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Eighteenth-century geography: texts, practices, sites

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Abstract: This essay examines recent work on geography in the eighteenth century. Although it principally considers Britain, the paper also incorporates evidence from other countries and, in its concentration upon the eighteenth century rather than ‘early modern geography’ (the period c. 1600–1850), the essay offers a focus different from much other work. It is argued that, although geography may in its books have been understood by contemporaries as a consistently defined textual practice, significant variations existed in the cognitive content, purposive nature and institutional setting of geography. That this is so has important implications both for what we take geography in the eighteenth century to have been and for the nature of further research on the subject’s historical, intellectual and geographical dimensions.

Key words: eighteenth century, history of geography, practice, revisionist historiography, situated knowledge.

I Introduction

A noteworthy feature of geographical scholarship in recent years has been what we may term the ‘critical turn’ in the history of geography. There is not the space here to debate all the salient features of this revivification in the study of geography’s history, or to explain it – not least since my focus is only part of this wider story – but a number of themes may be identified. To take only book-length studies, for example, attention has been paid to the nature of geography in different national contexts in ways which highlight, *inter alia*, geography’s place in the public sphere not just in ‘the academy’, the use made of geography as a subject, the books and periodicals through

which geography was disseminated and geography’s teaching in formal settings such as universities and colleges before the establishment of university teaching departments in the later nineteenth century (Cormack, 1997; Godlewska, 1999; Schulten, 2001; Withers, 2001). Studies of institutional foundations in comparative context now more readily question unproblematic ‘origin’ stories for individual departments and disciplinary histories (Dunbar, 2001). Significant studies have been made of the nature of British geography in the Enlightenment (Mayhew, 2000), of ‘militant’ geography’s variant complicity with imperialism in the nineteenth century (Driver, 2001), and of contemporaries’ views of the power of

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geography and mapping underlying British colonial authority in earlier periods and different parts of the world (Edney, 1997; Burnett, 2000; Clayton, 2000a). For America, connections between geography, politics and empire have been disclosed through a biographical focus upon the history of geography that emphasizes the importance of geography to historical explanation (Smith, 2003). In addition, numerous shorter works have added to and refined our understanding of the nature of geography's history, its biographical and discursive dimensions and the diverse contexts to its history (for summary reviews, see Ryan, 2004; Withers, 2005a). In combination, the effect has been that established 'origin myths' have been challenged, enduring essentialist claims to 'the geographical tradition' have been exposed and found wanting and matters of context always deemed important to what we take geography to have been (Livingstone, 1992). Not least, recent work has disclosed how much there is still to know in terms of geography's histories, in regard to the methodologies by which we may recover them and, for whom, now as then, such histories had what meaning. It is thus correct to note, as one leading figure puts it of Britain, that 'geography's historical complicity in a range of intellectual projects, discursive practices, and political performances continues to cast shadows over its current operations' (Livingstone, 2003a: 12). But there are important distinctions between recording longer-run intellectual genealogies for the subject in its various forms and understanding what geography was held to be in its own terms in the past.

This paper aims to contribute to the revisionist historiography of geography by offering, within limits, a review of the nature of geography in the eighteenth century. In doing so, and as for Robert Mayhew, one of the leading authorities on 'early modern geography' – that is, geography's close connections with history within the Classical humanist tradition before about 1850 – I want to take seriously what geography then was. For me,

as for Mayhew, 'I take it that a history of geography should be concerned with the past for its own sake, which in this context must mean the ways in which geography was understood at the time, rather than the ways in which it can be understood in the light of the present-day practice of the subject' (Mayhew, 2001a: 387). Mayhew takes geography's 'early modern' period to have begun with the Renaissance and to have concluded with the formalization of geography as a school and university discipline in the late nineteenth century. In this period, geography was 'precisely defined' as a scale of inquiry, that of the earth as a whole (which distinguished it *sensu stricto* from cosmography at the larger scale of the universe and chorography and topography at the regional, national and local scales), and as a descriptive textual genre: 'Geography's task, as represented in these definitions, was to determine relative location upon the earth and to describe the phenomena to be found in those locations' (Mayhew, 2001a: 388). Further, and importantly, 'The stable definition of geography was matched by continuity in the textual format in which geographical information was presented . . . The stable definition of geography which I have highlighted relates directly to the generic conventions of geography's books: above all else, geography in the early modern period, as the term was used by contemporaries, was not a disciplinary construct of institutions and the like, but a mode of writing, a genre' (Mayhew, 2001a: 388). Thus understood, Mayhew has significantly added to our understanding of geography as a humanist practice and its textual genres, in the form, notably, of geographical grammars and geographical dictionaries and of geography's place in the early modern 'Republic of Letters' (Mayhew, 1997; 1998a; 1998b; 1998c; 1999; 2000; 2001a; 2001b; 2004; 2005a; 2005b).

At the same time, however, there is evidence to suggest that geography in the eighteenth century was understood not simply as a textual definition but in other ways and produced and used, as Brewer puts

it, in other 'epistemic spaces' (Brewer, 2004: 175) – such as in student dictates, in academic bodies and in practices such as mapping as well as differently in different universities. That this is so means, contra Mayhew, that eighteenth-century geography as understood by contemporaries was 'a disciplinary construct of institutions', in part at least. Further, both what geography was understood to be and the purposes to which geography was put varied between different institutions and different countries. My concern, then, is not to deny the claims of Mayhew's scholarship on geography's textual practices and definitions but, rather to supplement and extend them, and, with reference to other ways and sites, to deepen modern conceptions of what eighteenth-century geography was by taking a harder look at what the eighteenth-century world took geography to be. I do so by reviewing work in three related areas. In looking at geography texts, I seek not to challenge Mayhew's claims *tout court* but to refine them. In considering geography's practices, I am concerned less with textual definitions of what geography was and more with how the subject was used. By examining some of the sites where geography was used, I want to argue that where geography was used mattered to how people understood it. For, as I hope to show, what is apparent in studying eighteenth-century geography is not the prevalence of textual definitions and descriptive practices alone but differences in what such works and definitions meant, differences thus in how geography was put to work via its books and institutional settings.

