all, to ape A. N. Whitehead on Plato, merely a series of footnotes to that moment.

(Robert Mayhew, 2011a, p. 44)

Although this book is mostly about human geography since 1945, a brief outline of the nature of the discipline in preceding decades is necessary, for several reasons. First, although 1945 was a watershed year in many aspects of the social, economic and intellectual life of the countries considered, it was not a significant divide in the views on geographical philosophy and methodology. Not surprisingly, the war years were not a major period of intradisciplinary academic debate. Most academics spent the time either on active service or in associated intelligence activities: although some of the latter retained their teaching commitments, for most the everyday activities of teaching, pure research and administration were replaced by commitment to the war effort. (On UK geographers’ war activities, see Balchin, 1987; Clout and Gosme, 2003; and Maddrell, 2008, who focuses on the roles on women geographers engaged in cartographic work in wartime; on the USA, see Stone, 1979; Hohn, 1994, focuses on one geographer’s specific role; on European geographers, see Clayton and Barnes, 2015.) After 1945 it took a few years for academic life to return to something like normality, to assimilate the new staff needed to

replace war losses, to teach the student backlog and to react to new social and economic environments.

A second reason for retrospection relates to the processes of change discussed in Chapter 1. New practices are responses to perceived failings of those currently in favour, not inventions produced in an intellectual vacuum. Thus, post-1945 changes were reactions to the philosophies and methodologies developed and taught in the preceding decades about which some knowledge is necessary.

Finally, academic changes are not instantaneous. New research programmes may take years to mature, while experimentation with alternatives takes place, the programmatic statements are written and converts are won over. Meanwhile, the current practices prevail. Adherents continue in their accepted ways, researching, publishing and teaching undergraduates according to the conventional wisdom. Even when a new paradigm has been crystallised, it may co-exist with its predecessors for several years, while competing for support; it is quite feasible for several world views to have adherents at the same time, quite possibly in the same academic department, especially in the social sciences and humanities – indeed, that could well be a virtually permanent state.

## Geography in the modern period

The hallmark of an academic discipline is an educational organisation which provides specialist training in the subject. James (1972) dates the beginning of such an organisation for geography around 1874, when the first ten university geography departments were established in German universities (Wardenga, 1999; Schelhaas and Hönsch, 2002; see also Taylor, 1985a). Claval notes how:

Towards the 1860s the economic development of Germany had been accompanied by the development of applied sciences, and the accompanying development of the universities itself demanded that they redefined their functions. . . . it was the presence of geography in primary education that was the main stimulus to the growth in numbers of university teachers of geography after 1874. . . . Certainly the new situation created by the unification of Germany between 1864 and 1871 imposed new demands in terms of texts and geography courses at the primary and secondary level. To this must be added the requirements of German imperialism . . . the formation of the German empire in 1871 and the acquisition of colonies from 1884–85 (after the Congress of Berlin) gave birth to a new politics which was the impulse to the creation of new university posts in and departments of geography.

(1981, pp. 96–7, our translation)

Berdoulay thus describes the intellectual influence of the German example (which also stimulated responses in France and then elsewhere in Europe):

German and French geographic thought and achievements played a foundational role in the development of geography as a discipline in European and American academic institutions during the late nineteenth century and the first decades of the twentieth.

(2011, p. 74)

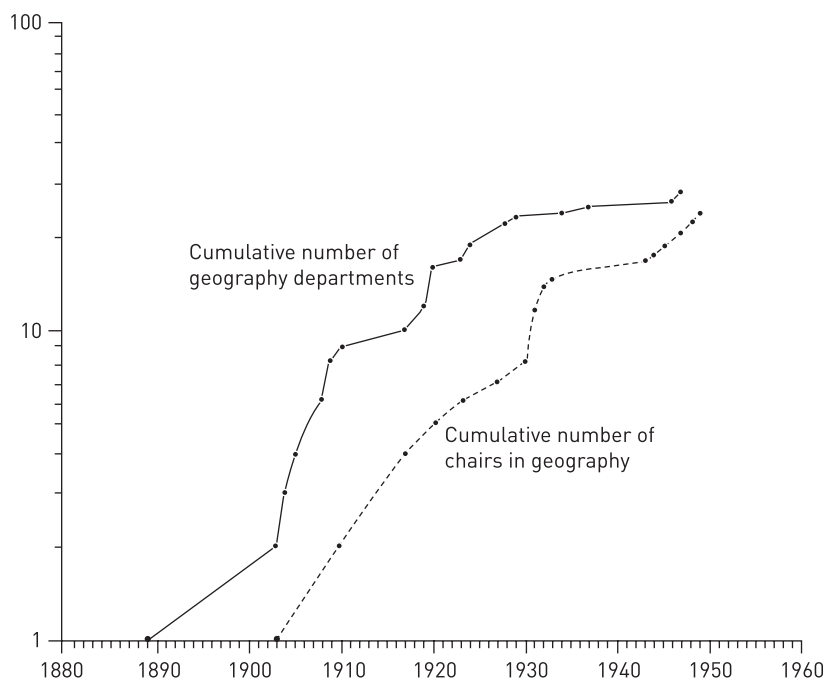
Previously, geography was investigated either by amateurs or by scientists trained in other fields. In the UK, for example, geography was a recognised area of scholarly work for several centuries, even though it had no separate disciplinary or departmental identity in the small number of universities then operating. Map-making, exploration and chorography (the description of the characteristics of different areas) were all taught at English and Scottish universities by the end of the sixteenth century, for example (Cormack, 1997; Withers and Mayhew, 2002; Withers, 2001;

Mayhew, 2011a). Geographical knowledge was important to traders who, along with bankers and private individuals, invested in expeditions in the expectation of benefiting commercially from the new knowledge obtained – about new lands and potential resources, for example, as well as new and quicker routes to known destinations. Increasingly, exploitation of such resources called for state support and protection for their activities and contributions to the national wealth, which stimulated state-sponsored settlement, colonisation and the growth of imperial naval power. The practice of geography was central to this imperial ethos of much of nineteenth-century Europe (Driver, 1998; Butlin 2009; Bell *et al.*, 1995; Clayton, 2011).

