

Chapter 2

Early Geographies

However, the man who busies himself with the description of the earth must needs speak, not only of the facts of the present, but also sometimes of the facts of the past, especially when they are notable. (Strabo, *The Geography*, Book 6.1.2)

This chapter deals with geography written hundreds, even thousands, of years ago. If the word “theory” has the capacity to turn people off, then ancient theory must have double that capacity. Some of the referees for the proposal for this book suggested that it should skip the first two millennia of geographical theory and start around 1960. Such is geography’s lack of memory. So why do I ignore them and begin here?

In a paper called “What time human geography?” Rhys Jones charts how human geography has, over time, become increasingly fixed in the present (Jones 2004). Geographers in the early twenty-first century have tended to focus on the world since about 1800. This has not always been the case. In the 1950s, for instance, geographers would often explore the period before 1800. In the period 1956–1960, 31% of human geography papers in *Transactions of the Institute of British Geographers* concerned time periods before 1800. In the period 1996–2000 the figure was 11%. While it is always harder to get information about the distant past, it is unlikely that it is harder now than it was 50 years ago. One of the reasons Jones gives for human geography’s temporal myopia is that historical geographers (those geographers who should be most interested in the past) have increasingly turned to the history of the discipline of geography itself. As a discipline geography has only existed since the nineteenth century. Whatever the reason, Jones argues that this fore-shortening of the time periods of human geography has impoverished the discipline. The past is important geographically because present geography will one day be past and because past geography was once present. To properly understand the geography of the present we need to know what came before. We need to know how we got here. While

Jones's arguments are primarily about what geographers study (states, empires, landscape, etc.), they are also true of geographical theory. They are true in two main ways. Books about geographical theory have increasingly taken the period since 1945 (and more often 1960) as their starting point (Peet 1998; Hubbard 2002; Aitken and Valentine 2006). Like human geography itself, the study of geographical theory is being foreshortened. And this leads to the second similarity. Just as we cannot properly understand a contemporary place without some understanding of its history, so we cannot understand modern geographical theory without some understanding of where it came from. So while this chapter deals with the very distant past, the questions at the heart of it are broadly translatable into questions geographers are still asking today. These include: How is human life related to the natural world? What are the significant differences between places? How is the particular related to the general and universal? While not being quite at the level of "what is the meaning of life?" these are nonetheless profound questions that demand answers that are equally geographical and philosophical. They are questions that link all of the chapters that follow.

Knowing something about the deep past of our discipline stops us from reinventing the wheel. There is very little engagement between geographers today and geography over 20 years ago. Some of these geographers might be surprised at what they might find. Consider a paper I read recently. I will not say when it was written or who wrote it – I will simply summarize parts of its argument. At the end, of course, I will give the author due credit.

The author is arguing for a reformulation of the central interests of human geographers. He (I will give that much away) argues that human knowledge is hampered by the way disciplines have been constructed over the past century or so. The division of faculties of arts and sciences, he argues, has left geography feeling a little uncomfortable, a little unsure of itself, with no obvious place to locate. Modern geography, he argues, is too focused on the material world, on the world of things. In so doing, he continues, geography has emphasized the shape of things, the morphology of objects "that nobody had previously thought worthy of study." He focuses on those relatively fixed geographical ideas that are familiar to all of us – particularly the idea of the **"region,"** but also **"territory"** and **"landscape."** He complains that these ideas are far too object-like – too brittle and immobile. "Regions are not fossilised," he writes, "they are active and growing entities, since the men who organise them are moving, working and thinking beings." He argues, then, for a dynamic view of geography that puts its emphasis not on boundaries and fixities, not even on patterns or networks, but on "men and things moving." In many ways these observations could have been written very recently (if you exclude the frequent references to "men"). Doreen Massey has asked us to consider places as constantly dynamic things produced through constant flows within place and between places. The recent mobility turn in human geography has urged us to focus on "men and things moving" (although women are also included now, of course) (Cresswell and Merriman 2010). But this was written in 1938 by the Scottish geographer P. R. Crowe (Crowe 1938). He is not a figure familiar to many of us and yet his arguments would have to be repeated several times over before we arrived where we are now. Old geographies can, indeed, be very useful to those of us practicing in the present day.

It is impossible to say where and when geography, and more precisely geographical theory, began. In a sense we are all geographical theorists in so far as we make decisions

about things like where to live, what to eat, where to avoid late at night, and where to go on holiday. In 1947 the geographer John Kirkland Wright coined the term “geosophy” to describe what we might call the geographical imagination or geographical knowledge (Wright 1947). At the time, he was making the argument that geographers could benefit from exploring the geographical knowledges of non-academic, everyday, folk – fisherman, lorry drivers, farmers, nurses – in order to understand how their ways of knowing the world influenced their everyday lives. What he was saying was that we are all geographers, all theorists – we all make sense of the randomness of the world in geographical ways. To limit an account of geographical theory to geographers, or even academics, is therefore slightly wrongheaded. If we all have geographical theories then it seems just as certain that the earliest humans were engaging in geographical theory – perhaps concerning where food was most abundant or where they were safest from predators.