II Geography's textual traditions

'By Geography is understood a Description of the Surface of the natural Terraqueous Globe, consisting of Earth and Water, which is represented by the artificial Globe' (Salmon, 1749: 1). Most definitions of geography in eighteenth-century geography books and dictionaries are similarly brief, presenting variations on the theme of geography as description. Yet, behind such brevity and definitive claims, there was

variation in content, in the different genres of such books and in the authors and readers of them. Such distinctions and variations concerning geography's textual traditions in this period have only recently become the focus of sustained examination. Previous studies tended to dismiss eighteenth-century books of geography as arid compilations of facts, their existence an almost aberrant element in geography's 'proper' work of explanatory empirical encounter (Downes, 1971; Bowen, 1980). Mayhew's work, notably on geography books and textual traditions in eighteenth-century England, and that of Francis Sitwell, in establishing the publication history of books of special geography, has done much to revise earlier views and demonstrate a complexity and intellectual context hitherto overlooked (Sitwell, 1993; Mayhew, 1997; 1998a; 1998b; 1999; 2000; 2001b; 2004).

Sitwell's examination of works of special geography – that genre of geography book that aimed to describe all the countries in the world – has revealed several key features in respect of such books, chiefly for Britain and the United States. Books of special geography were essentially prose works in contrast to the list-based style of geographical dictionaries. In the eighteenth century – as, in truth, for the first half of the nineteenth century – the intention behind such works was one of pleasure and utility: 'voluntary self-enlightenment' as Sitwell puts it of the texts' readers (Sitwell, 1993: 9). Three sorts of information appeared more or less as textual constants: a belief in the importance of particulars, an emphasis upon utility – the understanding that the works could be read with intellectual profit – and information on the discovery of new lands as a result of voyages of exploration. In that sense, geography books sought – not always successfully – to incorporate the facts of new geographies. Interest in special geography books was sufficient to warrant production for particular sectors of the geographical market. In Britain, books of special geography intended for an adult audience appeared at the rate of about six works

per decade for the greater part of the eighteenth century (from a figure of about three or four per decade in the seventeenth century). Between 1781 and 1811, however, the production in Britain of works of special geography more than doubled (Sitwell, 1993: 16–23): at just the moment that the reports of global navigation by men like Cook, Vancouver, Flinders, Bougainville, Lapérouse and Malaspina were changing contemporary geographical conceptions of, and further exciting public interest in, the nature of the terraqueous globe (Sörlin, 1993; Bourguet, 1997; Drayton, 1998; Fulford and Bolton, 2001; Williams, 2002; Nussbaum, 2003; Simões *et al.*, 2003; Fulford *et al.*, 2004). Books intended for young readers followed a similar pattern of publication. It is also possible to chart in general terms the geography of geographical publishing in eighteenth-century Britain. London was the centre of geographical publishing, as it was more generally with smaller centres of population such as Edinburgh and Glasgow, each producing a handful of works (Sitwell, 1993; see also Ogborn and Withers, 2004).

For eighteenth-century England, we can discern a more detailed ‘map of geographical publishing’ and a clear textual tradition within books of geography. Mayhew has examined the textual tradition of English geography with reference to the interrelationships between the texts themselves, their readers, the sites in which the books were read and the different types of authors at work (Mayhew, 1998b). In noting that eighteenth-century books of geography emphasized geography as ‘a coherent body of knowledge about a clearly-defined object, namely the situation of places on the earth and the content of those places in natural and human terms’ (Mayhew, 1998b: 391), Mayhew also documents the basis for geography’s contemporary self-image as a science. ‘It was, then, the character of geography as knowledge rather than the way in which that knowledge was verified, which led to the epithet ‘scientific’ being applied to the subject’ (Mayhew,

1998b: 391). In short, what made geography geography was, as noted, the scale of its ordered analysis – the descriptive study of the earth as a whole, either in special (textual) or in general (mathematical) terms.

The intended readership of books of geography in England was twofold: that broad community of humanist scholars – historians, classicists and theologians – for whom geography had long been part of history (Mayhew, 2001a; 2004), and those persons needing a practical education. This latter community was itself divided. This is apparent in the emergence of children’s geographical literature, in the production of books for use in particular types of schools and in the tailoring of books for public audiences. It is likewise the case that geography’s authors varied. Indeed, while the term ‘geographer’ was certainly defined in geographical dictionaries and grammars and so on, most of those persons who wrote books of geography in eighteenth-century Britain were not geographers at all in the sense we moderns understand the term. ‘Rather, most authors who compiled information about the earth’s surface at a world level were normally either historians or Grub Street journalists, the distinction often being opaque’ (Mayhew, 1998b: 402). Grub Street was a name associated with cheap publications by hack writers and, interestingly given the sense in which we may think of a historical geography of geography’s textual production, it was also a topographical reality in eighteenth-century London, being a street in the Cripplegate area. Even men who produced works which went into several editions, such as Thomas Salmon’s (1749) *A new geographical and historical grammar* or William Guthrie’s (1770) *A new geographical, historical and commercial grammar*, which was intended by its author to be the lineal successor to Salmon’s work and which was in its 24th edition by 1827 (Sitwell, 1993: 283–84) were archetypal hacks – compilers and collators – not geographers active in the field (Mayhew, 1998b: 403; 2004). Geography was not a career for these people and because the reading public only

needed geography books to provide a digest about places on the surface of the earth, notions like 'original research' and, indeed, original 'authorship', must be used with care: 'Truths were not demonstrated as would be demanded by scientific method, they were simply copied and repeated' (Mayhew, 1998b: 405).