Promotion of geography in this context involved the establishment of geographical societies in many national capitals and major trading cities. Among the first were those founded in Paris (1821), Berlin (1828), London (1830) and St Petersburg (1845), with later creations in Manchester (1884), Newcastle upon Tyne (1887), Liverpool (1891) and Southampton (1897) (see Johnston 2003b; Heffernan, 2003; McKendrick, 1995; Butlin, 2009). Many of these societies had royal patronage and were strongly supported by members of the mercantile, diplomatic and military classes as well as audiences drawn from the upper and middle classes who attended their lectures. The societies' main roles involved collating and publishing information, sponsoring expeditions and fostering relevant scientific developments, as in navigation and cartography. The American Geographical Society was similarly established in New York in 1851 as 'a merchant's information bureau' (Koelsch, 2002, p. 253; Wright, 1952; Morin, 2011; Crampton *et al.*, 2012; Johnston, 2013).

Some of these societies became involved in educational activities, promoting geography as a subject in their countries' schools and universities. In the UK, the RGS lobbied for geography's presence in the evolving school curricula (Keltie, 1886; Ploszajka, 1999; Wise, 1986). It then turned its attention, in the late nineteenth century, to the universities, realising that to sustain the subject's presence in schools required trained teachers who had a university qualification in the discipline while its presence in those institutions gave it status. The society's attentions focused on the universities of Cambridge and Oxford, on the argument that geography would only be recognised as an academic discipline if it were taught in England's 'ancient universities'; posts were established there, with RGS financial support for nearly forty years, in the late 1880s, although chairs were not filled in either until the 1930s (Stoddart, 1975a; Scargill, 1976; Pawson, 2009.) Other universities took the lead in establishing full departments and degree programmes (Slater, 1988) – the first was at Liverpool in 1917 – as a result of varying pressures for geography teaching. Some of this pressure came from cognate disciplines, notably geology and economics, which required geography courses within their syllabuses; the first permanent chair was held by L. W. Lyde at University College London, for example, who was appointed to teach geography for economics students in 1903 (see Dickinson, 1976; Clout, 2011a), whereas at Glasgow a newly appointed professor of geology pressed strongly, and successfully, for geography to be taught there too. The growth was hence fast, as charted in Figure 2.1. By the Second World War, there was a geography department (albeit invariably small) in virtually every UK university and university college, plus many of those in the British Empire. (For more detail on this aspect of the discipline's institutionalisation there, see Johnston 2003b. The essays in Steel, 1987, discuss British geography in the 1930s.)

There was no national pressure for geographical education in the USA, largely because of the decentralised nature of educational systems there: the American Geographical Society showed very little interest in geographical education in the latter decades of the twentieth century (Wright, 1952; Morin, 2011), and the same was largely true of the National Geographic Society until late into the twentieth century (Schulten, 2001). The establishment of geography teaching in some of the country's universities resulted from perceived needs in other degree programmes (many of these can be traced through the increasing number of departmental histories available online at [http://old.geog.psu.edu/hog/dept\\_histories.html](http://old.geog.psu.edu/hog/dept_histories.html)). One was geology, and some of geography's



**Figure 2.1** The foundation of departments of geography and of chairs in geography in British universities

Source: Stoddart, 1986, p. 46.

early protagonists – such as William Morris Davis (p. 43, this book) at Harvard – were trained geologists. Departments of economics and schools of business and commerce also identified the need for geography teaching (Fellmann, 1986); indeed, the first fully fledged department of geography – at the University of California Berkeley campus – emerged from such an origin, in 1898 (Dunbar, 1981). Many of those courses lapsed by 1920, but by then geography had been established elsewhere in a number of universities, although to nothing like the same relative extent as in the UK.

Most of the initial teachers on those geography programmes were trained in other disciplines and were attracted to geography by its core interest in the relationships between people and their environments. Many of their stimuli came from early work in Germany and France, where a number went to study (Berdoulay, 2011). By virtue of their primacy in establishing geography departments and the intellectual heritage of Alexander von Humboldt and Karl Ritter (see p. 46, this book), French and especially German influences were strong in the original formulation of geographers' core agenda (Claval, 1981). Others were trained by the discipline's pioneers – such as the many who took the certificates and attended the summer schools offered at the University of Oxford by Mackinder and Herbertson (who, like many of the other pioneers, also wrote innovative school textbooks); Mackinder's (1887) paper 'On the scope and methods of geography' was an early, influential essay in defining a particular niche for geography within British academia (see also Kearns, 2009): as Withers (2010) discusses, it was important for British geographers at that time to establish their 'scientific' credentials in order to win recognition (and respectability) for their discipline's prospectus. The late nineteenth and early twentieth centuries thus saw the transition from what James (1972) termed geography's classical age into its modern period; he termed post-1945 its contemporary period. James's modern period is virtually co-extensive with the decades surveyed in Freeman's (1961) *A Hundred Years of Geography*, which identified six interrelated trends in the geographical literature:

- 1 The *encyclopaedic trend* covered the collection of information about the world, particularly areas little known to Western Europeans and North Americans. Although the great age of discovery was over, and by the late nineteenth century much of the world had been visited by European explorers, there remained vast tracts, notably in Africa, which if not *terra incognita* were almost empty on contemporary Western maps.
- 2 The *educational trend*, in which the nascent academic discipline was establishing its role and relevance in educational systems, thereby ensuring its reproduction. (On the role of the RGS in this in the UK, see Freeman, 1980a, 1980b; on the Geographical Association, founded in 1893, see Balchin, 1993, and Walford, 2001. Johnston, 2003b, overviews the discipline's institutionalisation in UK universities.)
- 3 The *colonial trend* reflected a major preoccupation during the modern period's early decades, especially in the UK (Driver, 1998; M. Bell et al., 1995). Organisation of the imperial world required information, whose provision became a major task of geographical research while its propagation was the keystone of geographical education. Furthermore, part of the creation of an imperial national identity and ethos involved educational activities, which gave children a sense of their identity in the world – and, by implication at least, of their superiority and that of their environment. (On school texts in the period, see Ploszajska, 1999; J. M. Smith, 2001; Kearns, 2009. Buttimer and Fahy, 1999, p. 179, argue that school geography in Ireland has been taught 'as an *instrumentum regni*, to transmit political, economic, and social attitudes of prevailing regimes . . . transmitting images rather than evoking curiosity'. On geography's wider role as popularly understood in the creation of world views, see Schulten, 2001.) Geography was centrally involved in the creation of this imperial identity in the UK. In the USA, however, geographers were less involved at this stage, and a particular notion of American identity and destiny was created by historians such as Frederick Jackson Turner, who associated the American nation with its expanding frontiers (Kearns, 1984). The entanglements between USA imperialism and geography would come later (Morin, 2011).
- 4 The *generalising trend* describes the use to which geographical data were increasingly employed. Academic study involved more than collecting and collating facts; these had to be interpreted, and the methods and aims of such interpretation defined the early paradigms of the discipline's development, as will be discussed.
- 5 The *political trend* was reflected in the contemporary uses made of geographical expertise. For example, Isaiah Bowman, trained at Harvard under Davis, became Director of the American Geographical Society in 1915, and was selected as an adviser to Woodrow Wilson at the conferences (notably at Versailles near Paris) which redrew the map of the world after the First World War (Martin, 1980; N. Smith, 1994). Bowman subsequently wrote one of the first books on political geography (Bowman, 1921). According to N. Smith (2003, p. 183):

