Key Concepts in Geography

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Edited by
**Nicholas J. Clifford, Sarah L. Holloway,
Stephen P. Rice and Gill Valentine**

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Histories of Geography

Mike Heffernan

Definition

There is no single history of 'geography', only a bewildering variety of different, oft competing versions of the past. One such interpretation charts the transition frc early-modern navigation to Enlightenment exploration to the 'new' geography of t late nineteenth century and the regional geography of the interwar period. This cc textualist account – like all other histories of geography – reflects the partialities its author.

INTRODUCTION

The deceptively simple word 'geography' embraces a deeply contested intellectual project of great antiquity and extraordinary complexity. There is no single, unified discipline of geography today and it is difficult to discern such a thing in the past. Accordingly, there is no single history of 'geography', only a bewildering variety of different, often competing versions of the past. Physical geographers understandably perceive themselves to be working in a very different historical tradition from human geographers, while the many perspectives employed on either side of this crude binary division also have their own peculiar historical trajectories (see, as examples, Chorley et al., 1964, 1973; Glacken, 1967; Beckinsale and Chorley, 1991; Livingstone, 1992).

Until recently, the history of geography was written in narrow, uncritical terms and was usually invoked to legitimize the activities and perspectives of

different geographical constituencies in the present. The discipline's past was presented in an intellectual vacuum, sealed off from external economic, social, political or cultural forces. More recently, however, the history of geography has been presented in a less introspective, self-serving and teleological fashion. Drawing on skills, techniques and ideas from the history of science, a number of scholars (some based in geography departments, others in departments of history or the history of science) have revealed a great deal about various kinds of geography in different historical and national contexts. We now have a substantial body of historical research on the development of geography in universities and learned societies, in primary and secondary schools, and within the wider cultural and political arenas. This research has focused mainly on Europe and North America and extends the longer and richer vein of scholarship on the history of cartography (on the latter, see Harley, 2001). Summarizing this research is no easy task and the following represents only a crude, chronologically simplified outline account of geography's history from the sixteenth to the mid-twentieth centuries.

FROM NAVIGATION TO EXPLORATION: THE ORIGINS OF MODERN GEOGRAPHY

The classical civilizations of the Mediterranean, Arabia, China and India provided many of the geographical and cartographical practices that European geographers would subsequently deploy (Harley and Woodward, 1987, 1992–4). That said, the origins of modern geography can be dated back to western Europe in the century after Columbus. The sixteenth century witnessed far-reaching economic, social and political upheavals, linked directly to the expansion of European power beyond the continent's previously vulnerable limits. By *c.* 1600, a new, mercantilist Atlantic trading system was firmly established, linking the emerging, capitalist nation-states of western Europe with the seemingly unlimited resources of the American 'New World'. Whether this expansion proceeded from internal changes associated with the transition from feudalism to capitalism (as most historians of early-modern Europe have argued) or whether it preceded and facilitated these larger transformations (as revisionist historians insist) is a 'chicken-or-egg' question that was extensively debated at the end of the twentieth century (Blaut, 1993; Diamond, 1997). All we can say for certain is that early-modern innovations in shipbuilding, naval technology and navigation progressively increased the range of European travel and trade, particularly around the new Atlantic rim, and in so doing transformed European perceptions of the wider world as well as the European self-image (Livingstone, 1992: 32–62).

Firmly rooted in the practical business of long-distance trade, early-modern geography – 'the haven-finding art', as Eva Taylor (1956) memorably called it – encompassed both the technical, mathematical skills of navigation and map-making as well as the literary and descriptive skills of those who wrote the numerous accounts of the flora, fauna, landscapes, resources and peoples of distant regions (see, for early accounts, Taylor, 1930, 1934). As Figure 1.1 suggests, based on evidence from France, geographical descriptions of the non-European

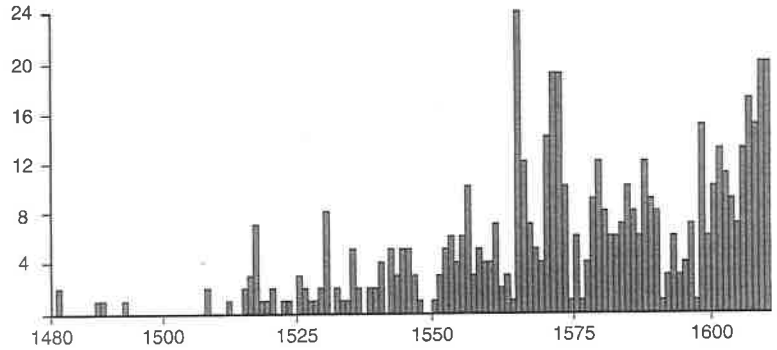

Figure 1.1 Books published in France concerned with geographical descriptions of the non-European world from 1481 to 1609

Source: Atkinson (1927, 1936)

world became steadily more popular through the sixteenth century – the staple fare of the expanding European libraries which were also the principal repositories for the politically important archive of maps produced by Europe's growing army of cartographers (see, for example, Konvitz, 1987; Buisseret, 1992; Brotton, 1997). Equipped with this developing body of geographical fact (liberally sprinkled though it was with speculative fiction), the larger European universities began to offer specialized courses in geography and related pursuits, including chorography, navigation and cartography (see, for example, Bowen, 1981; Cormack, 1997).