How, then, as a whole are we to understand geography's textual character in this period? Mayhew puts it thus:

Looking from the three angles of the textual construction of geography, the readers and their sites of reading, and the writers and their sites of book production, a twin character of geography in the eighteenth century is apparent. On the one hand, geography ties in to a commercial and a practical milieu. The texts themselves emphasized their utility to statesmen and that merchants were a segment of their intended readership. The actual readership of geography books also showed that the public lectures and commercial academies encouraged aspirant merchants to read geography. Finally, the production of geography books was doubly commercial: the conditions of book production were those of cut-throat commercial competition, encouraging plagiarism: and moreover the authors of geography books wrote them in order to eke out a living. On the other hand, geography books were also linked to the tradition of late-humanist education, which emphasized Christian and classical scholarship. The books produced proclaimed their utility to those reading about classical civilizations and scripture. (Mayhew, 1998b: 406)

The truth of these claims should not deny another: that this is very much a view of geography's books and textual traditions in England. Even there, of course, individual authors not formally associated with geography as either historians or hacks suffused their writings with geographical sensibilities. In his preface to Macbean's *Dictionary of ancient geography* (1773), for example, Samuel Johnson insisted that knowledge of geography was necessary to read the ancients. In his writings as a moralist, Johnson drew upon geographical evidence to assault moral relativism and to confirm the universalism of such

matters as fear and hope (Mayhew, 1997; Livingstone, 2003a: 30). In much the same way, Edward Gibbon employed 'rational' geography as part of his political and historical writings (Abbatista, 1997).

That English-language books of geography did not always privilege England is clear from the case of the Scots-born William Guthrie's *A new geographical, historical and commercial grammar*, first published in 1770 and much reprinted thereafter, with maps by Thomas Kitchin and the astronomical sections by James Ferguson. Guthrie's work showed a 'half-modern' world: late enough to incorporate findings proving the separateness of New Guinea from Australia but too early to outline for certain the shape of the Australian continent or of North America.

Guthrie used his 1770 *Geographical grammar* to question the Anglocentric and Anglican political and religious assumptions which pervaded the texts of eighteenth-century English geographers. More than that, Guthrie connected his geography to peculiarly Scottish Enlightenment theories of stadial social development – a conceptual model arguing for societies developing in stages from agriculturalism to pastoralism to commercialism – and used the model to 'read' the map of Europe, explaining both the historical and commercial state of individual nations and the superiority of Europe in naturalistic terms. 'The *Geographical grammar*, then, amounted to a significant intervention in the politics of British geography from a Scottish perspective' (Mayhew, 1999: 19).

If we take a wider view of eighteenth-century geography books and of their authors in order to consider the purposes to which such books were put, a rather more complicated picture emerges. In France, textual classification was likewise about description of one sort or another, whether we look at, say, D'Anville's work on ancient geography or on the mapping of Africa, at Phillipe Buache on the physical geography of the oceans, or Robert de Vaugondy's mapping (Broc, 1974; Godlewska, 1999). There, too, descriptive

geography encompassed the new facts of exploration. But, in the case of Edme Mentelle at least, we can see how one geographical author wrote different sorts of geography books to use in different institutional settings. His *Éléments de géographie* (1758), for example, exhibits all the features of a 'standard' special geography – basic facts about the continents, more detailed facts about France than for other countries, an emphasis upon 'particulars'. From 1760, Mentelle taught geography and history (the classical combination) at the *École Royale Militaire*, the officer training institution. There, Mentelle wrote extensively, including a three-volume contribution on 'Géographie ancienne' for Panckoucke's *Encyclopédie méthodique*, and became geography tutor to the Royal household. Following the Revolution, however, Mentelle wrote new and explicitly Republican geographies. These were works to mould new citizens: his *Méthode courte et facile pour apprendre aisément et retenir sans peine la nouvelle géographie de la France* appeared in 1791. From 1794, this 'professeur public de géographie' and former geography teacher to the monarchy lectured in different institutions, using his *Méthode* and other texts such as his *Tableau élémentaire de géographie de la République Française* (1792), to serve the needs of the new Republic. What is at issue here is not *what* geography was, but *how* it was used and for whom (Heffernan, 2005).

In Greece, Meletios, Archbishop of Athens, sketched a geography of relative European civility in his *Geography, old and new* (1728), praising the French for their culture, the Swiss for their struggles for political freedom and the English for being the 'most civil and tame' of Europeans. His purpose in doing so, not unlike Guthrie's for Scotland, was echoed in Gregorios Phatseas's (1760) Greek adaptation of an Italian edition of Patrick Gordon's established *Geographical grammar* and, in 1774, by Nikiphoros Theotokis's *Elements of geography*. Theotokis, who used his book as a teaching manual in the Princely Academy of Jassy, provides a

comparative political geography of liberty and freedom: Holland is singled out for its religious tolerance, the Swiss and the Swedes for their liberty, the English for their seriousness of character and scientific disposition. The Greek theologian-philosopher Iosipos Moisiodax used his *Theory of geography* (1781) – part-written in Vienna and dedicated to the rulers of the Danubian principalities of Wallachia and Moldavia – to bring mathematical geography and explorers' accounts into the Greek-speaking geographical world in order to reassociate Greece, an ancient centre of classical learning, with modern centres of learning in western Europe. So, too, with the *Novel geography* (1791) of Daniel Philippides and Gregorios Konstantas: Greece is positioned within a Europe defined by the dynamics of political change from old and corrupt monarchical regimes to new republican communities (Kitromilides, 1992; 1995).

The purposes to which books of geography might be put were of particular concern in eighteenth-century America. Until the 1780s, Americans' engagement with geography depended on books from anywhere but America. As Jedidiah Morse put it, 'Europeans have been the sole writers of American geography, and have too often suffered fancy to supply the place of facts' (Morse, 1792: iii). For Jedidiah Morse, anything other than an American book of geography written by an American with Americans in mind was a reproach upon America. The result was his *The American geography, or a present situation of the United States of America* (1789). The work was hugely popular and much reprinted – with it, Morse the minister became Jedidiah geographer to America – and both it and the author have been the subject of attention since (Brown, 1941; Sitwell, 1993: 411–18; Short, 1999; Brückner, 1999; 2000; Livingstone, 2005a).