World War I forever transformed U.S. geographical research, and no one sensed this more acutely than the chief territorial specialist of the U.S. delegation at Paris. The new world that confronted everyone after 1919, Bowman understood, required a new geography . . . human rather than physical fashioning of the world's landscapes was now preeminent. For a U.S. geographical tradition heavily modeled on German geography and umbilically connected to geology, this was a dramatic paradigm shift. It was not his physical but his political geography that was most exploited in Paris.

In the UK, the first appointee to the School of Geography at the University of Oxford, H. J. (later Sir Halford) Mackinder also wrote on political geography, which later informed a wealth of writing around the theme of geopolitics (though Mackinder himself did not use that term). His heartland model (Mackinder, 1890, 1904; Kearns, 2009) presented the Eurasian continent as the fulcrum of world power, hence the 'geographical pivot of history' as encapsulated in the triplet:

Who rules East Europe commands the Heartland;  
 Who rules the Heartland commands the World-Island;  
 Who rules the World-Island commands the World.

Mackinder later became an MP and then was involved in diplomacy, but continued to write on geopolitical issues until the 1940s; his *Democratic Ideals and Reality* (Mackinder, 1919) summarised his views (on his career, see Blouet, 1987; W. H. Parker, 1982; Kearns, 2009).

- 6 The *specialisation trend* was a reaction to the growth of knowledge and the inability of any one individual to master it all, even within the single discipline of geography. Prior to the modern period, many scientists and other academics had catholic interests and expertise. As the volume of research literature increased and the techniques of investigation demanded longer and more rigorous training so it became necessary to specialise first, in this context, as a geographer and then within geography.

Clearly, these trends overlapped. However, three major paradigms (as disciplinary matrices) characterise human geography's modern period. The development of each was strongly influenced by a few individuals who left lasting impressions on the discipline. Until after the Second World War there were only small numbers of geographers working in universities, and many of the pioneers had no training in the discipline (Johnston, 2005). Their main role was as teachers, and many did relatively little research or publication of original work. A small number took up leadership roles, however, defining geography's academic agenda and strongly influencing what the discipline studied and its methods (Mackinder – e.g. Mackinder, 1887; Kearns, 2009 – and Davis, 1906, were especially influential in the UK and the USA respectively). Almost all of these early definitional essays focused on geography as a whole; human geography emerged as a separate subdiscipline relatively late in the modern period (Johnston, 2010a). Those who occupied powerful positions within the discipline – as professors and departmental heads, for example – were able, through combinations of the force of their personalities, the strength of their arguments and carefully chosen appointments to their own and other departments (including their post-graduate students), to play crucial roles in setting the discipline's academic directions. There were differences and debates, but in small communities only a few ideas generally prevailed – a very different situation from the pluralism that developed in the second half of the twentieth century as geographers became much more numerous and key individuals, though still important, were less dominant.

## Paradigms in the modern period

### Exploration

This first approach was carried over from the classical period; exploration was the major activity popularly recognised as geography through most of the nineteenth century. The collection and classification of information about 'unknown' parts of the earth (unknown, that is, to Western Europeans and North Americans) was undertaken by explorers and navigators, many of whose expeditions were sponsored by geographical societies. Information gained was used to enhance cartographic knowledge and disseminated widely through lectures and books. The map of the world was completed and filled in at an increasing pace.

The importance of exploration within geography declined in the late nineteenth century, although soon after his appointment at Oxford, Mackinder (who had been trained as a biologist and historian) felt it necessary to establish his geographical credentials by becoming the first recorded person to climb Mt Kenya (Kearns, 2009). Much *terra incognita* remained on European maps of the rest of the world, however, and the geographical societies maintained their interest in and

sponsorship of expeditions throughout the period. The exploration tradition is maintained in the USA by the National Geographical Society (NGS) and its popular publication, *National Geographic* magazine. Like other magazines, such as *New Zealand Geographic* and the *Geographical* magazine, *National Geographic* concentrates, though not exclusively, on material illustrating the relationships between people and their environments (with copious high-quality photographic material and maps). In such media, the boundaries of geography and natural history are imprecise. (The NGS also has a TV channel devoted to similar material, and has given large sums of money in recent years to develop geographical programmes for schools in the USA, after surveys revealed considerable ignorance about what is where in the world: Johnston, 2009d.)

Although most of it was not strictly exploration, the work summarised by Freeman under the colonial and encyclopaedic trends can be included here, since its aims were the collection, collation and dissemination of information. Much of the material was about commercial activities and infrastructure, as in volumes such as G. G. Chisholm's *Handbook of Commercial Geography* (first edition, 1899) and *Gazetteer of the World* (1895), which were aimed at the world of commerce, with companion volumes for schools (Wise, 1975; Barnes, 2000, 2001a). Their content comprised statistics and descriptions of production and trade, and a training in this type of geography involved the assimilation of large bodies of factual knowledge ('capex and bays' geography). Similar texts were produced in the USA (Barnes, 2001a; Fellmann, 1986; Lawton and Miller, 2001; Johnston, 2010a).