The epistemological foundations of modern science were established during the seventeenth century, the era of the so-called 'Scientific Revolution'. This 'revolution' coincided with, and was partly explained by, widespread religious and political upheaval in Europe and had its own geographies that have recently been explored (Livingstone and Withers, 2005: 23–132). The inchoate science of geography, although generally viewed as a practical, navigational skill that merely facilitated scientific discovery (Livingstone, 1988, 1990, 1992: 63–101, 2003), was gradually implicated in, and ultimately transformed by, wider moral, philosophical and political debates about the possibilities of human development within and beyond Europe, the relative merits of the different societies, cultures and civilizations around the world, and the geographical limits on supposedly universal human rights and attributes (see, more generally, Broc, 1981; Livingstone, 1992: 102–38; Livingstone and Withers, 1999; Mayhew, 2000; Withers and Mayhew, 2002). By the eighteenth century – the era of the European Enlightenment – the teaching of geography had become critically important in the creation of new, distinctively modern forms of popular national and imperial identities (Withers, 2001, 2007). At the same time, an interest in travel as an educational activity, beneficial in and of itself, spread from the European aristocracy into the ranks of the newly enriched urban bourgeoisie. From this emerged the 'Grand Tour' of the Mediterranean heartlands of the ancient world so beloved of wealthier and lettered European men and women (Chard and Langdon, 1996; Chard, 1999).

Partly as a result of these developments, the simple idea of geography as navigation gave way to a new formulation: geography as exploration. This was, to be sure, a shift of emphasis rather than a fundamental transformation but it reflected and engendered an entirely new geographical language and rationale. While scientific discoveries might emerge as more or less fortunate by-products of navigation, such discoveries were seen as the planned and considered objectives of the kind of purposeful, self-consciously scientific exploration that developed during the eighteenth century, backed up by new cartographic and navigational techniques and by the substantial resources of modern nation-states (see, for example, Sobel, 1996; Edney, 1997; Burnett, 2000): '[W]hat distinguishes geography as an intellectual activity from ... other branches of knowledge', claims David Stoddart (1986: 29), 'is a set of attitudes, methods, techniques and questions, all of them developed in Europe towards the end of the eighteenth century.' Elsewhere in the same text, Stoddart (1986: 33) is even more specific about the point of departure for the new geography of exploration. The year 1769, when James Cook first sailed into the Pacific, was a genuine turning point in the development of modern geography, claims Stoddart, and not simply because Cook's journeys opened up the Australian landmass with its unique flora and fauna to the inquisitive European gaze. Unlike earlier generations of navigators, claims Stoddart, Cook's explorations were specifically intended to achieve scientific objectives, to be carried out by the illustrious international savants who accompanied him.

The idea that geography developed from navigation to exploration through the early-modern period should not be seen as evidence of a progressive or virtuous evolution from a speculative commercial practice to an objective scientific pursuit. Columbus and Cook were both sponsored by European nation-states eager to exploit the resources that might be uncovered by their voyages. Despite the rhetoric of scientific internationalism, Cook's explorations reflected, *a fortiori*, the same imperial objectives that had motivated earlier sea-faring navigators. Neither can it be claimed that the wilder speculations of early-modern navigators and their chroniclers were more extravagant than the fantasies of later generations of explorers and their ghostwriters (see Heffernan, 2001). Geography as a practical navigational and cartographic activity was not supplanted by geography as an organized scientific pursuit based on detailed assessments of the human and environmental characteristics of different regions; rather, the same activity acquired new layers of meaning and a new scientific language through which its findings could be expressed.

The new Enlightenment geography was probably best exemplified by Alexander von Humboldt, the Prussian polymath who was born as Cook and his fellow explorers were charting their way across the Pacific. An inveterate explorer and a prolific author, von Humboldt was a complex figure: the archetypal modern, rational and international scientist, his ideas were also shaped by the late eighteenth-century flowering of European romanticism and German classicism. His travels, notably in South America, were inspired by an insatiable desire to uncover and categorize the inner workings of the natural world, and his many published works, especially the multi-volume *Kosmos*, which appeared in the mid-nineteenth century, sought to establish a systematic science of geography

that could analyse the natural and the human worlds together and aspire to describe and explain all regions of the globe (Godlewska, 1999b; Buttimer, 2001). His only rival in this ambitious discipline-building project was his German near contemporary, Carl Ritter, a more sedentary writer of relatively humble origins whose unfinished 19-volume *Erdkunde*, also published in the mid-nineteenth century, reflected its author's Christian worldview but was inspired by the same objective of creating a generalized world geography, even though the analysis was to advance no further than Africa and Asia.