What is also noteworthy, however, is that, for Morse, advancing geography in America depended upon rejecting or, perhaps more properly, inverting established textual conventions. Where Salmon privileged England and

Guthrie Scotland, Morse described the United States and the Americas before Europe and the rest of the world. His earlier *Geography made easy* (1784) is the first book in western print history to do so. In his *American geography*, his description of America comes first and bulks large: in a book of 536 pages, Europe and the rest of the world are covered in only 45. In including, too, a map of the new nation sited upon the 'Meridian of Philadelphia', we are left in no doubt that this is a geography book written from a particular geographical perspective, a departure from convention and a symbolic starting point for America's view of itself. In his *Elements of geography* (1795), Morse again inverted established traditions – or, rather, reaffirmed the invented American tradition of putting the Americas first – and did so to counter Guthrie's view of the world. Towards the end of *Elements*, readers were even made to swear aloud fealty to America and to its geography as part of that country's emerging national identity. 'I am truly delighted, Sir, with the account you have given of my country, and I am sure I shall love it more than I ever did before. I hope I shall always be disposed to respect and obey my rulers' (Morse, 1795: 121).

Of course, not all books of geography were as explicit in their political intentions as those of Morse. But, as these examples show, if the textual tradition intrinsic to books of geography was a constant it was not always utilized to the same ends. That this is so has, I realize, implications more for the utility of geography than for its strict definition. As these few illustrations reveal, that is precisely how the authors and readers of them considered them – practically, not literally. As my second set of examples suggests, the institutional settings in which geography was put to work also mattered to how the subject was then understood.

III Geography in universities and academic societies

Until recently, most histories of geography, in regard to its place in Britain and in universities at least, either altogether ignored the 'early

modern period' or uncritically assumed that geography's place in university education had a simple foundational moment in the 1886 establishment of the School of Geography at Oxford. We now know, however, of geography's complex and different histories in England in Cambridge and Oxford universities and Gresham College, London, and of its place as a courtly subject (Cormack, 1997), and, for Scotland and England, of geography's presence in university curricula from 1540 onwards (Withers, 2002a; Withers and Mayhew, 2002; Livingstone, 2003a).

Some summary details of this work are instructive here. Thirty-two persons are known to have taught geography in one form or another in Oxford and Cambridge between 1540 and the establishment of the departments there in 1886 and 1887, respectively. In Scotland, there were 24 known teachers of geography active in the country's five ancient universities between 1566 and 1863. These numbers probably underrepresent the strength of geography in Britain's universities in the eighteenth century. There is evidence that other people taught material described as geography (although they did not call themselves geographers), that individuals wrote books of geography but never taught the subject and that others encouraged the subject without formally professing it (Withers and Mayhew, 2002: 16–17).

If numbers are misleading as to the size and strength of what we might term geography's 'university community' in eighteenth-century Britain, geography's cognitive content can be more clearly discerned. Two strands are apparent: one descriptive and historical, the other mathematical, both with long roots in Renaissance humanist pedagogy (Mayhew, 1998c; 2001a). A clearer picture is apparent for Scotland given the greater number of university men teaching the subject and the survival of relevant sources. By the mid-eighteenth century, geography was centrally placed within the concerns of Newtonian mathematicians and philosophers. In Marischal College, Aberdeen, John Stewart,

the Newtonian natural philosopher and professor of mathematics taught geography to his first-year mathematics students from 1748 (and may have done so from 1727). The second year of studies at Marischal 'shall be spent in the most usefull parts of Natural History, in geography, and the Elements of Civil History' (Withers and Mayhew, 2002: 23). At much the same time, Thomas Blackwell Junior in Marischal was giving private classes in 'ancient history, geography and chronology', and in King's the professor of classics, Thomas Gordon, taught 'the geography of the Ancients'. His course and view of geography was very different from that of Thomas Reid, the 'Common Sense' philosopher whose 1752 lecture course 'The elements of geography' incorporated a review of the principal trade winds of the world, an emphasis quite in keeping with Reid's view of geography as utilitarian philosophy. In his 1765–66 lecture course in St Andrews, Nicolas Vilant, professor of mathematics, taught navigation, fortification, architecture, spherical trigonometry, projections of the spheres, use of the globes, fluxions and astronomy, much of this geographical material becoming the basis to his *The elements of mathematical analysis* (1786). In Edinburgh, the distinguished Newtonian, Colin MacLaurin, incorporated geographical lectures into his mathematics teaching in 1740, as, in Glasgow, did James Millar, professor of mathematics from 1796 to 1832. Geography was probably taught earlier as a formal part of university mathematics classes in Glasgow since prizes were awarded for the 'best exercises in geography' from 1784–85 until 1791–92, and medals given for essays which combined geographical and mathematical ideas (the instrumental measurement of barometric pressure in relation to topography, for example: Withers, 2002a: 61). Millar's geography teaching incorporated contemporary debate in the earth sciences by paying attention to the arguments between Neptunists and Volcanists over the relative role of water and heat as formative

forces in Earth history, and he also stressed geography's commercial utility (Withers, 2002a; Withers and Mayhew, 2002: 24–25).