The value of such geographical information and expertise was widely recognised, and was called on during both world wars when geographers were recruited into intelligence services. In the UK, for example, they were responsible for the preparation of reports about areas in which Allied troops were likely to be engaged, and their Second World War British Admiralty Handbooks (edited at Oxford and Cambridge under the leadership of Kenneth Mason and Clifford Darby respectively: Clout, 2003a; Clout and Gosme, 2003) were put on sale afterwards. The comparable volumes produced in the USA by the Office of Strategic Services (of which Richard Hartshorne was Deputy Head) – the Joint Army-Navy Intelligence Studies – remained classified documents, however (Barnes, 2006a).

## Environmental determinism and possibilism

Environmental determinism and possibilism represented the first attempts at generalisation by geographers during the modern period. Rather than just present information in an organised manner, either topically or by area, geographers sought explanations for the patterns of human occupation of the earth's surface. Their major initial source for explanations was the physical environment, with a general belief that the nature of human activity was controlled by the parameters of the physical world within which it was set.

The origins of this environmental determinism lie in Charles Darwin's landmark *On the Origin of Species* (first published in 1859) which influenced many scientists (Livingstone, 1992; Armstrong, 1999, argues that Darwin was influenced by the pioneer geographer-naturalist von Humboldt). Darwin's notions regarding evolution were taken up by an American geographer, William Morris Davis, in his cycle-of-erosion model of landform development (Chorley et al., 1973; Beckinsale 1976; Vale, 2002). Ideas of natural selection and adaptation formed the basis of statements regarding environmental determinism, including Davis's (1906) programmatic paper identifying the core of geography as the relationship between the physical environment as the control and human behaviour as the response (Stoddart, 1966; Martin, 1981; Campbell and Livingstone, 1983; and Livingstone, 1984, discuss the related influence of Lamarckism in the development of geography; see also Peet, 1985a).

Chief among the late nineteenth-century speculations on environment-society was the work of the German scholar, Friedrich Ratzel, who was trained in zoology before taking an interest in



geology and ethnological (the classification and study of 'races'/peoples) research on the diffusion and distribution of peoples. Ratzel began lecturing on geography in Munich in the 1870s, then became professor of geography at Leipzig (1886–1904). Before Ratzel, geography had largely been seen as a natural (physical) science. According to Berdoulay (2011, p. 76), Ratzel's 'breakthrough' was key 'in setting geography within a scientific-evolutionary discourse'. His *Anthropogeographie* (Ratzel, 1882–91) related the course of history to the earth's physical features (illustrating organic notions that had been stimulated by Darwin); and his *Politische Geographie* (Ratzel, 1897) adapted Darwinian arguments to states, which he treated as organisms that struggle for land (*Lebensraum*, or living space), with the strongest states able to expand territorially. Although others had also elaborated the idea prior to Ratzel (see Halas, 2014), these arguments were later taken up by a Swedish conservative political scientist (Rudolf Kjellen) who coined the term 'geopolitics' to signify the codification and study of this mode of political geography. In the 1920s and 1930s, a German military officer and geographer (Karl Haushofer) expounded such geopolitics to provide an element of the putatively 'scientific' underpinning for the 1930s–1940s Nazi policy policies of territorial expansion, although sometimes in tension with the 'racial' ideas about space and power that became central to Nazism (Kost, 1989; Natter 2003; Parker, 1985; Barnes and Minca, 2013; Barnes and Abrahamsson, 2015). In turn, however, geopolitics soon acquired a life of its own with work in many European countries (from Italy and Portugal to Denmark, the Netherlands and Romania) and Japan, as part of a wider conversation about empires, sovereignty, space and power, in which geographers played a central (though not exclusive) role (Dodds and Atkinson, 2000). After the Second World War, such classical geopolitics continued in right-wing military circles from Turkey to Portugal and in many South American countries, and it has more recently been adopted in post-communist Russia as well as in parts of Central Asia.

To return to the development of anglophone human geography, however, Ratzel's ideas were promoted in the USA by Ellen Churchill Semple, who opened her book *Influences of Geographic Environment* (1911) with the statement that 'Man is the product of the earth's surface.' Semple, who was Davis's student, had travelled to Germany to consult Ratzel. In Europe, she connected also with British geographers via seminars at the RGS and RSGS. Indeed, there was a transatlantic commerce in these debates about environmental determinism. Ellsworth Huntington advanced theories relating the course of civilisation to climate and climatic change (Huntington, 1915, 1945). In some hands, the environmental influences adduced were gross, and with hindsight it is hard to believe that they were taken seriously; Tatham (1953), for example, illustrates the extent to which authors were prepared to credit all aspects of human behaviour with an environmental cause. The reception of Semple was complex, however; the wide range of debates that her work triggered has been dissected by Keighren (2006, 2010; see also the survey conducted by John K. Wright, 1962, to identify the extent of her influence on other geographers in the first part of the twentieth century). There were frequent links with discourses about 'race'. Though not all those who took part were explicitly racist, it is evident that the wider framework in which debates evolved was shaped by racialised assumptions about categories, lands and peoples that owe much to the wider imperial moment (as in various essays and books by T. G. Taylor – e.g. 1927, 1937; on Taylor, see Strange and Bashford, 2008). Livingstone (1992, p. 221) notes how 'The idea that climatic regions on both local and global scales implied an ethnic moral topography was an idea that weaves its way through the corpus of nineteenth- and early-twentieth-century writings.'

The debates lingered in the form of 'tropical geography' into the postwar era, when the prospects for the development of tropical regions (mostly colonies and former colonies) re-entered the debate. Indeed, there was a wider conversation – resting on translation – between anglophone and francophone geographers writing about these themes (Power and Sidaway, 2004) of tropical geography.

Such debates were informed by reaction to the extreme generalisations of the environmental determinists which had led to a counter-thesis, that of possibilism. This presented individuals as



active rather than passive agents. Led by French geographers, themselves followers of the *Annales*-school historian Lucien Febvre, the possibilist argument had people perceiving the range of alternative uses to which they could put an environment and selecting that which best fitted their cultural dispositions. Taken to extremes, this approach could be as ludicrous as that which it opposed, but possibilists generally recognised the limits to action which environments set, and avoided the great generalisations which characterised their antagonists.