Classical Geographical Theory

Herodotus and Eratosthenes

The earliest written accounts we know of, which are clearly geographies, were written by Greek philosophers and historians who laid down some of the foundations for geography as an intellectual enterprise. The Greeks were responsible for the production of elaborate topographical descriptions of places in the known world. These descriptions covered both the natural conditions (climate, soil fertility, etc.) and culture and way of life. The “father of history” Herodotus of Halicarnassus (485–425 BC), for instance, described the flow of the Nile and suggested that its source might be melting ice on Mount Kilimanjaro (this proved to be a mistake but a good theory nonetheless). Indeed, his account of Egypt, based on extensive travels and what we might now recognize as “interviews” of local priests and librarians, is full of observations ranging from the natural world to the customs and beliefs of the people. The following extract, for instance, starts with the climate and goes on to observe gender differences in everyday appearance and behavior:

The Egyptians in agreement with their climate, which is unlike any other, and with the river, which shows a nature different from all other rivers, established for themselves manners and customs in a way opposite to other men in almost all matters: for among them the women frequent the market and carry on trade, while the men remain at home and weave; and whereas others weave pushing the woof upwards, the Egyptians push it downwards: the men carry their burdens upon their heads and the women upon their shoulders: the women make water standing up and the men crouching down: they ease themselves in their houses and they eat without in the streets, alleging as reason for this that it is right to do secretly the things that are unseemly though necessary, but those which are not unseemly, in public: no woman is a minister either of male or female divinity, but men of all, both male and female: to support their parents the sons are in no way compelled, if they do not desire to do so, but the daughters are forced to do so, be they never so unwilling. The priests of the gods in other lands wear long hair, but in Egypt they shave their heads: among other men the custom is that in mourning those whom the matter concerns most nearly have their hair cut short, but the Egyptians, when deaths occur, let their hair grow long, both that on the head and that on the chin, having before been close shaven. (Herodotus 2007 [450 BC]: npn)

It is hardly surprising that Herodotus is claimed as the father of both “history” and “anthropology,” but he surely has some claims on geography too.

Herodotus is known for a nine-volume account of the Persian wars of 490–479 BC (recently recalled to us in the film *300*). To discover the cause of these wars Herodotus recounts a vast context of the known world at the time, including a foray through Egypt (Book 2) from which the above quotation is taken. In his account of Egypt Herodotus seemingly attempted to tell us everything it is possible to know about the region, from the plant life and animals and the flow of rivers to the toilet habits of the inhabitants. Indeed, it is not until well into the fifth volume that the reader encounters the events at the center of this first “history” – the wars between the Persians and Greeks in which the massively outnumbered Greeks finally defeat the Persian Empire. West defeats east. For four and a half volumes Herodotus seems to be avoiding the subject. Or was he? What we get in these pages is a geographical and, more explicitly, geopolitical, context for the rise of the all-conquering Persian Empire. At the center of this story is how the Persian Empire outgrew its “natural” setting. The Persian Empire, he is telling us, belonged in the east, in what we now know as Asia, and by attempting to incorporate Greece it was overstretching, becoming “unnatural.” His account of Egypt is just one of many digressions that tell us how human life is mapped on to natural circumstances. Nature, or environment, determines culture. The account of Persian expansion includes many stories of, not the domination of people by other people, but the domination of nature. The Persian army was said to drink rivers dry. In other places it tried to make rivers where no rivers had previously existed. The army became so large it could not feed itself. One of its most famous defeats occurred when a huge navy, advancing on Athens, was destroyed by a massive storm. The empire had reached its natural limits and it had no right to enter “Europe.” In doing so, it doomed itself. What we have in Herodotus, then, is a combination of **environmental determinism** and Greek tragedy (in which a fatal mistake inevitably, because of fate, leads to downfall). This is a geographical theory. History depends on geography.

While Herodotus wrote detailed narrative accounts of his travels accompanied by theories concerning both the natural and human worlds, others attempted more systematic geographies. Eratosthenes (276–194 BC), the Librarian of the Library at Alexandria – calculated the circumference of the earth and developed systems of coordinates (latitude and longitude) that are the forerunners for the locational system we program into global positioning systems (GPS) today. His estimate of the earth’s circumference reveals an innovative mixture of observation and theory. There are some things he knew from experience, observation, and prior knowledge. He knew, for example, that the sun would appear at its zenith (directly overhead) during the summer solstice at noon in the town of Syene (more or less on the Tropic of Cancer). In Alexandria, at the same time, he measured the angle of the elevation of the sun at 1/50 of a full circle south of the zenith. He believed that Alexandria was due north of Syene (it wasn’t) and concluded that the distance between Syene and Alexandria must be 1/50 of the earth’s circumference. He estimated the distance between the two cities as about 500 nautical miles and thus came up with a circumference of 46,620 km (about 16% larger than we now know it to be). This estimation was still used several hundred years later and is remarkably close (see Figure 2.1).

The geographies of Herodotus and Eratosthenes are remarkable in their own right but perhaps even more remarkable in that they prefigure and illustrate two of the central ways in which geographical theory operates today. While Herodotus was busy cataloguing the