Recognizing the unevenness and brevity of this picture, several important themes emerge when considering geography's place in British universities in the eighteenth century. One concerns the very fact that geography was a formal part of university curricula before the establishment of formal departments for the subject. It was taught by professional men, some distinguished natural philosophers in their own right, but men who did not call themselves 'geographers' and who drew, in the main, not upon their own in-the-field investigations but upon others' textual compilations. Either through mathematical geography or descriptive geography, emphasis was placed upon the subject's utility to civic education. Precisely because geography was so embedded in other subjects, it is difficult – but it is important – to discern differences between what we might for geography term its textual definition, its strictly institutional or disciplinary history and its several discursive histories. What was taken to be geography in British universities had connections with ideas of commercial utility, cosmography and geometry to name only a few, and had especially close connections with history and mathematics. It would have been surprising, of course, had these latter features not been so given what we know of their longer-run importance (Mayhew, 2001a) and what we have seen of geography's textual traditions. Yet, taken together, the evidence for geography's place in British universities affirms the importance of difference in what geography was then held to be. For Livingstone, 'the different spaces within which geography gets transacted will produce different renditions of the tradition. And to that degree there will surely be a *geography* of geographical practice' (Livingstone, 1995b: 422; and see Livingstone, 1995a; 2003b). This point – that we need to take seriously the historical geographies of geography's undertaking *and* recognize differences in its institutional

expression – is strengthened if we look at geography in European universities.

In Germany, for instance, students at Königsberg under Immanuel Kant would have experienced a more strongly philosophical focus to their geography, there largely physical geography, than their counterparts in Göttingen who engaged with mathematical geography through the teaching of, variously, Tobias Mayer, Anton Büsching and Johann Christoph Gatterer. Kant first lectured on geography at Königsberg in 1756. His *Outline and prospectus for a course of lectures in physical geography* (1757) – which Kant undertook given the lack of suitable texts (Kant's lecture notes circulated for over 30 years in manuscript form before being published as *Physische geographie* in 1802) – is noteworthy in placing emphasis upon physical geography as the description of nature, the world as the object of our 'outer sense'. In Göttingen, earlier teaching under Johan Koehler had embraced ancient and medieval geography, but with Tobias Mayer from 1751, who taught mathematical geography, map making and what he called '*Weltbeschreibungswissenschaft*' (the science of world description), geography was conspicuously practical. Mayer brought the Nuremberg map-makers and his fellow mathematical cosmographers Johann Michael Franz and Georg Moritz Lowitz to Göttingen: the first became 'professor of geography'; the second lectured on mathematical geography and gave courses on drawing maps (Forbes, 1980; Edney, 1994). In Geneva, lectures in physical geography given by Horace-Bénédict de Saussure, professor of philosophy, and recorded in 1775 by a theology student Jacques-Louis Peschier suggest that geography there would have been more familiar to student audiences in Königsberg or, perhaps, in Glasgow, than to those in either Göttingen or Aberdeen. Any full and proper course of geography, Saussure argued, should begin with astronomical geography, a commonplace tradition. He began his course with the simpler yet fundamental principles of physical geography, understood as

the Earth in regard to its structure and materials. Saussure's geography included attention to the geodetic expeditions of La Condamine and Maupertuis and critical engagement with Buffonian theory. Here, in short, geography was a crucial *via media* in airing fundamental differences in terms of how the Earth was understood (Carozzi and Newman, 2000).

In Parisian institutions, different geographies were at work. In Paris in the *École Normale*, geography was central to a comparative understanding of human cultures, Edme Mentelle there emphasizing not just a geographical methodology based on observation – 'geography is a science which can only be learned properly by using one's eyes' – but also a conception of geography that was materialist and utilitarian. Mathematical geography (the first part of the course) provided a unifying basis in measurement and in language. Physical geography (the second part) provided the link between mankind and nature. Political geography (the third part of the course) underwrote all the human sciences, a view shared by Turgot the political philosopher (Heffernan, 1994). In Paris, geography also figured in the Class of Moral and Political Sciences in the National Institute from 1795. Buache de la Neuville and Mentelle provided a direct continuity between the *École Normale* and the Institute and helped shape the geography teaching in both. Even recognizing that the Institute's geographers achieved only modest results, and that the Class was shut down by Napoleon from January 1803, we can in its activities see something of what geography was held to be (Staum, 1987).

For Condorcet, the geography section of the Institute represented an opportunity – never realized – to explore the effect of the environment on the body and the mind. Volney, although not formally in the geography section, was particularly keen that the Institut promote the study of the influences of climate and terrain upon the moral qualities of peoples. America, its native inhabitants and its colonizers, was his laboratory, even if he

never completed the intended 'political' section to his physical geography of that continent. Together with Bougainville, Volney petitioned the new legislature for a vast experimental plot on which comparative analytic tests on plants and animals could be run in order to improve stock and quality, domesticating the far away and naturalizing the exotic with a view to moral advance and improved practical understanding. Where the *École Normale* provided a setting, notably under Mentelle, for the teaching of an essentially descriptive geography, the Institute was home to an ambitious theoretical programme for the study of human–environment relations in America and the human geography of Pacific peoples (Moravia, 1967; Broc, 1974; Staum, 1987; Heffernan, 2005).

To thus expose eighteenth-century geography in its different university settings is to locate differences in what contemporaries held the subject to be and, through their views and uses of geography, to know better how it related to other intellectual concerns. What geography was held to be depended crucially on where it was used and with what end in view, whether this is so of its association with Newtonian theories of fluxions (as in Edinburgh and Marischal College, Aberdeen), as part of classical history and commercial utility (King's College Aberdeen), general mathematics (Glasgow and St Andrews), astronomy, map-making and mathematical cosmography (Göttingen), and the dynamics of the physical world (Glasgow, Königsberg, Paris and Geneva), to highlight only a few. If we consider in addition the albeit limited evidence of geography in some eighteenth-century academic societies, the importance of site and institutional difference is reinforced.