Debate over environmental determinism and possibilism continued into the 1960s (Lewthwaite, 1966; Spate, 1957, for example, proposed a middle ground with the concept of 'probabilism'). And it was not only in tropical geography that they were registered. The doughtiest advocate of the determinist cause was T. Griffith Taylor, foundation professor of geography at the University of Sydney, whose views so angered politicians interested in the further white settlement of outback Australia that he was virtually hounded out of the country (Powell, 1980a). He argued that possibilists had developed their ideas in temperate environments which offer several viable alternative forms of human occupation. But such environments are rare: in most of the world, as in Australia, the environment is much more extreme and its control over human activity accordingly much greater. He coined the phrase 'stop-and-go' determinism to describe his views. In the short term, people might attempt whatever they wished with regard to their environment, but in the long term, nature's plan would ensure that the environment won the battle and forced a compromise out of its human occupants (Taylor, 1958; Sanderson, 1988; Strange and Bashford, 2008).

Many debates begin as two opposing, extreme views, and end with a compromise accepted by all but the most fervent devotees of each polar position. Thus, the lengthy discussion among geographers about whether people are free agents in their use of the earth or whether there is a 'nature's plan' slowly dissolved as the antagonists realised the merits in each case. Some geographers studied human-environment interactions outside the confines of these debates (see Fleure, 1919; the debate's deep foundations are the subject of Glacken's (1967) magnum opus, *Traces on the Rhodian Shore*). While some geographers strongly promoted environmental determinism, however, respect for their discipline was relatively low in the wider academic community. As a consequence, geography's next focus, which nevertheless had some roots in environmental determinism, was very much an introspective and conservative one, alongside other attempts to develop an alternative paradigm, which lacked extensive support, such as Barrows's (1923) presentation of geography as human ecology.

## The region and regional geography

This third approach dominated British and American geography for much of the middle twentieth century. Like environmental determinism, it was an attempt at generalisation, but it lacked structured explanation and so was of a very different type from the increasingly discredited law-making attempts of the previous writings. This drew heavily on contemporary developments in Germany and France. Of great importance in Germany was the work of two individuals who many identify as the founders of modern geography. Both died in 1859, one having established the modern roots of what became known as systematic geography and the other having performed a similar task for regional geography. Both accepted the definition of geography set out by the Enlightenment philosopher, Immanuel Kant (1724–1804), who lectured on physical geography at the University of Königsberg (Harvey, 2009). He argued that knowledge can be organised and classified in two ways: because of similarities in origin wherever they occur (the logical classification, which is the basis of the various sciences); or because of similarities in when or where they occur – the discipline that looks at similarities in terms of time is history, whereas that which looks at similarities in terms of place of occurrence is geography (J. A. May, 1970).

Alexander von Humboldt (1769–1859) was a naturalist with very broad scientific interests. He spent five years travelling in Central and South America, amassing information about the

environment and its exploitation by humans. He assembled this material (over a 20-year period in Paris) to show how environments varied, with differences in agricultural practices and patterns of human settlement, for example, reflecting interactions among altitude, temperature and vegetation. This approach to the discipline emphasised field collection of data and its synthesis through maps, leading to inductive generalisations. Sachs (2007, p. 49) describes von Humboldt's

effort to see new things deeply, in context, and in connection to everything else he's seen and learned. The juxtaposition of his literal acts of observation and his *philosophical* observations, his adventures and his scientific 'tangents' leaves us with a sense of swirling intellectual currents.

The remainder of his career was spent assembling similar materials from a wide range of sources, which were synthesised in the five-volume *Kosmos* (von Humboldt, 1845–62). The first volume (1845) provided an overview of the universe, which was followed by one (1847) on representations of the earth in art and literature and a history of scientific writing on the earth since Egyptian times. The third (1850) was largely concerned with astronomy; the fourth (1858) turned to human interactions with the earth, with a vast range of observational material described and used to derive generalisations about those interrelationships; and the final volume (published posthumously in 1862) dealt with geology and volcanology. (On von Humboldt, see G. Martin and James, 1993; Bowen, 1970, 1981; Rupke, 2005; Sachs, 2007.)

Karl Ritter (1779–1859) was trained in a variety of disciplines – during which he met, and was impressed by, von Humboldt – and by 1811 had published a two-volume work on the geography of Germany. He was appointed to a chair of geography in Berlin in 1820 (a year after a similar appointment in history in Frankfurt). After early field work in Italy and Switzerland, as well as Germany, he travelled little and his teaching was largely based on secondary sources. He focused on the connections between phenomena in places – of 'unity in diversity', which he believed represented 'God's plan'. This involved defining regions, separate areas of the earth's surface with distinct assemblages of phenomena. The material accumulated was used to produce his 19-volume (unfinished) *Erdkunde* (Ritter, 1817–59).

Regional geography was also the main focus of an influential French geographer, Paul Vidal de la Blache (1845–1918) who, unlike von Humboldt and Ritter, obtained a higher degree in geography after initial training in ancient history and literature. He was appointed to a post at the Sorbonne in 1898, where he maintained close links with the *Annales* school of historians. French geography had strong early connections to both mapping and history (Claval, 1999), which were sustained by Vidal's concentration on defining and describing regions, relatively small homogeneous areas (*pays*) whose distinctive *genres de vie* resulted from the interactions of people with their physical milieux. Unlike some German contemporaries, however, he did not see those interactions as predominantly determined by the physical environment. He was attracted to possibilism (which he first encountered in Ratzel's *Anthropogeographie*). The environment offers people a range of options, and they choose how to modify nature according to their cultural and technological inheritances – as Lucien Febvre put it, 'nowhere necessities . . . everywhere possibilities'. Vidal's major contributions were his *Tableau de la Géographie de la France* (1903), an introduction to the multi-volume *Histoire de la France* (see Ozouf-Marignier and Robic, 1999), and the 15-volume *Géographie Universelle*, finished in 1948. Many of his students wrote dissertations on individual *pays* (Clout, 2009); they dominated French geography through the first half of the twentieth century (Buttimer, 1971) and fitted into the conservative and nationalist milieu of interwar France amid territorial threats from Germany (see Gregory, 1994; Heffernan, 2001). French regional geography thus emphasised France's essential 'unity in diversity', blending climatic and cultural influences from the Mediterranean and the Atlantic into an essential *élan français*.