INSTITUTIONALIZING EXPLORATION: THE GEOGRAPHICAL SOCIETIES

At this juncture, the European exploratory impetus was still largely dependent on the personal resources of the individuals involved. By the end of the eighteenth century, however, new institutional structures began to emerge within and beyond the agencies of the state dedicated to sponsoring exploration and geographical discovery. In 1782, Jean-Nicolas Buache was appointed geographer to the court of Louis XVI in France and attempted unsuccessfully to launch a geographical society to co-ordinate French exploration (Lejeune, 1993: 21–2). Stung into action by this failed initiative, a group of London scientists and businessmen, led by Sir Joseph Banks (President of the Royal Society) and Major James Rennell (Chief Surveyor of the East India Company) launched the Association for Promoting the Discovery of the Interior Parts of Africa in 1788. Over the next decades, the African Association sponsored several pioneering expeditions, including those of Mungo Park, Hugh Clapperton and Alexander Gordon Laing (Heffernan, 2001; Withers 2004).

The French Revolution and the Napoleonic wars brought a halt to the best forms of Enlightenment geographical inquiry (Godlewska, 1999a) but gave a fresh impetus to the strategically important sciences of cartography and land survey. By 1815, affluent, educated and well-travelled former soldiers were to be found in virtually every major European city, and these men were the natural clientele for the first geographical societies, the building blocks of the modern discipline. The earliest such society was the Société de Géographie de Paris (SGP), which held its inaugural *séance* in July 1821. A fifth of the 217 founder members were born outside France, including von Humboldt and Conrad Malte-Brun, the Danish refugee who became the society's first Secretary-General (Fierro, 1983; Lejeune, 1993). A second, smaller geographical society was subsequently established in Berlin, the Gesellschaft für Erdkunde zu Berlin (GEB), at the instigation of the cartographer Heinrich Berghaus in April 1828, with a foundation membership of just 53, including von Humboldt and Carl Ritter, who became the society's inaugural president (Lenz, 1978).

The establishment in 1830 of the Royal Geographical Society (RGS) of London, under the patronage of William IV, marked a significant new departure. Several London societies committed to fieldwork and overseas travel already existed, including the Linnean Society for natural history (established in 1788), the Palestine Association (1804), the Geological Society (1807), the Zoological

Society (1826) and the Raleigh Club (1826), the last named being a dining club whose members claimed collectively to have visited every part of the known world. The RGS was to provide a clearer London focus for those with an interest in travel and exploration. Even at its foundation, it was far larger than its existing rivals in Paris and Berlin. The 460 original fellows included John Barrow, the explorer and essayist, and Robert Brown, the pioneer student of Australian flora. Within a year, the RGS had taken over the Raleigh Club, the African Association and the Palestine Association to gain a virtual monopoly on British exploration (Brown, 1980).

The pre-eminence of the RGS as the focal point of world exploration increased over subsequent decades. By 1850, there were nearly 800 fellows (twice the number in Berlin and eight times more than Paris, where the SGP membership had slumped) and, by 1870, the fellowship stood at 2,400. Most fellows were amateur scholars but a number of prominent scientists also joined the society's ranks, including the young Charles Darwin, who was elected after his return from the voyage of the *Beagle* in 1838. The dominant figure in the RGS during the middle years of the nineteenth century was Sir Roderick Murchison, who was president on three separate occasions: 1843–5, 1851–3 and 1862–71. A talented publicist and entrepreneur, Murchison advocated geographical exploration as a precursor to British commercial and military expansion (Stafford, 1989). While other societies offered only *post hoc* awards and medals for successfully completed voyages, the RGS used its substantial resources to sponsor exploration in advance and on a large scale by providing money, setting precise objectives, lending equipment and arbitrating on the ensuing disputes. It also published general advice through its *Hints to Travellers*, which began in 1854 (Driver, 2001: 49–67), and developed what was probably the largest private map collection in the world.

The success of the RGS reflected the strength of British amateur natural science, the wealth of the country's upper middle class (which provided the bulk of the fellowship) and the confidence that a large navy and overseas empire gave to prospective British explorers (Stoddart, 1986: 59–76). By concentrating on exploration and discovery, the RGS exploited a vicarious national passion for muscular 'heroism' in exotic places that was enthusiastically promoted by the British press. The explorer was the ideal masculine hero of Victorian society (the notion of a female geographer seemed almost a contradiction in terms), selflessly pitting himself against the elements and hostile 'natives' in remote regions for the greater glory of science and nation. Africa loomed especially large in the public imagination and the exploration of the 'Dark Continent', particularly the quest for the source of the Nile, provided an exciting and popular focus for the society's activities. All the major African explorers of the day – Burton, Speke, Livingstone, Stanley – were influenced in some degree by the RGS, although their relationships with the society were not always cordial (Driver, 2001: 117–45). As the blank spaces on the African map were filled in, the RGS more than any other organization was able to bask in the reflected glory, while always shifting its focus to new regions. By the late nineteenth and early twentieth centuries, under the powerful influence of Sir Clements Markham and Lord Curzon, attention was directed mainly towards central Asia, the polar ice caps and the vertical