In London's Royal Society, nobody held the formal position 'geographer', but the subject featured strongly in the Society's *Philosophical Transactions* between 1720 and 1779, within the categories of 'natural history' and 'mixed mathematics' especially. In mixed mathematics – astronomy, map-making, surveying and

navigation as well as geography – 264 papers in the *Philosophical Transactions* between 1720 and 1779 were in astronomy (43% of the total), a further 31% in geography (191 papers). These figures mislead, for much of the astronomical work was concerned at fixing latitude and longitude and so belonged to geography: 'in this very practical sense, astronomy was almost entirely subordinate to geography' (Sorenson, 1996: 38). The high proportion of work given over to mixed mathematics stemmed from the value placed upon such knowledge:

mixed mathematics – astronomy, navigation, surveying, cartography and geography in particular – was crucially important to a mercantile and imperial nation, and in the eighteenth century the Royal Society took this particular interest of the nation very seriously. The Society not only oversaw the Royal Greenwich Observatory, but it encouraged the work of its members who were astronomers, navigators, and mathematical and optical instrument makers. (Sorenson, 1996: 38)

Geography's place in the Royal Society in thus serving the fiscal–military needs of the British state through astronomy, in voyages designed to establish longitude and in mapping is noteworthy. It parallels geography's textual place in this respect (Mayhew, 2004; Ogborn, 2004). Noteworthy, too, is the fact that this work, like many of geography's books, was not the result of men who called themselves 'geographers'. If we look only for that category and only at what geography books define as the subject, prescriptively narrow histories are inevitable.

In fact, there were not many geographers at all among European men of science, in the first half of the eighteenth century at least. John Gascoigne has shown that between 1660 and 1760 only 4% of western scientists might be identified as working with 'geography/geodesy' in comparison to the 19% and 14% in, respectively, natural history and medicine (Gascoigne, 1995: 578). This overview is mirrored within particular bodies. There were only seven 'géographes du Roi' as members of the *Académie des Sciences* in Paris between

1699 and 1793 (about 1% of the known occupations listed), but 17 persons listed geography as their principal subject interest. But among that body's 133 botanists and natural historians and 108 mathematicians in this period were people like Maupertuis and La Condamine with significant geographical capacities, and we may presume that to be the case for the handfuls of members who recorded cartography, hydrography and meteorology as their disciplinary interests (McClellan, 1981; Sturdy, 1995; Terrall, 2002).

Geography's most evident institutional expression in eighteenth-century academic societies was the Geographical Department of the St Petersburg Academy of Sciences and Arts. Although several geographical enterprises had been initiated by Peter the Great, and earlier (Shaw, 1996; 2005), the Geographical Department in St Petersburg properly began in 1739, as part of the Academy's Observatory under the direction of the Frenchman, Joseph-Nicholas Delisle. The Geographical Department flourished under the direction of Mikhail Lomonosov from 1757 and, from 1765, under Stephan Rumovski who, together with Leonhard Euler from 1769, initiated numerous mapping, natural history and surveying projects (Schulze, 1985).

In eighteenth-century America, counterparts of sorts to the St Petersburg Academy were established in Washington and in Richmond. In Washington, the Geographers' Department established in July 1777 by the Continental Congress – the first official authorization by the federal government of a geographical agency – specifically arose from the need for maps for warfare. After the 1783 Treaty of Peace, the emphasis shifted to civil surveying. Thomas Hutchins, New Jersey-born and geographer to Washington's army (but formerly a British officer), was appointed 'Geographer to the United States' to administer the General Land Office. Where Hutchins worked for the emergent nation, in Richmond William Tatham was appointed in 1789 by Virginia's governor to organize and supervise a state geographical department.

Like Morse, but in different ways given the different views held as to what geography was, institutionalizing geography was essential (Friis, 1981).

There are partial glimpses of geography's presence in other institutions. Benjamin Franklin considered a geographer essential to his 1743 'Proposal for promoting useful knowledge' – the basis to the foundation in Philadelphia in 1769 of the American Philosophical Society. In numerous small societies throughout central Europe, geography was undertaken as part of interests in *landeskunde*, regional economic description aimed at advancing national wellbeing. The Bohemian Academy of Sciences, the Economic Society in Saxony and the Economic Society in Leipzig, to name but three, each undertook such geographical work. In Berlin, geography and anthropology formed part of the plans for reviving the Berlin Academy from the 1750s (Brown, 1963; Lowood, 1991). The Philosophical Society of Edinburgh, active between 1731 and 1783, divided its intellectual responsibilities into two 'Provinces', geography falling within that embracing geometry, astronomy, mechanics and optics. The Society promoted the mapping of Scotland's northern coastline, heard Colin Maclaurin present on Newtonian theories of the Earth and regularly addressed cognate concerns – astronomy, meteorology, mapping – in print and word. But never once was a 'geography' paper given (Emerson, 1979; 1981; 1985; Withers, 2002a).

In sum, there was more geography being done in the eighteenth century than there were geographers doing it; and different notions of geography were at work. What contemporaries then took, for example, in various academic bodies and in universities, either as practical mathematics geared to the interests of the state, or as the basis to explanation of the physical dimensions and topographical features of the globe or saw as part of the regional assessment of individual nations each fell within the orbit of what was taken to be 'geography'. Because this is so,

any consideration of geography's institutional settings must also be exercises in documenting matters of practice. Consider, in further illustration of these claims, the geographical work of the Nuremberg Cosmographical Society, active between 1746 and 1754. Founded by Johann Michael Franz, it included map-maker-astronomers such as Georg Moritz Lowitz (who ran the Homann map- and globe-making firm in the town of which Franz was a director), and Tobias Mayer (Lowitz's brother-in-law). The Society had two classes: a mathematical one which dealt with geodesy, map projections, astronomical observations and calculations and the design and construction of geographical instruments; and a historical class responsible for determining boundaries, coordinating the geographical data to be mapped, collecting maps and writing geographical books. Other plans aimed at establishing the post of '*Staatsgeographus*' or state geographer, having a geographical bureau in all states to collect geographical information, a survey of Germany and a Corresponding Class through which persons elsewhere would report upon the geography of their home area (Forbes, 1980; Edney, 1994). What is difficult to know is how widespread were such concerns with geography as a practical pursuit and exactly what forms they took.