The early development of geography in Germany and France relative to the UK and the USA meant that as the academic discipline was being established in the latter countries, some of those

attracted to it sought inspiration and training from French and German sources. There was considerable personal interaction, and it was the norm at both UK and USA universities during the first half of the twentieth century for would-be geographers to be fluent in either if not both German and French. Ideas about the nature of geography thus infiltrated the English-speaking world from continental Europe. They were modified to fit local circumstances, but dominated contemporary thinking for several decades. (On a major institutionalised interaction between American and continental European geographers – the 1912 American transcontinental excursion, in which a small number of British geographers participated – see Clout, 2003b, 2004; Clout and Stevenson, 2004.)

### Hartshorne and American views

The ideas and methods of regional geography were taken up in the USA after environmental determinism had been largely rejected. In the late 1930s, two non-geographers published a major survey of American regionalism (Odum and Moore, 1938) and in 1939 the Association of American Geographers published a monograph – Richard Hartshorne's *The Nature of Geography: A Critical survey of current thought in the light of the past* – which was rapidly established as the definitive statement of the current orthodoxy (Stoddart, 1990; Martin, 2015). As Hartshorne (1948, 1979) later made clear, there was much debate among American geographers during the 1930s (most of it apparently unpublished, though see James and Mather, 1977) about the nature of their discipline. He was concerned about both the tone and the content of that debate (particularly in Leighley, 1937), and in 1938 submitted a paper to the *Annals of the Association of American Geographers* as a contribution to the philosophical discussions. He then proceeded to Europe for political geography fieldwork on boundary problems. This was frustrated by the political situation, and he spent his time reading further European, mainly German, work on the nature of geography. He used this to extend his 1938 paper, adding the crucial subtitle; the result was a 'paper' of some 230,000 words which became the major philosophical and methodological contribution to the literature of geography in English then available.

A synopsis of Hartshorne's book, and his interpretations of others' works, notably Hettner's (Harvey and Wardenga, 2006), is not possible in a few paragraphs, and only the main conclusions can be highlighted. Hartshorne's statements were positive ones – of what geography is. They were only normative in the sense of him saying that geography should be what others (notably Hettner, whose approach to geography reflected a line of thinking through Kant and von Humboldt to his own mentor, Richtofen) have said that it is. Thus, Livingstone (1992, p. 306) describes Hartshorne's project as seeking 'to determine the nature of geography from scrutinizing its history', and Lukermann (1990, p. 58) claimed that the *Nature* was 'a search for authority to validate the conclusions drawn from selected premises – largely formulated by Hettner, who had philosophical associations and leanings rather than historical associates'. Butzer (1990) argued that Hartshorne was selective in his use of Hettner's material, and Derek Gregory (1994, p. 51) claimed that 'Hartshorne's views were developed through a highly selective exegesis of a German intellectual tradition. His approval of Hettner (in particular) was unrestrained, but the regional geography that he constructed was purged of both the physic-ecological and the cultural-historical implications that were indelibly present in Hettner'. In sum, Hartshorne transmitted to an American audience his interpretation of a particular German argument as to the nature of geography.

Hartshorne argued forcefully that the focus of geography is areal differentiation, the mosaic of separate landscapes on the earth's surface (see Agnew, 1990, on the representation of Hartshorne's focus as 'areal variation' rather than 'areal differentiation'). It is defined as:

a science that interprets the realities of areal differentiation of the world as they are found, not only in terms of the differences in certain things from place to place, but also

in terms of the total combination of phenomena in each place, different from those at every other place.

(Hartshorne, 1939, p. 462)

The discipline 'is concerned to provide accurate, orderly and rational descriptions and interpretations of the variable character of the earth's surface' (p. 21) and

seeks to acquire a complete knowledge of the areal differentiation of the world, and therefore discriminates among the phenomena that vary in different parts of the world only in terms of their geographic significance – i.e. their relation to the total differentiation of areas. Phenomena significant to areal differentiation have areal expression – not necessarily in terms of physical extent over the ground, but as a characteristic of an area of more or less definite extent.

(p. 463)

The principal purpose of geographical scholarship is thus synthesis, the integration of material on relevant characteristics to provide a total description of a place, or region, which is identifiable by its peculiar combination of those characteristics. Hartshorne identified a close (Kantian) analogy between geography and history; the latter provides a synthesis for 'temporal sections of reality', whereas the former performs a similar task for 'spatial sections of the earth's surface' (p. 460). From this separation of their roles, Hartshorne concluded that there was no need for geographers to study change, since that was the province of historians.

To Hartshorne, 'the ultimate purpose of geography, the study of areal differentiation of the world, is most clearly expressed in regional geography', so that the discipline's research methods had to focus on regional definition and depiction. Regions are characterised by their homogeneity on prescribed characteristics, selected for their salience in highlighting areal differences. Identification of such regions 'depends first and fundamentally on the comparison of maps depicting the areal expression of individual phenomena, or of interrelated phenomena . . . geography is represented in the world of knowledge primarily by its technique of map use' (pp. 462–4). Others followed his lead, as in the editorial chapters in a later overview of American geography (James and Jones, 1954).

Hartshorne emphasised map use. Although it is valuable for geographers to appreciate the methods of map construction, the sciences of surveying and map projections are of only secondary interest to them; their prime task is map interpretation. Much information to be interpreted may have been placed on the maps by geographers during fieldwork, whose role and nature were of considerable interest to his contemporaries (Johnston, 2010a); they established detailed methods for mapping land use as the bases for regional delimitation, developed at a series of intensive 'field camps' (see Whittlesey, 1954).

Preparation of a regional synthesis required materials from both other sciences specialising in certain phenomena (though usually not their areal patterning) and the emerging topical systematic specialisms within geography which complemented, but were eventually subsidiary to, regional geography. Physical, economic and political were the main systematic subdivisions recognised at the time Hartshorne wrote (Johnston, 2010a), although a later survey, set firmly within the regional paradigm, identified many other 'adjectival geographies', including population, settlement, urban, resources, marketing, recreation, agricultural, mineral production, manufacturing, transportation, soils, plant, animal, medical and military, plus climatology and geomorphology (James and Jones, 1954). A number were of only minor importance, however, so that despite the apparent diversity of interests among geographers of the time, the 'classic' regional study usually followed a sequence comprising physical features, climate, vegetation, agriculture, industries, population and the like (Freeman, 1961, p. 142), and was summarised by a synthesis of the individual maps to produce a set of formal regions.