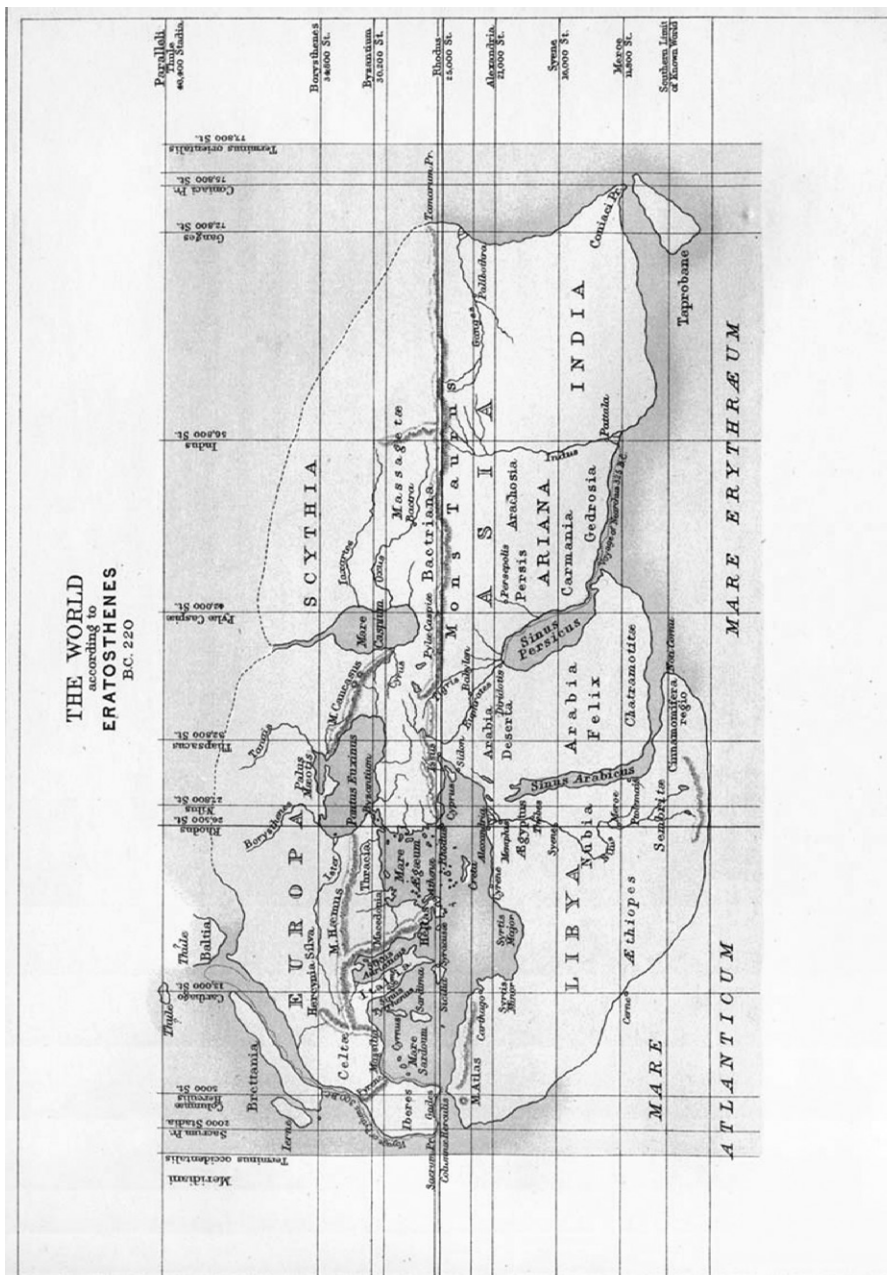


Figure 2.1 The world according to Eratosthenes. From *Cram's Universal Atlas: Geographical, Astronomical and Historical* (1895).

areas he traveled through and heard about, Eratosthenes was busy wondering how to measure the world and provide a reliable grid of reference points for navigation. Herodotus, then, was fascinated by the particularity of different places and what made them unique (even if framed by a general theory of environment and fate). Eratosthenes, on the other hand, was interested in producing a common measure that bound the whole earth into a unified system of reference points. He was developing a universal and quite mathematical geography that was not primarily interested in the particular – in what one place was like and how it differed from the next one. What the combined work of these two scholars reveals is an emerging sense of order in the world – an interest in a whole inhabited world beyond the immediate confines of the local. The Greeks referred to this world as the *oikoumene* (later, *ecumene*) or the “inhabited earth.” Just as the interest in places (Herodotus) and objective space (Eratosthenes) prefigure debate 2,000 years later, so does this concept of the global *ecumene*. For it is largely the inhabited earth that interests geographers today. Humans, after all, exist in a thin layer from just below the earth’s surface to just above it. This is geography’s layer. Go too far beyond it and you enter the world of astronomy, go too far below and you are in the realm of geology. Geography as the study of the *ecumene* is not a bad definition of our discipline.

Kenon, chora, and topos

The very different geographies of Herodotus and Eratosthenes are frequently held up as examples of early geography. This is because the kinds of knowledge they produced match modern expectations about what geography is – a knowledge of places on the one hand and a science of space on the other. But in many ways it was other Greeks – particularly philosophers – who were busy asking questions that would form the basis for large parts of contemporary geographical theory. Consider for instance the concepts of *kenon*, *chora*, and *topos* developed by Plato and Aristotle.

The concept of *kenon* referred to the void in which all other things exist – a realm which is homogeneous and undifferentiated. *Kenon* is arrived at when one abstracts a thing from its surroundings. It is pure extension. This notion of eternal emptiness became the basis of scientific, abstract, notions of space. It was further developed by Descartes and Newton, among others, and forms the basis for all kinds of science that depend on abstract notions of space.

Chora comes from Plato’s (428–348 BC) discussion of the process of becoming – the way in which existence takes shape out of the void of *kenon*. Becoming, in Plato’s terms, is a process that involves three elements – that which becomes, that which is the model for becoming, and the place or setting for becoming (Casey 1997). This final element is *chora*, a term which implies both extent in space and the thing in that space that is in the process of becoming. It is often translated as a receptacle and differs from the void of *kenon* in that it always refers to a thing within it – it is not empty. *Topos* is often used interchangeably with *chora* in Plato but is usually more specific. While *chora* most often referred to a place in the process of becoming, *topos* would refer to an achieved place. Later, Aristotle would use *chora* to describe a country while *topos* would describe a particular region or place within it. Both *chora* and *topos* would eventually become part of geographical language through the notion of chorology (the study of regions) and topography (the shape of the

land surface). Both *chora* and *topos* are different from the notion of *kenon* (the void) in that they refer to something more particular – more like place than space. While *kenon* is limitless space, *chora* and *topos* are finite and contain things (Casey 1997; Malpas 1999).