IV Geography in practice

In one context, that of mapping, it is clear that geography was understood and realized as a consciously practical pursuit. This is true of the ways in which mapping was dependent upon geography as applied mathematics (Edney, 1994; 1998; 1999). It was apparent in the ways geography was used to inform mapping and empire in eighteenth-century British India (Edney, 1997; Raj, 2000), on Vancouver Island and the Pacific North-West (Clayton, 2000a; 2000b; 2000c; 2004), in early America (Cappon, 1971), Midland England (Harley, 1963; 1964a; 1964b; 1964c), Scotland (Withers, 2002b), in geographically 'connecting' southern England and France

(Gascoigne, 2004), and in the mathematical and descriptive geography that underlaid the mapping of France and French colonial possessions (Godlewska, 1999; Pedley, 2005). As Mayhew recognizes, what eighteenth-century figures of the significance of James Rennell – naval hydrographer, geographical author and map-maker to the East India Company – took to be geography was never a matter of strict definition but was, rather, a combination of fieldwork, textual exegesis and topographic mapping (Mayhew, 2000: 193–206). Military mapping in particular represented 'a general increase in cartographic literacy' among European armies at least (Edney, 1998: 83; Godlewska, 1999), a literacy which, I contend, was the result of people seeing in such work one particular practical expression of what geography was generally as the science of earth description.

Let me elaborate upon this contention with reference to one final example of what eighteenth-century contemporaries took geography to be. It concerns the project for a 'medical geography' (his term) by the German physician Leonhard Ludwig Finke. Graduating from Halle in 1772, Finke practised as a physician before taking up the post of rural medical officer for Tecklenburg. By visiting the towns and villages of their district, medical officers prepared medical topographies, effectively syntheses of meteorological, hydrological, botanical and demographic data geared towards more efficient political administration. This was a common practice. It was exactly the intent of the French army physician Richard de Hautesierck, for example, from 1763, and of the Société Royale de Médecine in Paris which prepared over 200 'medical topographies' or 'topographical and medical memoirs' as they were variously known for eighteenth-century France (Rusnock, 2002). As the German medical theorist Johann Peter Frank outlined in his 1779 *System einer vollstandigen medizinischen polizey*, 'In this way, they [rural medical officers such as Finke] would prepare for each district a kind of special geography' (Frank, 1779: 31).

Finke's book, *Versuch einer allgemeinen medicinisch-praktischen Geographie* (*Attempt at a general medical-practical geography*) was published in two volumes in 1792. (A third volume, an addendum, appeared in 1795). The book was, as Finke put it, a 'Geographical-historical essay on the general indigenous medication of different peoples of the world' and was to have included (but never did) 'a nosological map of the world', a world disease-distribution map. Finke's book has been seen by modern commentators as 'one of the foundation pieces of modern medical geography' (Barrett, 1993: 701; see also Barrett, 2000). I want to read it differently. Rather than see Finke's work as an originating point for something more 'modern', it might be better considered as one product of those longer-run concerns concerning human well-being, medical discourse and the environment (Jordanova, 1979; Rusnock, 2002: 109–36). Finke was certainly not the first to 'think with maps' in terms either of 'noso-geography' or in regard to the medical administration of space. In 1700, the Bolognese geographer Luigi Ferdinando Marsili prepared a plague map of the eastern Adriatic coast, outlining the precautionary measures to be taken in the wake of recent Turkish incursions (and may have borrowed from a similar map by Filippo de Arrieta, an administrator for the Kingdom of Naples, who produced a map of plague controls for the province of Bari in 1694) (Jarcho, 1983). Further, and in its own terms, Finke's work was the product of putting geography to use in a particular context. He based his own never-published map on the 'world geographical-zoological map' of the German geographer-statistician Eberhardt Zimmermann, a map itself based upon one by the French geographer-map-maker, D'Anville (Bodenheimer, 1955).

Finke was bringing an understanding of geographical method to bear upon topics – disease distribution and, more broadly, medical geography – which he understood needed to be clarified as a type of geography. As he put it: 'A medical geography: – What is it? – What

should it contain? – How should it be set up? – In what sequence should countries follow one another? – What are the sources to be drawn upon? – Where do you find it discussed? – What are the benefits to be expected? – For whom is it intended? – How can it be made more perfect? What right do I have to call my manuscript a geography?' (Finke, 1792: i, xii). Answers to these questions, Finke argued, depended upon understanding the relationship between chorography, topography and geography – that is, in recognizing the relationship of scale between the chorographical (the local), and the geographical (the global). 'Now since nobody has any objections to a medical description of all of the features of a locality of a country as being called a *medical topography* or *chorography*, there cannot be any objections to the simple title "a *medical geography*" either, assuming that it covers all of the inhabited countries of the world' (Finke, 1792: i, xxiii). Finke's is a proper emphasis upon geography as a matter of scale. It is also an emphasis upon geography as a science of practical utility, one which recognized that comparative questions of location and of scale were crucial to an understanding of medical and moral circumstance. His end-in-view was to use 'general medical-practical geography' to national advantage: 'Thus medical geography is a light with the aid of which some idea of the strengths and weaknesses of nations can be obtained and from which examples to be followed or avoided can be drawn' (Finke, 1792: i, xxiii). Working from textual definitions about scale, Finke's vision was for a thematic type of geography, medical geography, to be put into practice to political ends.