To most geographers of the period spanning the Second World War, regional geography was at the forefront of their discipline's scholarship and systematic studies were the providers of information for that enterprise. To James, 'Regional geography in the traditional sense seeks to bring together in an areal setting various matters which are treated separately in topical geography' (1954, p. 9). Urban geographers studied towns because they 'constitute distinctive areas' (Mayer, 1954, p. 143), in line with the regional concept; political geographers studied the functions and structures of an area 'as a region homogeneous in political organisation, heterogeneous in other respects' (Hartshorne, 1954a, p. 174); and in defining a 'new' field of social geography, J. Wreford Watson (1953, p. 482) saw it 'as the identification of different regions of the earth's surface according to associations of social phenomena related to the total environment' (see also Johnston, 1993b). Each topical specialism produced its own regionalisation and each had links (although often weak) with the relevant systematic sciences. The key differentiating factor between geography and other, systematic, disciplines was the geographer's focus on the region. For Hartshorne, every geographer should have not only a substantive specialism (he considered himself a political geographer and wrote the chapter on that in *American Geography: Inventory and prospect* – Hartshorne, 1954a). He also made an early, prescient, apparently original – since it made no reference to any of the work of early location theorists discussed in the next chapter – contribution to the study of industrial location – Hartshorne, 1927) but also a regional specialism. It was the latter that distinguished a geographer from scholars in other disciplines.

There was a tension within this promotion of regional geography, however. On one hand, there was the presentation of regions – following Vidal's example – as small (usually rural) homogeneous areas, with many countries comprising a patchwork mosaic of such separate districts, even though in many cases their boundaries were relatively indeterminate. In this view of the region, the geographer's field of study was inherently local, save in areas of little physical variation over large distances. On the other hand, the argument that geographers should be regional specialists was made at a much larger scale – an individual country, perhaps, but more commonly an entire continent or major subcontinental area. In this context, geographers presented themselves as specialists on, say, Latin America or the Indian subcontinent. Their teaching was at this scale even if their research and field knowledge was on specific parts only and textbooks were structured at the larger scale. There was thus a hierarchy of regions: the large areas used to structure considerable sections of many degree programmes (courses on the regional geography of 'x'), and the myriad small areas which had their own unity and whose identification was the focus of much geographical enquiry and writing (following Vidal's emphasis on small regional units with distinct physical characteristics, notably in soils and drainage, and associated agricultural specialisms – Buttimer, 1971, 1978a).

## British views

Examining the period between its nascent establishment as a university discipline in the 1880s and the middle of the twentieth century, Stoddart (1986, p. 51) describes it as 'pragmatic, concerned with practical issues', as well as 'pedagogic: all were deeply connected with education in the schools and with the training of teachers'. He also noted that

they brought to bear on the problems selected for study an almost bewildering range of formal training and interest, obtained before geography had itself become established as a formal discipline, but unified through a shared belief in geographical methods and objectives.

Stoddart adds that there was a strong emphasis on fieldwork and planning issues in the UK.

Hence, British geographers were less concerned with philosophical and methodological debate than were their American counterparts during the 1920s, 1930s and 1940s (though see the

exchange in the *Scottish Geographical Magazine* during the late 1930s, initiated by Crowe, 1938). They were apparently more pragmatic, less prone to contemplate the nature of their subject and more prepared, perhaps, to adopt the well-used adage that 'Geography is what geographers do'. But they too generally accepted that geography's *raison d'être* was synthesis, integrating the findings of various systematic studies, but with a strong emphasis on genesis distinguishing their approach from their American contemporaries', as in the studies of geomorphology and historical geography (Darby, 1953; K. J. Gregory, 2003). According to Wooldridge and East (1958), 'geography . . . fuses the results, if not the methods, of a host of other subjects . . . [it] is not a science but merely an aggregate of sciences' (p. 14): 'its *raison d'être* and intellectual attraction arise in large part from the shortcomings of the uncoordinated intellectual world bequeathed us by the specialists' (pp. 25–6) and 'in its simplest essence the geographical problem is how and why does one part of the earth's surface differ from another' (p. 28).

All these statements indicate some transatlantic common body of opinion (Stoddart (1990) discusses Hartshorne's influence on Woodridge) although, despite a statement that 'The purpose of regional geography is simply the better understanding of a complex whole by the study of its constituent parts' (p. 159), Wooldridge and East did not elevate the regional doctrine as much as their American counterparts (nor were they carried to excesses of environmental determinism in earlier decades). Nevertheless, Wooldridge (1956, p. 53) wrote in 1951 that:

the aim of regional geography . . . is to gather up the disparate strands of the systematic studies, the geographical aspects of other disciplines, into a coherent and focused unity, to see nature and nurture, physique and personality as closely related and interdependent elements in specific regions.

He argued that in any university department of geography each staff member should be committed to the study of a major region (p. 64; Mead, 1963, 2007).

As in the USA, much early development in the UK involved work at two scales (Freeman, 1961, p. 84; Johnston, 1984a). The large scale is exemplified by Herbertson's (1905) exercises dividing the earth into major natural regions, usually based on climatic parameters and thus having some links with the earlier determinism. At the smaller scale:

The fundamental idea was that the small area would legitimately be expected to show some distinct individuality, if not necessarily entire homogeneity, through a study of all its geographical features – structure, climate, soils, vegetation, agriculture, mineral and industrial resources, communications, settlement and distribution of population. All these, it has often been said, are united in the visible landscape, linked into one whole and dependent one on another. And more, every area, save those few never occupied by man, has been influenced, developed and altered by human activity, and therefore the landscape is an end-product, moulded to its present aspect by successive generations of people. The practice has therefore been to take an evolutionary view and . . . to attempt to reconstruct the landscape as it was a hundred, or a thousand years ago.

(Freeman, 1961, p. 85)

The delineation of regions at these two scales also included attempts to devise hierarchies (or 'orders'), whereby smaller regions are grouped into larger units – with the various orders given separate names, such as 'tracts' and 'stows' (Unstead, 1933; Johnston, 1984a).