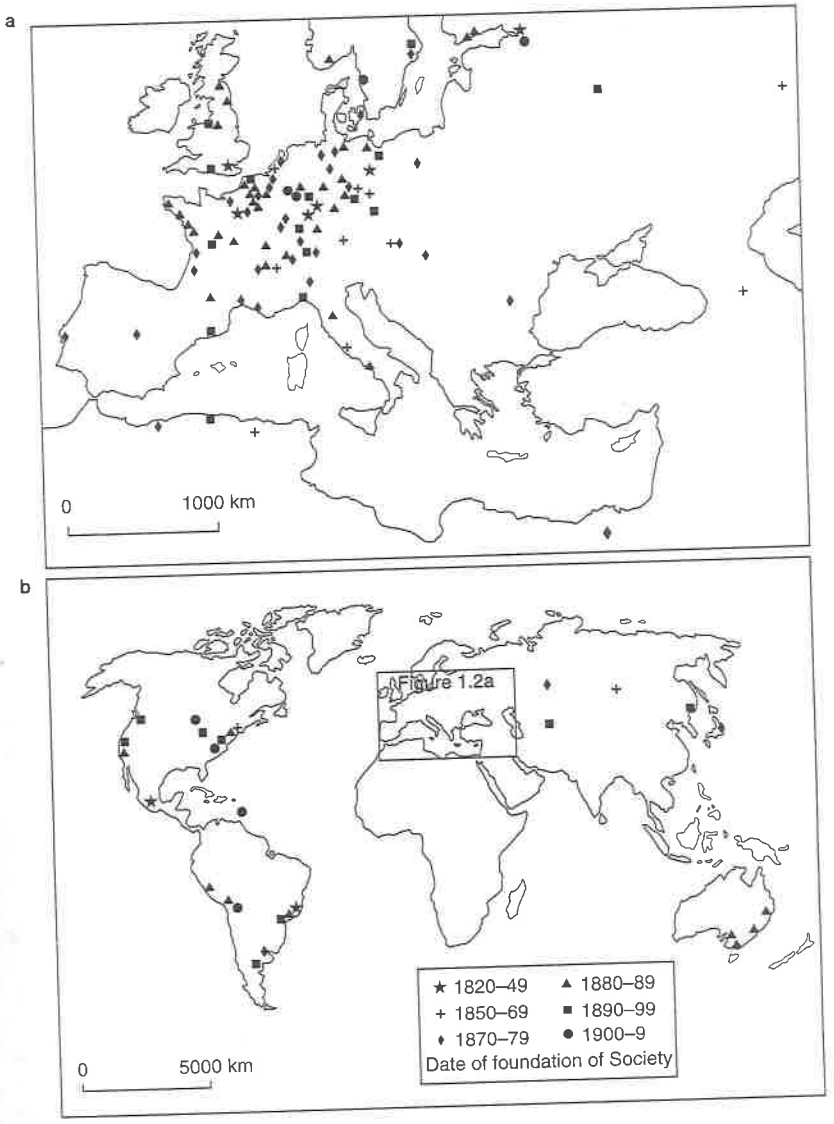

Figure 1.2 European and non-European geographical societies, by date of foundation

Source: Kolm (1909)

challenges of high mountain ascents in the Himalayas. The geographical societies in Paris and Berlin also expanded rapidly after 1850, under the direction of the Marquis de Chasseloup-Laubat (Napoleon III's former Naval and Colonial Minister) and Heinrich Barth (the leading German African explorer) and new societies sprang up elsewhere in Europe and in the burgeoning cities of Northand South America (Figure 1.2).

SCIENCE AND EMPIRE: EXPLORATION, THE 'NEW' GEOGRAPHY AND THE MODERN IMPERIAL NATION

The vision of the discipline promoted by these mid-nineteenth century geographical societies exemplified the soaring ambition of the European imperial mind (Driver, 1992, 2001; Bell et al., 1994; Godlewska and Smith, 1994). The navigational and cartographic skills of the geographer during the 'heroic' age of exploration and discovery paved the way for European military and commercial colonization of the Americas, Asia and Africa. The principal geographical 'tool' was, of course, the map. By representing the huge complexity of a physical and human landscape in a single image, geographers and cartographers provided the European imperial project with arguably its most potent device. European exploration and mapping of the coastlines of the Americas, Africa, Asia and the Pacific, and the subsequent terrestrial topographic surveying of these vast continents, were self-evidently exercises in imperial authority. To map hitherto 'unknown' regions (unknown, that is, to the European), using modern techniques in triangulation and geodesy, was both a scientific activity dependent on trained personnel and state-of-the art equipment and also a political act of appropriation which had obvious strategic utility (Edney, 1997; Burnett, 2000; Harley, 2001).

The shift in the European balance of power following the Franco-Prussian war of 1870 gave an unexpected boost to geography. Aggressive colonial expansion outside Europe was identified as one way to reassert a threatened or vulnerable national power within Europe, and the later decades of the nineteenth century were characterized by a surge of colonial expansion (particularly the so-called 'Scramble for Africa') as each imperial power sought comparative advantage over its enemies, both real and imagined. This frenzied land grab emphasized the practical utility of geography and cartography. By the end of the nineteenth century, the 'high-water mark' of European imperial expansion, geography had become 'unquestionably the queen of all imperial sciences ... inseparable from the domain of official and unofficial state knowledge' (Richards, 1993: 13; see also Said, 1978, 1993). In Germany, 19 new geographical societies had been established, including associations in the former French towns of Metz (1878) and Strasbourg (1897). In France, there were 27 societies, one in virtually every French city, and no fewer than four in French Algeria. A number of the French provincial societies were devoted to commercial geography and sought to encourage trading links with the French empire (Schneider, 1990). At this point, one-third of the world's geographers were based in France (Figure 1.3). The British were by no means immune to this late-century geographical fever and the RGS remained the largest and wealthiest geographical society in the world. A handful of provincial societies were established in the UK during the late nineteenth century, notably in Edinburgh (the Royal Scottish Geographical Society) and Manchester (both 1884) but, unlike the countries of continental Europe, the RGS retained its dominance of the British geographical movement (MacKenzie, 1994).