If anything, Plato's student, Aristotle (384–322 BC), had even more fundamental things to say about one of geography's most basic concepts – place. To Aristotle, place is a necessary starting point from which it is possible to understand both space (the infinite, the void) and movement and change. Place, he wrote, “takes precedence over all other things” (Casey 1997: 51). To understand change and motion, for instance, it was first necessary to acknowledge that the “most general and basic kind [of] change is change in respect of place, which we call locomotion” (Casey 1997: 51). The geographical question of “where” is absolutely fundamental to Aristotle, for everything that exists must be somewhere “because what is not is nowhere – where for instance is a goat-stag or a sphinx?” (Aristotle in Casey 1997: 51). Place comes first, to Aristotle, because everything that exists has to have a place – has to be located. Thus “that without which nothing else can exist, while it can exist without the others, must needs be first” (Casey 1997: 52). So in Aristotle we have a very powerful philosophy of place. What could be more of a celebration of geography than the assertion that place is the most fundamental thing in existence – the starting point for all other forms of existence?

It is strange, then, that we are more likely to recognize the endless travels of Herodotus or the scientific measurements of Eratosthenes as “geography” despite the fact that human geography now is less likely to be an inventory of observations of life in Egypt and more likely to be a set of reflections on what **place** means. Plato and Aristotle were just as much geographers as Herodotus and Eratosthenes. Describing Egypt, measuring the earth, and ruminating on the primacy of place are all geographies and all have elements of what we might call “theory” in them. None of them, however, referred to what they were doing as “geography.”

The first geographers?

Despite the fact that there must have been geographical theorists since time immemorial, it is generally acknowledged that the first written account of geography in the western world, referred to as such, that still remains, was written by Strabo of Amasia (64 BC–AD 23). Strabo was a Greek citizen who came from what is now an area of northern Turkey. He was a wealthy and educated man who traveled to both Rome and Alexandria in order to pursue his education. By the time he wrote his “geography” he was probably a Roman citizen living in Rome (Dueck 2000; Koelsch 2004). Strabo wrote a massive 17-volume “geography” accounting for what was known about the inhabited world (*oikoumene*) at the time of the ancient Greeks and Romans. One reason we know that Strabo was not the first to attempt something called geography is because he refers to earlier works that have since disappeared and to which we no longer have access.

At the time Strabo was writing, the Roman Empire was experiencing an extraordinary period of relative peace and prosperity under Emperor Augustus. It was in this context that Strabo sought to explain this world to the Romans. As someone from Greece he was displaced and used this position to translate Greek ideas to the Romans. At the heart of his geography was a plea for a kind of world understanding that would accompany the peace

Roman citizens were enjoying. Here geography and an understanding of it were seen as the basis for tolerance of difference and otherness. There are many facets to Strabo's *Geography* including some quite mathematical sections that have led some to consider Strabo as a measurer of things – a geographer of space (Livingstone 1993). Like Eratosthenes he was keen to provide measurements of the globe and distances between places. Indeed, much of the 17 volumes features endless lists of places and their relative locations. Scholarship on Strabo has often concentrated on whether his locations and measurements were accurate.

But Strabo was also, and perhaps more importantly, a geographer of place – of the lived world. Strabo argues that “the peculiar task of the geographer” is to explain “our inhabited world” (Koelsch 2004). In this sense Strabo was a cultural geographer. Consider the following:

The seaboard that comes next after Leucania, as far as the Sicilian Strait and for a distance of thirteen hundred and fifty stadia, is occupied by the Brettii. According to Antiochus, in his treatise *On Italy*, this territory (and this is the territory which he says he is describing) was once called Italy, although in earlier times it was called Oenotria. And he designates as its boundaries, first, on the Tyrrhenian Sea, the same boundary that I have assigned to the country of the Brettii – the River Laüs; and secondly, on the Sicilian Sea, Metapontium. But as for the country of the Tarantini, which borders on Metapontium, he names it as outside of Italy, and calls its inhabitants Iapyges. And at a time more remote, according to him, the names “Italians” and “Oenotrians” were applied only to the people who lived this side the isthmus in the country that slopes toward the Sicilian Strait. (Strabo, *The Geography*, Book 6.1.4)¹

Here we see Strabo providing encyclopedic details about regions and places in what is now Italy. But his cultural geography did not simply describe places and regions but attempted to synthesize these into an understanding of the interactions between these places. This was a study of empire and how the periphery related to the center (i.e., Rome). As Koelsch has put it: “we should not become bogged down in the details, book by book. Although Strabo drew on many sources (. . .), his genius lay in the organization of the various parts of his book and in his editorial synthesis. He incorporates each regional or chorographic segment into a systematic pattern for comparative purposes, advancing the general plan of a universal geography of the oikoumene” (Koelsch 2004: 508). Strabo was attempting to understand the relationships between specific places and a wider spatial realm at the time of the first Roman emperor. He was trying to figure out how the global interacted with the local – a task still central to geography in the twenty-first century.

Strabo's *Geography* was also about the relationships between the present and the past in place. His argument that “the man who busies himself with the description of the earth must needs speak, not only of the facts of the present, but also sometimes of the facts of the past” reflects his interest in processes over time. Later Bunbury, a nineteenth-century historian of geography, would describe these reflections on the past ages as “digressions” (Bunbury 1879), while another scholar of Strabo, Clarke, is more sympathetic, noting how the identities of present places are so often constructed on the basis of memories of the past (Clarke 1999). For some reason, Bunbury and others did not see these accounts of

¹ See <http://www.perseus.tufts.edu/cgi-bin/ptext?lookup=Strab.+6.1.4>

place histories as being as important as all the details, locations, and distances so valued by military tacticians and politicians, but it was accounts of place that were most important to Strabo. Clarke quotes a line from Book 14 of Strabo's *Geography* in which he writes: "in the case of famous places it is necessary to endure the tiresome part of such geography as this" (Clarke 1999: 202). "This" referred to the measurements and mathematics of space. This "mathematical geography" was, for Strabo, a matter of accuracy as "Every one who undertakes to give an accurate description of a place, should be particular to add its astronomical and geometrical relations, explaining carefully its extent, distance, degrees of latitude, and 'climate'" (Strabo 1912 [AD 7–18]: 13).