Although much regional definition and description was undertaken for pedagogical purposes, the practical value of appreciating regional divisions was also pressed. Notable was the work of L. D. (later Sir Dudley) Stamp. A University of London geology graduate, Stamp made the translation to geography when working as Professor of Geology and Geography at the University of

Rangoon (his initial employment in Burma was as an oil geologist). He returned to the UK in 1926, to the London School of Economics, where he developed wide interests and published a large number of school textbooks on all parts of the world, as well as a much revised text on *The British Isles* (Stamp and Beaver, 1947) and several revisions of G. G. Chisholm's *Handbook of Commercial Geography* (1895). In 1930, Stamp launched what was then by far the largest research project undertaken by British geographers – the Land Utilisation Survey of Britain. Over four years he mobilised some 250,000 students at about 10,000 schools to map land use over the entire country (a later survey was organised in Northern Ireland) at the scale of 6 inches to the mile. These provided the data for maps of land use at the scale of 1 inch to the mile, a series of county reports, many written by academic geographers and including regional summaries, and for his summary volume on *The Land of Britain* (Stamp, 1946a; see Rycroft and Cosgrove, 1999; Wise, 1968). Stamp promoted the survey in particular, and geographical skills in general, as valuable for planning land use (as in Stamp, 1934, 1946b, 1949), and this was one of the main foundations for his later advocacy of applied geography (Stamp, 1948, 1960). His expertise led to him either serving on or advising a number of important government commissions regarding land use and related issues during the Second World War and after (such as the Royal Commission on Land Utilisation in Rural Areas, of which he was Vice-Chairman, and the Royal Commission for the Common Land – Buchanan, 1968). We reconsider Stamp's contributions again in Chapter 8 where his arguments for an applied geography are evaluated.

In addition to the definition of what are generally termed formal (or uniform) regions – areas of any scale that are relatively homogeneous on the selected phenomenon or phenomena – there was also interest in functional regions. These are also homogeneous areas on criteria regarding interactions between places: the unity of a functional region is provided by links to a common dominant node. Functional regions were introduced to British geography by Fawcett (1919), who suggested that the main cities' hinterlands should be the territorial framework for regional governments. One of his students identified the hinterlands of both large cities – Leeds and Bradford (Dickinson, 1930) – and market towns – in East Anglia (Dickinson, 1933). Dickinson travelled widely in France, Germany and the USA during the 1930s, assembling material on this aspect of urban geography and developing his argument – crystallised in his postwar text, *City Region and Regionalism* (Dickinson, 1947) – that functional regions should be the basis for dividing up a country for the purposes of public administration (Johnston, 2000c, 2002a). Dickinson was a strong proponent of the regional approach and saw no tension between the formal and functional regional concepts, arguing that the view of the region as developed by what he termed the 'landscape purists' (Dickinson, 1938, p. 12) was 'the "objective manifestations" of economic circulation . . . men and things in movement'.

A significant difference between British and American geographers by the 1950s was in attitudes to physical geography. Both groups had strong traditions of work in this field, and many geographers had academic roots in geology. But this tradition had slowly dissolved in North America (the USA much more than Canada) and interest in the physical environment waned, particularly its understanding as against its description (Leighley, 1955). This may have been a consequence of the excesses of environmental determinism, with a subsequent desire to remove all traces of that connection and to see society as the formative agent of landscape patterns and change. Thus, with regard to geomorphology – the science of landform genesis – Peltier wrote:

the geographer needs precise, factual information about particular places. What landforms actually exist in a given area? How do they differ? Where are they? What are their distribution patterns? The geomorphologist may concern himself with questions of structure, process, and stage, but the geographer wants specific answers to the questions: what? where? and how much? (1954, p. 375)



Geographers, according to this view, were only interested in the geography of landforms: geomorphology, the genetic study of landforms, was a part of geology and deemed outside the geographical enterprise.

Similar reactions saw reduction, if not removal, of material from climatology and biogeography from American geographical curricula, and their replacement by introductory physical geography courses that described landforms, climates and plant assemblages – usually in a regional context – but paid little or no attention to their origins. A substantial revival of physical geography in the USA after 1970 reflected its perceived relevance to understanding and resolving environmental problems, realising the potential of technological advances in remote sensing and associated technologies (see Marcus, 1979, and the essays in Gaile and Willmott, 1989, 2004). British geographers did not follow this American trend. According to Wooldridge and East:

To treat geography too literally as an affair of the 'quasi-static present' is to make both it and its students seem foolish and superficial. It is true that our primary aim is to describe the present landscape; but it is also to interpret it. . . . Our study has therefore always to be evolutionary. . . . It is unscholarly to take either landforms or human societies as 'given' and static facts, though we must not let temporal sequences obscure spatial patterns.

(1958, p. 47)

Geography students at UK universities in the 1950s rarely specialised in either physical or human geography, except perhaps in the final year of their course. Both were considered essential parts of a geographical education (Johnston and Gregory, 1984; Cosgrove, 1989a). By that time, however, most British geographers were research specialists in either physical or human geography (though rarely exclusively so), although most also practised a regional specialism in which they 'integrated' studies from 'both sides' of their subject, as in the regional textbooks of the period. The 'dogma of regional synthesis' (Darby, 1983b, p. 25) was being softened, however, and geographers were increasingly turning their attention from regions to systematic studies, identifying themselves as either physical or human geographers.

## Historical geography

One systematic specialism which stood slightly apart from the others was historical geography. Two separate approaches operated from the late 1920s on; indeed one (predominantly American) was not presented as historical geography.

The first approach was closely associated with the work of H. C. (later Sir Clifford) Darby in the UK (Perry, 1969; Darby, 2002). Darby was very much influenced by Cambridge historians in the 1920s, and his Ph.D. (the first to be awarded in geography at Cambridge) was on the medieval Fenland (Darby, 1940a, 1940b). He then turned his attention to the 1086 Domesday Book, editing a multi-authored set of regional volumes depicting the geography it disclosed, county by county, with a summary volume (Darby, 1977; Perry, 1979). He also enunciated a broad approach to historical geography which combined detailed cross-sectional analyses of particular times – selected according to the availability of source materials – with linking narratives describing the intervening changes (as in two edited volumes: Darby, 1936, 1973). Darby's approach was set out in major essays (1953, 1962) and posthumously in a volume assembled from his surviving lecture notes (Darby, 2002; he also left notes on his course on English landscape change – see Darby, 1951—but without the illustrative material, which prevented these also being published in book form). During his career he supervised a large number of research students, establishing a strong presence for historical geography within the discipline (Prince, 2000); indeed, he restructured the department at University College London after his appointment as head in 1949 to reflect the importance he gave to historical geography (Clout, 2003c).