V Conclusions and possibilities

This has been only a limited review. Nothing has been said about the nature and place of geography in schools in the eighteenth century to add to what is known (Robinson, 1951; Adams, 1987; Smith, 1996; Mayhew, 1998c; Brückner, 1999; Withers, 2001: 134–39), or to supplement insight into what geography was taken to be as a form of domestic instruction

and as a discourse of 'politeness' or within those informal institutions making up the public sphere (Walters, 1997; Shefrin, 1999; Withers, 1999). Little has been said about geography and empire and I recognize the paper's western-centric focus. Any fuller picture of what eighteenth-century geography was should properly include such sites as schools, commercial academies and the home as well as the different genres of geography books produced for such users and audiences. Yet, even within its relatively prescribed limits, several features in regard to eighteenth-century contemporaries' understanding of geography have been identified.

In its textual traditions, eighteenth-century geography is now well understood: a matter of scale and of the ordered description of the earth and of its constituent countries. But what has also been illustrated is that geography's textual traditions were never so stable that they could not be worked with to serve different interests, whether for reasons of national identity as was true of Morse and for numerous Greek geographical authors, or for reasons of self-promotion and political advancement as was the case of Edme Mentelle. If this is so, then matters of definition must always be questions of purposive practice – what use did people make of geography, and how? In turn, questions of practice may become matters of where such views were held, in what institutional space, informal setting or other social space. Knowing that geography was put to work in a variety of ways would suggest that those persons engaged with it in the eighteenth century saw it not as something 'fixed' or closed, bound only by its textual definitions and untouched by other concerns such as astronomy or mathematics, but as something actively made by different social and 'disciplinary' interactions in place. Further, it is a distinguishing feature of each of the three themes explored here that there was a great deal of geography taking place – in respect of geographical authorship, university instruction, activity within formal academic societies and as a preliminary basis

to new forms of medical administration – but very few people who merited the term 'geographer' in any strictly professional sense of that term even if they were understood to be so (and much else besides) by contemporaries. So what does all this mean? It extends current understanding but leaves further questions. What does the future hold for further work on the history of geography in its own terms, rather than, to reiterate Mayhew, 'the ways in which it can be understood in the light of the present-day practice of the subject' (Mayhew, 2001a: 387).

Recognizing the importance of geography understood in its own terms, and without being prescriptive since other options may of course be possible, three related possibilities suggest themselves: the book geographies of geography's books; geography's place and use in different institutional settings, formal and non-formal; and what I suggest we may call geography's 'discursive affiliations'.

By the first I mean that since geography's textual traditions and variant textual practices have been well documented we might now begin to move away from questions of textual production to matters of audience reception, away from books of geography towards knowing how such books were differently reviewed and read by contemporaries. Preliminary work has been done in this respect for the case of Alexander von Humboldt's geographical work, notably his *Essay on new Spain* (1826) revealing different cultures of reviewing between the British, French and German reviewers (Rupke, 1999). Others have shown, for example, how works of Newtonian philosophy designed for children changed in their editions over time as they sought to serve different audiences (Secord, 1985) and, significantly, have paid attention to the 'geographies of reading' as major scientific texts were interpreted differently in different cities and social communities in nineteenth-century Britain (Secord, 2000). We know that Morse's books, *American geography* especially, were widely owned and read (more so than Guthrie's *Grammar*, although that was also quite common in

eighteenth-century America), not just by the urban citizenry of America's new republic but by 'hardscrabble families' on the rural and social margins (Gilmore, 1989: 64–68). Rather, then, than focus alone on geographies of textual production, on texts *simply* inscribing meaning, it might be rewarding to consider geographies of textual transmission or textual reception, in regard to the reviewing of geography's books and of their reading and other forms of use in different social spaces (Livingstone, 2005b; Withers, 2005b).

What people took geography to be mattered in relation to the social settings in which it was being used and, thus, to their purposes sought in engaging with geography at all. This may demand that we look harder at institutional records, in universities, commercial academies, reading clubs and academic societies. This may also demand that, in respect of given social and institutional settings, we are attentive (where we can be) both to individuals' biographical contexts and to the collective intentions uniting those persons there engaging with geography. Take Robert Erskine for example, 'The first geographer to the Continental Army' in revolutionary America (Harley *et al.*, 1978: 33). Scots-born, Edinburgh-educated (probably by Colin MacLaurin), Erskine was commissioned surveyor-general to the Continental Army in 1777 and his maps are credited as important elements in the American victory. As Erskine knew, what geography meant was practical endeavour – 'in planning a country a great part of the ground must be walked over' – in combination with an understanding of the principles of geometry and a 'taste for drawing' (cited in Harley *et al.*, 1978: 33). He was far from alone in doing what he did and in how he worked as a 'geographer'. As the compilers of a recent biobibliographical assessment of American geographers recognized, many of these persons producing geography in America between 1784 and 1812 'made contributions as surveyors, military geographers, cartographers, engravers, and [as] authors of geographic books that were

not intended to be textbooks' (Smith and Vining, 2003: x). In a period when there was much more geography than there were geographers, considering the networks through which people associated with others is a necessary requirement in elucidating the social worlds of geography's production and reception. So too for geography's practices. What geography was – and is – at certain times and particular locations derives its meaning from the way it belongs to discourses and practices that are taken to be geographical, not from any predetermined sets of definitions or, even, from the prior existence of 'geographers' since part of the complexity I have traced here, and which remains more fully to be understood, concerns the worlds of geography beyond geographers and the nature of geographical knowledge beyond geography.

It is for these reasons that I use the term 'discursive affiliations'. It is not proper in any formal sense to think of eighteenth-century geography as a formal 'discipline' or subject: disciplines in the modern sense had not yet been invented. At the same time, it is clear that what geography was taken to be depended less upon a fixed definition of itself and at least in part upon its relationship to other ways of knowing, notably of course with history and with mathematics. We will miss, here, what eighteenth-century geography was held to be unless we recognize it as a multifaceted practice and, at the same time, seek to uncover difference in the ways and places in which geography was conceived, used and received. Because this is so, continuing efforts at recovering geography's history need be less exercises in considering contemporary definitions and more about understanding why, where and how such definitions did not always work in practice. If there are parallels with the modern experience, then they too should be understood in their own terms.

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