Many have interpreted Strabo's geography as evidence of the complicity of geography and the state (Smith 2003). Certainly Strabo acknowledged the importance of geographical knowledge to statecraft in the Roman Empire of Augustus:

For the sea and the earth in which we dwell furnish theatres for action; limited, for limited actions; vast, for grander deeds; but that which contains them all, and is the scene of the greatest undertakings, constitutes what we call the habitable earth; and they are the greatest generals who, subduing nations and kingdoms under one sceptre, and one political administration, have acquired dominion over land and sea. It is clear then, that geography is essential to all the transactions of the statesman, informing us, as it does, of the position of the continents, seas, and oceans of the whole habitable earth. (Strabo 1912 [AD 7–18]: 15–16)

To Clarence Glacken, Strabo was the archetypal cultural geographer, interested as he was in the inhabited earth (Glacken 1967). Physical geography, for Strabo, was a setting for human actions. His writing on the interactions of the physical environment and the human world prefigured work done in the early twentieth century in its insistence on the ability of humankind to modify and adapt to the natural world. Glacken quotes a long passage from Book Two of Strabo's *Geography*:

Arts, forms of government, and modes of life arising from certain [internal] springs flourish under whatever climate they may be situated; climate, however, has its influence, and therefore while some peculiarities are due to the nature of the country, others are the result of institutions and education. It is not owing to the nature of the country, but rather to their education that the Athenians cultivate eloquence, while the Lacedaemonians do not; nor yet the Thebans, who are nearer still. Neither are the Babylonians and Egyptians philosophers by nature, but by reason of their institutions and education. In like manner, the excellence of horses, oxen, and other animals, results not alone from the places where they dwell, but also from their breeding. (Strabo quoted in Glacken 1967: 105)

Strabo's *Geography* (particularly the first two volumes) is also littered with theories of the physical environment. He is fascinated by the changing relations between the sea and the land. He wonders why mussels and other evidence of salt water are often found hundreds of miles inland and concludes that land and sea must have once been in different places than they were in the time of Augustus. He gives a reasonable account of wave action and erosion to partially explain this:

Accordingly, the onset of the wave has a power sufficient to expel foreign matter. They call this, in fact, a "purging" of the sea – a process by which dead bodies and bits of wreckage are cast out upon the land by the waves. But the ebb has not power sufficient to draw back into

the deep sea a corpse, or a stick of wood, or even that lightest of substances, a cork (when once they have been cast by the wave upon the land) from the places on the shore that are near the sea, where they have been stranded by the waves. And so it comes about that both the silt and the water fouled by it are cast out by the waves, the weight of the silt cooperating with the wave, so that the silt is precipitated to the bottom near the land before it can be carried forward into the deep sea; in fact, even the force of the river ceases just a short distance beyond the mouth. (Strabo 1912 [AD 7–18]: 1.3.9)

Strabo's geography is often contrasted with that of Claudius Ptolemy (AD 90–168). Ptolemy was an astronomer, astrologist, mathematician, and geographer believed to have been born in Egypt before, like Strabo, becoming a Roman citizen. His eight-volume *Geographia* has little time for encyclopedic accounts of places or the action of waves. Its concerns are far more general, concerning the dimensions of the globe, calculations of longitude and latitude, and map projections. Ptolemy's *Geographia* resembles an atlas in that it is a series of maps with accompanying lists of places with their location in latitude and longitude. It is an atlas of the world known to the Romans at the time (more or less from Cape Verde in the west to the middle of China in the east). Ptolemy developed a grid of latitude and longitude which spanned the known world (see Figure 2.2). Latitude was measured from the equator and longitude from the western extremity of the known world. Ptolemy gave instructions on how to make maps scientifically using map projections and systems of location that formed the basis for cartography for years to come.

In the work of Herodotus, Eratosthenes, Plato, Aristotle, Strabo, and Ptolemy we can see the outline of some of the key geographical questions that have informed 2,000 years of geographic theory since. We can see the question of the degree to which the natural environment determined human life; the question of the importance of the study of particular regions or places set against the search for forms of universal order and truth; the question of the role of space and place in the constitution of reality; and a whole array of more specific theories and hypotheses (such as the source of the Nile or the action of waves). But the histories of these ideas since then are far from straightforward accounts of progress. Indeed, many of these ideas were deliberately or accidentally ignored and forgotten for hundreds of years in Europe.

Medieval Geographies

The Middle Ages saw the power of the Church dispel classical learning and the rise of a worldview centered on God. This can be seen in the *Mappa Mundi*, a medieval map of the known world. No longer a scientific attempt to chart the inhabited world, the world is a flat disk with Jerusalem in the middle (see Figure 2.3).

But even in the context of a theological cosmology there were some who kept the learning of classical scholars alive. One such person was Albertus Magnus, a German Dominican scholar who taught, among others, Thomas Aquinas. Albertus is notable because he consistently combined theology with science and a thorough grounding in philosophy – particularly the writings of Aristotle. Albertus wrote volumes on topics across the sciences. For geographers the key text is *De Natura Locorum* (The Nature of Places). In this text he argued that human life on earth was influenced by both astrological forces and forces that



Figure 2.2 Ptolomy's map of the world with grid. http://commons.wikimedia.org/wiki/File:Ptolomy_Cosmographia_1467_-_world_map.jpg (accessed May 31, 2012). Original located at the National library of Poland.