Backed by a new generation of civic educational reformers, a 'new' geography began to emerge in schools and universities, with Germany and France leading the way. The German university system had been significantly reformed during the nineteenth century (based in part on the ideas of Wilhelm von

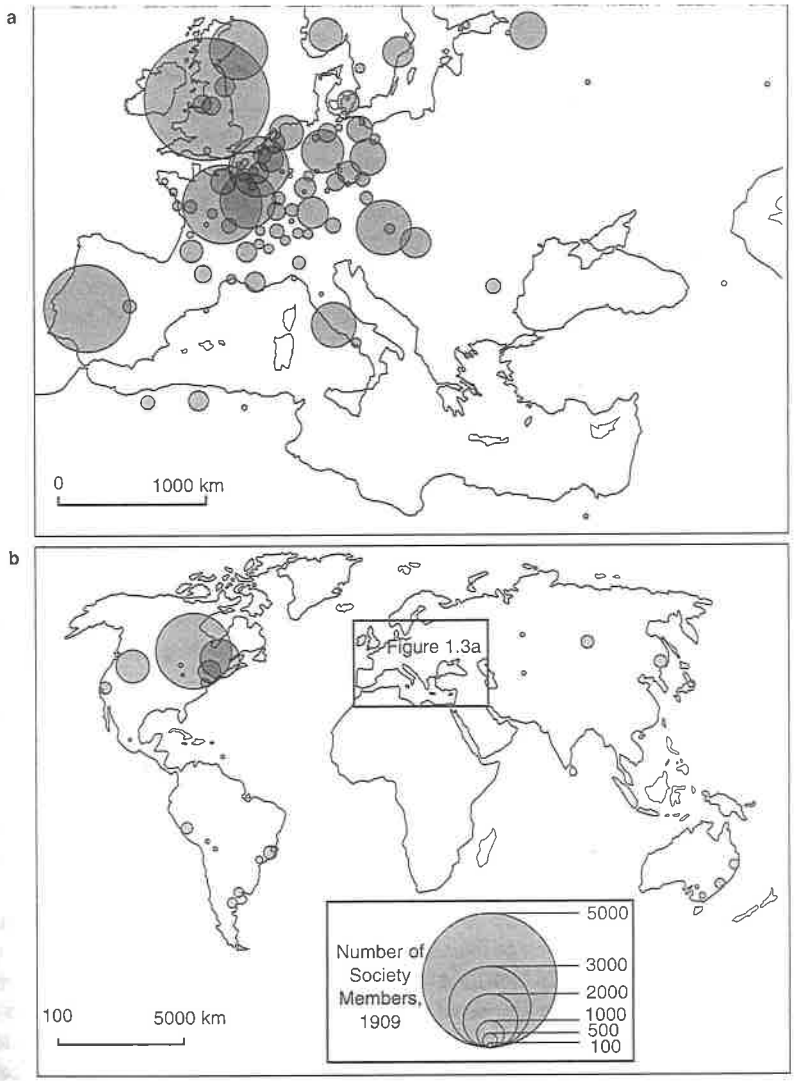

Figure 1.3 Size of European and non-European geographical societies, late nineteenth century

Source: Kolm (1909)

Humboldt, Alexander's brother) and geography already had a powerful presence in the tertiary and secondary educational programmes. The same republican politicians in Paris who championed colonial expansion as a route to national rejuvenation were also convinced that France needed to learn from Germany by completely revising its school and university system to inculcate the patriotic values that had seemed shockingly absent from the French armies of 1870. A

carefully constructed geography curriculum was identified as the key to such a system. This would introduce the next generation to the beauty, richness and variety of France's *pays* while informing them of their nation's role and responsibility in the wider world. The French universities would need to train the next generation of geography teachers, and a dozen new chairs were established during the 1880s and 1890s for this purpose (Broc, 1974). Germany, eager to sustain its reputation as the leading intellectual centre of the discipline, responded with a similar educational drive.