Figure 2.3 The Mappa Mundi from around AD 1300 in Hereford Cathedral. The Hereford Mappa Mundi Trust and the Dean and Chapter of Hereford Cathedral.

were determinedly local. He combined the universal and the particular in a way that focused on the unique combinations of cosmological and environmental influences in particular places. Because all places are marked by unique combinations of these influences, human life in these places is also unique. In his work we can see a kind of environmental determinism. Visible differences between people, such as skin color, were attributed to environmental influences. Thus:

Men born in stony, flat, cold, dry places are extremely strong and bony; their joints are plainly visible; they are of great stature, skilled in war and handy in waging it, and they have bony limbs. Their customs are wild and they are like men of stone. Peoples, however, of moist and cold places, have beautiful and smooth faces, their joints are well covered over, they are fleshy and fat, not very tall and their bellies are extended. They are daring because they have such fiery hearts, but they slacken quickly at their work. They lack zeal in war. Their faces are white or yellow. People living in mountains frequently have knotty and strumous necks and throats because the water is such that too much phlegm is generated in them. (Albertus quoted in Glacken 1967: 169–170)

Albertus believed that people were intimately connected to the places they were born in. Places provide the context for human life, and human life reflects the qualities of the places that nurtured it. To move outside of the place of birth was to weaken the particular characteristics of the person. This applied to animals and plants also. Even stones, he argued, were weakened when they were moved somewhere outside of their natural place.

But Albertus was not a straightforward environmental determinist. He also believed that free will allowed people to transform their environments in order to make them more habitable. He argued, for instance, that forests were unhealthy environments because the trees stifled the circulation of air and moisture. Thus cutting down trees to create places in clearings was a way of improving the nature of these particular places.

However, it was not in Europe that classical geographical theory prospered, but in the Arab world. The period between the tenth and fourteenth centuries was marked by extensive travels by Arab traders and scholars that were to dwarf the later and more famous travels of European explorers. This extensive travel, combined with a sound knowledge of classical scholarship, resulted in some remarkable geographies (Alavi 1965).

Around AD 982 an anonymous Persian scholar wrote the *Hudūd al-ʿAlam* – an account of the regions of the world as known to Persian geography (Bosworth 1970). The geography covers the familiar terrain of the mountains, seas, islands, rivers, and deserts before providing an account of the inhabited world from China in the east to Spain in the west. Indeed, the area of present-day Iran and Iraq was the center of extensive geographical scholarship that was usually combined with astronomy to produce abstract mathematical accounts of the world along with long lists of places and their precise locations. In many ways this work resembled the geographies of Ptolemy. The sciences of surveying, navigation, and cartography were all developing in the ninth and tenth centuries. Muhammad b. Kathīr al-Farghānī, for instance, described the world according to seven climates – work which was to inform the Renaissance in Europe many years later and particularly the work of Roger Bacon. In addition to having a deep knowledge of the works of Ptolemy and other classical scholars, the scholars of the Muslim world were also familiar with the well-developed cosmologies of India and China which they incorporated into their work.

Ibn Battutah (1304–1368) (a scholar from Tangiers) traveled almost the whole of the known world over a 28-year period and wrote an account of his travels. He traveled as far east as China, spent many years in India, and went far enough down the African coast to prove the Greeks wrong in believing that sub-Saharan Africa was too hot for human habitation (Ibn Battutah and Mackintosh-Smith 2002). Another Muslim scholar, Ibn Khaldun (1332–1406), has been noted as the father of the social sciences owing to his insights about group cohesion and the rise and fall of civilizations. Central to his grand seven-volume “History of the World” (Muqaddimah) was the notion of social conflict being at the center

of the unfolding of history. Both space and time play a role in this unfolding. Geography is important because of the dichotomy of the settled and the nomadic (mapped on to the town and the desert, respectively). Social cohesion (*asabiyah*), he argued, arose within kinship networks or tribes and was supported by religious beliefs. This cohesion, however, is doomed owing to the conflicts that inevitably arise within the social and economic spheres which, in turn, lead to a new, younger, and more cohesive group becoming dominant. This pattern then repeats itself endlessly and so history happens:

... when a tribe has achieved a certain measure of superiority with the help of its group feeling, it gains control over a corresponding amount of wealth and comes to share prosperity and abundance with those who have been in possession of these things. It shares in them to the degree of its power and usefulness to the ruling dynasty. If the ruling dynasty is so strong that no-one thinks of depriving it of its power or of sharing with it, the tribe in question submits to its rule and is satisfied with whatever share in the dynasty's wealth and tax revenue it is permitted to enjoy. ... Members of the tribe are merely concerned with prosperity, gain and a life of abundance. (They are satisfied) to lead an easy, restful life in the shadow of the ruling dynasty, and to adopt royal habits in building and dress, a matter they stress and in which they take more and more pride, the more luxuries and plenty they acquire, as well as all the other things that go with luxury and plenty.

As a result the toughness of desert life is lost. Group feeling and courage weaken. Members of the tribe revel in the well-being that God has given them. Their children and offspring grow up too proud to look after themselves or to attend to their own needs. They have disdain also for all the other things that are necessary in connection with group feeling. ... Their group feeling and courage decrease in the next generations. Eventually group feeling is altogether destroyed. ... It will be swallowed up by other nations. (Khalidun 1969 [1377]: 107).