The fiercely independent British universities initially resisted this trend, to the dismay of the geographers in the RGS. A chair of geography had been established at University College London as early as 1833 (filled by Captain Alexander Maconochie, the RGS's first Secretary), but this lapsed after three years and a full-time British university post in geography was not created until 1887 when an Oxford University readership was awarded to Halford Mackinder, partly financed by the RGS's (Stoddart, 1986: 41–127). The RGS, along with the Geographical Association (established in 1893 to promote geography in schools) and other educational organizations such as the British Association for the Advancement of Science (Withers et al., 2006), worked hard to change attitudes. Sir Harry H. Johnston, the explorer, colonial administrator and prominent RGS fellow, argued that geography should become a compulsory school subject, for it was only through detailed geographical description, complete with authoritative and regularly updated topographical and thematic maps, that a region could be known, understood and therefore fully possessed by those in authority (Heffernan, 1996: 520). By dividing the world into regions and ordering the burgeoning factual information about the globe into regional segments, he insisted, geography offered one solution to the yearned-for objective of classifying and understanding the human and environmental characteristics of the entire globe. Through geography the world could, at last, be visualized and conceptualized as a whole, a process facilitated by the use of new techniques of geographical representation, particularly photography (Ryan 1997; Schwartz and Ryan, 2003).

The 'new' school and university geography was no less an imperial science than its exploratory predecessor, as a cursory glance at the textbooks of the period makes clear (Hudson, 1977). The principal representatives of academic geography – notably Mackinder at Oxford and Friedrich Ratzel in Leipzig – sought not only to explain the human and natural features of the world, but also to justify the existence of European empires (Heffernan, 2000a). Ratzel, in particular, was profoundly influenced by the writings of Charles Darwin and insisted (as did many so-called 'social Darwinists' within and beyond geography) that the principles of 'natural selection' applied equally to the natural, social and political realms (Stoddart, 1986: 158–79; Bassin, 1987). Nation-states, like species, struggled for space and resources, and the 'fittest' were able to impose their will on less fortunate 'races'. For many geographers of this period, including those who were fashioning a distinctively American geographical tradition, such as Ellsworth Huntington and Ellen Churchill Semple, the dominance that certain peoples exerted over others was either divinely preordained or the product of environmentally conditioned racial characteristics (Keighren, 2006). Building on Enlightenment ideas about the environmentally determined nature of different

peoples, a new brand of 'scientific racism' infused geographical theory in the later nineteenth and early twentieth centuries. The expansive, imperial 'races' of Europe and the European settler communities in the Americas benefited from unique climatic and environmental circumstances, it was claimed, and these advantages had created energetic, expansive civilizations. The very different climates and environments of the colonial periphery had created inferior societies and weaker civilizations in need of an ordering and benign European presence (Peet, 1985).

Such distasteful ideas reflected a prevailing orthodoxy but they also provoked spirited debate. While environmental determinism and scientific racism were often mutually reinforcing ideas, they could also contradict one another. Some racial theorists assumed that different 'races' were fixed in an unchanging 'natural' hierarchy, the contemporary manifestation of quite distinct evolutionary sequences from different points of departure (polygenesis). 'External' environmental factors could have only limited impact on this preordained racial system. This argument presupposed the need for a permanent imperial presence of intellectually and racially superior rulers in order to manage the irredeemably inferior peoples and environments of the colonial world (Livingstone, 1992: 216–60). By emphasizing the overriding significance of climatic and physical geographical factors on the process of social and economic progress and the essential unity of humanity (monogenesis), many environmental determinists tended to focus on the possibilities of human development through the judicious intervention in the natural world. If scientifically advanced European societies could overcome the worst aspects of the challenging environments of the colonial periphery by draining the pestilential marsh or irrigating the barren desert, this would not only improve colonial economic productivity but would also, in time, improve the nature of the local societies and cultures. Environmental and moral 'improvement' were thus intimately interlinked and both were dependent on the 'benign' intervention of a 'superior' external force. In time, and if coupled with appropriate cultural and educational policies, colonized peoples would be allowed to take control of their own resources and manage their own affairs.

In dramatic contrast to these views were the radical geographical theories of Petr Kropotkin and Elisée Reclus, leading figures in the Russian and French anarchist circles, respectively. For Kropotkin and Reclus, the new science of geography suggested ways of developing a new harmony of human societies with the natural world, freed from the pernicious influence of class-based, nationalist politics (Blunt and Wills, 2000).

THE NEW WORLD: GEOGRAPHY AND THE CRISIS OF THE EARLY TWENTIETH CENTURY

The onset of the twentieth century provoked a rather anxious debate about the future of the 'great powers'. Many believed that 1900 would mark a turning point in world history, the end of a 400-year period of continuous European expansion. The unexplored and unclaimed 'blank' spaces on the world map were rapidly diminishing, or so it seemed, and the sense of a 'global closure' was palpable.

Different versions of this *fin-de-siècle* lament were rehearsed in several contexts. The German geomorphologist, Albrecht Penck, used the idea of global closure in the early 1890s to justify his inspirational but sadly inconclusive scheme for a new, international 1:1 million map of the world (Heffernan, 2002). At the same time, the American historian, Frederick Jackson Turner, delivered a famous lecture at the Columbian Exposition in Chicago in 1893 (an event designed to commemorate the quatercentenary of Colombus's voyage to the Americas), which suggested the need for the newly established transcontinental USA to seek out new imperial frontiers beyond the traditional limits of the national homeland, particularly in the Pacific. And in 1904, Halford Mackinder addressed the RGS on the likely end of the 'Columbian era' of maritime, trading empires and the emergence of a twentieth-century world order dominated by cohesive land-based empires (such as the USA), bound together by railways. Mackinder dubbed the great Eurasian landmass – the largest expanse of territory on the planet – as the 'geographical pivot of history' and argued that whichever power could control the limitless resources of this huge region would dominate world affairs in the coming century. The 'closed' system Mackinder described would be extremely dangerous, he implied, because the frontiers on the new empires would straddle the globe (for a comparison of Turner and Mackinder, see Kearns, 1984).

The outbreak of the First World War, the first truly global conflict, confirmed many of these fears. Although it reached its peak of savage intensity on the Western Front, Mackinder later insisted that the war had erupted from precisely the territorial struggle he had foreseen in 1904. Germany's pitch for global hegemony had been based on the idea of winning what Ratzel had famously called 'living space' (*Lebensraum*) in the east, at the expense of Russia, the region Mackinder now called 'the heartland' of the 'world island' (Mackinder, 1919). Mackinder was not asked to advise the British delegation which negotiated the peace treaties in Paris in 1919 (to his considerable frustration), but leading geographers from other countries were prominently involved in the redrawing of the postwar political map. The larger geographical societies in all belligerent countries had been fully mobilized by the intelligence services of each state (not least because of their extensive map collections) and had generated a mass of new geographical information and cartography for their paymasters. In the USA, the President of the American Geographical Society, Isaiah Bowman, was an important adviser to President Woodrow Wilson during the peace negotiations and had previously recruited many of America's leading geographers (including William Morris Davis and Ellen Churchill Semple) on to the so-called House Inquiry to help formulate US policy on postwar Europe and the wider world. Bowman also wrote the main geographical text on the postwar order, *The New World* (1921). Several French geographers, led by Paul Vidal de la Blache, fulfilled a similar role as members of the Comité d'Études that advised the French government during the war and at the peace conferences. The RGS, for its part, was also prominently involved as a metropolitan 'centre of calculation' for both the Naval and War Office intelligence services (Heffernan, 2000b).

In these countries, geography emerged from the carnage of the First World War with its reputation significantly enhanced. New geography appointments quickly followed in the leading schools and universities, notably in

Britain, where the teaching of geography still lagged behind the continent and where university courses had previously been taught by a single lecturer. The first British honours schools of geography were established during the war itself (in Liverpool in 1917 and at the LSE and Aberystwyth in 1918) or immediately afterwards (at University College London and Cambridge in 1918, Manchester in 1923 and Sheffield in 1924) (Stoddart, 1986: 45–6). Although the RGS had overseen the initial appointments to geography positions in British universities, the subsequent expansion of the discipline eroded the society's control of the British geographical agenda. Anxious to develop a more rigorous, scientific geography to match the developments taking place in other countries, British university geographers established their own independent organization in 1933, the Institute of British Geographers (IBG), which only recently re-merged with the older society.

By the interwar years, the 'new' geography that had arisen before 1914 had evolved into a sophisticated and popular discipline, prominent at all levels in the educational system. In the universities, a host of new subdisciplines arose, most of which continue to the present, but two wider interwar trends are worthy of special mention. The first was the conviction that geography should be an integrative, regional science. Physical and human geography should always be brought together in the analysis of specific regions, it was repeatedly argued, and the otherwise vague and undeveloped idea of the region emerged as the single most important intellectual contribution of interwar geography, particularly in Britain and France. The importance of the region can easily be explained. For the geographers who rose to prominence after 1918, the traditional nation-state was a suspect entity, the focus and the engine of the discredited nineteenth-century nationalism that had culminated with the disasters of 1914–18. The region, whether subnational or supranational, offered the prospect of radically alternative forms of government in the future. The French school of geography (dominated until his death in 1918 by Paul Vidal de la Blache and continued after the war by his many students) saw the region as the discipline's fundamental building block. Alongside the numerous regional monographs that were produced with assembly-line efficiency by French geographers, the Vidalians also proffered various schemes for devolved regional government from below (based in part on Vidal's own recommendations from 1910) and for integrated, European government from above (the most prophetic coming from Albert Demangeon). Similar ideals inspired regional geographers in Britain, including A.J. Herbertson, C.B. Fawcett, L. Dudley Stamp and H.J. Fleure, most of whom were influenced by the radical idealism of the Scottish natural scientist, planner and general polymath, Patrick Geddes (Livingstone, 1992: 260–303; Heffernan, 1998: 98–106, 128–31). The same agenda shaped the development of geography in other national contexts; in Germany, to be sure, but also the USA where the school of cultural geography established by Carl Sauer at Berkeley celebrated the idea of historical and geographical particularism and the unique qualities of diverse regions (see Chapter 16 on the importance of Sauer's work). Each of these national schools had distinguishing traits, but all shared a common conviction in the civic utility of geography as an educational, field-based and interpretative discipline (on geography and fieldwork, see Ploszajska, 1998; Lorimer, 2003; Withers and Finnegan, 2003; Lorimer and Spedding, 2005).