Geographically this theory of history is mapped on to the idea that desert nomadic groups gradually become sedentary as they produce a great civilization. Once this has happened, decay starts to set in and the civilization is eventually conquered by barbarian (nomadic) outsiders who then develop their own "civilization" complete with arts, literacy, and learning. As they settle down they become softer and are eventually conquered by a new set of outsiders. This is clearly a geographical theory of history revolving around the dualism of the desert (nomadic barbarian space) and the town (settled civilization). This dualism of the settled and nomadic would continue to haunt the pages of geographic theory as geographers and others attempted to come to terms with the cultural and social significance of more or less fixed and settled places and the threats and opportunities posed by various forms of movement which also have social and cultural meanings mapped on to them.

It was in the Arab world that the geography of the Greeks and Romans was kept alive and developed while Europe went through a period of theocracy that militated against learning and scholarship that was not biblical. They were to reappear, however, as central actors in the European Renaissance – a period in which classical learning was rediscovered and put back on the scholarly agenda. This was only possible because it had been kept alive in the Arab world for over 400 years. In 1410, copies of Ptolemy's *Geography* were translated into Latin as part of a general rediscovery of classical learning. Strabo's *Geography* was translated into Latin in the 1450s by order of Pope Nicholas V. Ptolemy and Strabo became central figures in artistic representations of Renaissance learning where knowledge of the world and its place in the cosmos was seen as central to the new **humanism** emerging in



Figure 2.4 Raphael, *The School at Athens* 1509/10. © Photo Scala, Florence.

northern Italy. *The School at Athens*, a painting of 1509 by Raphael, for instance, shows Strabo and Ptolomy holding models of the world (a globe) and the cosmos in the School at Athens (see bottom right corner, Figure 2.4).

Columbus and other explorers were to base their journeys of exploration on Ptolomy's maps. Ptolomy shows China extending east and south much further than it actually does and this is one of the reasons for Columbus's belief that he would reach Asia by heading west. By 1569 Mercator had produced his new world map which would form the basis for two-dimensional representations of the world up until the present day.

Toward Modern Geography

The rediscovery of classical learning in the fifteenth and sixteenth centuries cleared the way for the emergence of geography as a full-fledged academic discipline in the nineteenth century. It was not just the rediscovery of Ptolomy and Strabo that inspired this, however; it was also the importance of geographical knowledge to the practices of discovery and exploration that framed knowledge of the world as imperial and colonial power.

In northern Italy and Flanders (Belgium and the Netherlands) in particular, new kinds of social relations were being formed as mercantile capitalism began to emerge as a characteristic economic form of cities that were based on trade. This trade (in luxury goods such as silk and spices) connected cities such as Amsterdam and Venice to sites around the world (particularly in South and East Asia). Traders became wealthy and influential in a new way that was not immediately connected to the power of the Church. Influence came

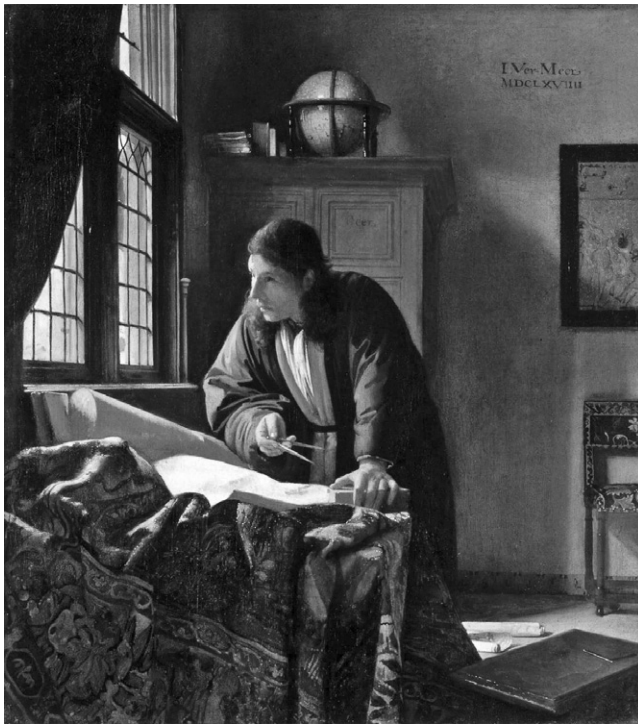


Figure 2.5 Johannes Vermeer, *The Geographer* 1668/9. © DeAgostini Picture Library/Scala, Florence.

from trade and capital rather than an established place on a social hierarchy defined by the Church and/or the aristocracy. This new class also had a new imaginative geography based on its exploitative connections with emerging world markets. To trade successfully with places on the other side of the world it was necessary to develop ways of knowing these places, ways of navigating between places, and ways of controlling often unruly populations. Skills in map making and navigation emerged that relied on long-forgotten sciences of optics which allowed map makers to make images of places that were in some sense “objective” in that they allowed traders to get successfully from A to B. These maps were also used as decorative objects that symbolized control and ownership of land closer to home.

Consider Vermeer’s painting *The Geographer* (1668–69) (Figure 2.5). This painting shows a deeply thoughtful man standing by a window in a room surrounded by the implements of the geographer’s art. There is a globe, a map on the wall, and the measuring device in his hand. The geography of the map that he is looking at is linked to the world outside by the light pouring in through the window. The painting is a celebration of new knowledge and the knowledge of the geographer in particular. Clearly, for Vermeer to be interested in painting such a figure, geography and those who practiced it had to have some level of importance that would be recognized by the viewer. Geographical and cartographic knowledge was at the center of this new world alongside other kinds of knowledge also represented by Vermeer elsewhere, such as astronomy and music. People who made maps were important.