The second, very different, interwar trend was associated with fascist Italy and Nazi Germany, where a new generation of academic geographers sought to relaunch their discipline as an overtly political science dedicated to questioning the geopolitical order established in Paris after 1918. The Italian and German geopolitical movements (developed by Giorgio Roletto and Karl Haushofer and associated with the journals *Geopolitica* and *Zeitschrift für Geopolitik*) had much in common, including a penchant for bold, black-and-white propaganda cartography and hard-hitting, journalistic articles. Despite their overtly nationalist stance, both movements imagined a future integrated Europe though of a very different kind than was proposed by French and British regional geographers. The influence of Italian geopolitical theorists on government policy was minimal, and the impact of their German equivalents on Nazi programmes was even smaller, despite the close relationship between Haushofer and Rudolf Hess, one of Hitler's chief acolytes. Haushofer and his fellow academics had remarkably little to say on the central question of race and this, more than anything else, limited their appeal to Hitler and his Nazi ideologues (Heffernan, 1998: 131–49; Dodds and Atkinson, 2000).

The Second World War spelt the end of the geopolitical movements of Italy and Germany (and also brought about the temporary collapse of political geography *tout court*, and not only in these two countries). While the interwar regional geographical tradition continued into the post-1945 era, this too came under increasing pressure from new developments, particularly the quantitative geographical inquiry pioneered in the USA and in Britain during the 1960s and 1970s (see Chapter 3). Although it had arisen from a practical concern with the region as an alternative level of government and administration, the particularism of interwar regionalism, with its focus on the uniqueness of place, sat uncomfortably beside the new idea of geography as a law-seeking, 'spatial science'. Instead of the old, more historical form of regionalism, a new and more rigorously scientific regional science developed strongly during the postwar years to play its part alongside the many other branches of geographical research and teaching (Johnston, 1997).

CONCLUSION

The preceding survey is a personal account and should certainly not be read as a story of radical departures or revolutionary changes. The rough sequence of events charted here – the transition from early-modern navigation to Enlightenment exploration to the 'new' geography of the late nineteenth century and the regional geography of the interwar period – represents a process of accretion rather than displacement; an evolution in which traditions merged, overlapped and persisted alongside later developments to create an ever more complex picture. It is impossible to distil from these stories an essential core theme that has always animated geographical inquiry, but one thing is clear: geography, whether defined as a university discipline, a school subject or a forum for wider debate, has always existed in a state of uncertainty and flux. While some have lamented this as a sign of disciplinary weakness, it might equally be argued that the absence of conceptual conformity has been one of the discipline's great strengths. If the developments of the last few decades can be taken as a guide, it would seem that this is one 'geographical tradition' that is destined to continue.

SUMMARY

- The deceptively simple word 'geography' embraces a deeply contested intellectual project of great antiquity and extraordinary complexity. There is no single, unified discipline of geography today and it is difficult to discern such a thing in the past.
- A rough sequence of events can be charted from the early-modern navigation, to Enlightenment exploration, to the 'new' geography of the late nineteenth century and the regional geography of the interwar period.
- It is impossible to distil from these stories an essential core theme that has always animated geographical inquiry. This could be seen either as a sign of disciplinary weakness or as a strength.

Further Reading

The literature on the history of geography is large and varied. The best starting point is David Livingstone's (1992) ***The Geographical Tradition: Episodes in the History of a Contested Enterprise***, which is excellent on wider intellectual and philosophical contexts. David Stoddart's (1986) ***On Geography and its History*** is a spirited defence of geography's place within the natural sciences. On the Enlightenment, Robert Mayhew's (2000) ***Enlightenment Geography: The Political Languages of British Geography 1650–1850*** and Anne Godlewska's (1999) ***Geography Unbound: French Geographic Science from Cassini to Humboldt*** have different perspectives but survey the British and French experiences very effectively, while Charles Withers' (2007) ***Placing the Enlightenment*** provides a comprehensive and perceptive general survey. The collections edited by David Livingstone and Charles Withers on ***Geography and Enlightenment*** (1999) and ***Geography and Revolution*** (2005) contain useful introductory essays and strong chapters on specific topics. Charles Withers' (2001) ***Geography, Science and National Identity*** provides an outstanding illustration of geography's civic educational role. Anne Godlewska and Neil Smith's (1994) ***Geography and Empire*** is good on the imperial theme in general and can be supplemented, for the nineteenth and early twentieth centuries, by Morag Bell et al. (1994) ***Geography and Imperialism, 1820–1940***. Felix Driver's (2001) ***Geography Militant: Cultures of Exploration and Empire*** is a sparkling and highly imaginative study on the nineteenth century.

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

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2

Geography and the Physical Sciences Tradition

Keith Richards

Definition

The physical sciences provide a role model for many disciplines, but the model is a contested one. Some of the successes of the physical sciences have been the product of lengthy gestation over hundreds of years, and the methods employed and the philosophical frameworks underpinning them have changed in response to emerging understandings. Thus there is no single tradition, except that of pluralism. Within *this* 'tradition', there is a rich source for geography of methods drawing on observation measurement, various forms of experimentation, theory development, and testing These diverse but closely related practices are the true legacy of the sciences, and one to which geography can contribute as well as from which it may draw.

INTRODUCTION

This chapter examines the relationship between the philosophy and method of the physical sciences and those of geography, with a view to exploring some similarities and differences. The physical sciences have been very successful in providing us with understanding of many aspects of the world, as a result of