One such map maker was Willem Janszoon Bleu who lived between 1571 and 1638 in and around Amsterdam. He was the son of a wealthy fish merchant who became interested in the rediscovered sciences of astronomy and mathematics. Around 1596 he qualified as a maker of globes and atlases and established his own print shop from where he manufactured and sold his maps. At this time maps and globes had become the treasured possessions of wealthy households in the area. Having a globe or map was not simply a functional necessity allowing the owner to know where places were and how to get to them, rather they signified the knowledge and power of the owner and were often displayed prominently in households. Maps and globes thus served as key objects in the new imaginative geography emerging at the time that linked science to art and commerce. Such was the success of Bleu that he was appointed the map maker of one of the world's most powerful trading and shipping companies, the Dutch East India Company. The Dutch East India Company connected Holland to its growing trading empire.

At the time, the Dutch were in direct conflict with the Portuguese over the trade in spices between what is now Indonesia and Europe. Both were attempting to develop far-flung empires based on trade. Up to 1600, the Portuguese had an effective monopoly on the trade in highly lucrative spices based on their knowledge of routes between Europe and Indonesia. In 1596 a Dutch expedition of four ships successfully (despite the loss of half the crew) brought a large cargo of spices back from Indonesia and in the following years fleets of Dutch ships became larger and increasingly profitable. In 1603 a large number of Dutch companies were bundled together as the Dutch East India Company and it was granted a monopoly on trade by the government for 21 years. In the next 100 years the company became the largest and most successful in the world with established bases all over Asia, a standing army of 10,000 soldiers and over 30 warships. Trade and military might went hand in hand. The company was effectively the world's first major multinational corporation, with power and influence that outstripped most nations. It was also the first company to issue stocks in itself.

This was the world that Bleu entered as a map maker. He was effectively a cartographer for the world's most powerful trading entity. His maps played a key part in the combination of capitalism and imperial might that the Dutch East India Company projected. As such, he was one player in a new world of aggressive global capitalism and imperialism in which knowing the world through exploration and representation was a form of power.

One of Bleu's associates, in his later years, was a young man named Bernhard Varenius (1622–1650). Some have claimed that the geographer in Vermeer's painting is Varenius. Varenius had studied medicine in Leiden and had intended to become a doctor in Amsterdam. While in Amsterdam, however, he became acquainted with Bleu and a number of well-known Dutch explorers and navigators (including Abel Tasman, after whom Tasmania is named). It was then that he turned his attention to geography. And although he was to die at the age of 28 in 1650, the last few years of his life saw him publish a number of geographical texts including a regional geography of Japan and what was to become the first widely read geography textbook, the *Geographia Generalis* (1650). In this book Varenius laid out an all-encompassing account of the science of geography. He divided "general geography" into three related fields: absolute, relative, and comparative geography. Absolute geography was, he argued, the mathematical facts of the world: its size, distance from sun, shape, etc. Relative geography concerned the relationships between different parts of the earth's surface resulting from the motions of the earth and its relationship to other solar

bodies. Thus relative geography could explain why seasons, or the length of day, were different in different places. Comparative geography is the study of the earth's surface, the locations of different places and how to get to them. Varenius's geography was to be the most influential geographical text in Europe for over a century and was twice revised by Sir Isaac Newton for Cambridge editions. While it might seem strange now to think of a geography textbook being translated and edited by the world's most eminent physicist, geography, in Varenius, was considered to be a branch of mathematics: "a science mixed with Mathematics, which taught [literally teaches] about the quantitative states of the Earth, and of the parts of the Earth, namely shape, place, size, motion, celestial appearances [or bodies], and other related properties" (Warntz 1989: 172). What is clear is that the *General Geography* was the first widely used geography textbook and that Newton may even have taught geography classes using it as an "assigned text." So here we have geographical ideas becoming a key part of a burgeoning university education system. Although there was no discipline of geography as such, geographical theory was right at the heart of the origins of the modern university system and was largely transmitted through Varenius's book.

The geography of Varenius reflected a broader change in the role of science and a new faith in reason and rationality. It fits within developments across the sciences and humanities that can be seen in the work of Bacon, Galileo, and Descartes, among others. In this new "**humanism**," human reason became the basis for existence. It is this reason, and particularly geographic reason, that is celebrated in *The Geographer*.

The work of Varenius reflects the by now familiar division of geographical knowledge into that which is interested in the universal and that which is focused on the particular:

Geography, itself, falls into two parts: one general, the other special. The former considers the earth in general, explaining its various parts and general affections. The latter, that is, special geography, observing general rules, considers, in the case of individual regions, their site, divisions, boundaries and other matters worth knowing. But those who have so far written on geography have discussed at length special geography alone . . . and have explained very little relating to general geography, with much that is necessary being neglected and omitted . . . geography itself scarcely preserves the title of science. (Varenius in Unwin 1992: 67)

Central to Varenius's arguments was the need to be more "scientific" and it is here that general geography came into its own. There is a clear sense in his work that special geography is a footnote to general geography.

General geography includes the three elements of *absolute* geography, *relative* geography, and *comparative* geography. These, Varenius argued, should be studied through particular methodologies, the techniques of reason, of measurement, mathematics, and geometry. These are the foundation of the kind of rationality evident in Vermeer's *Geographer*. Absolute geography consisted of 21 chapters covering matters such as geometry, the properties of the whole earth (such as size and motion), types of mountains, the tides, rivers, and the atmosphere. The relative geography section consisted of nine chapters concerning such things as the length of days, the seasons, sunrise, and the different climatic areas of the earth. Finally the comparative geography section (10 chapters) focuses on the needs of sailors and ships, on navigation and longitude and latitude of places in comparison with each other. This latter part, in particular, seems directed at the new long-distance trade and colonization practices of the Dutch state.

Special geography, on the other hand, was based on observation in order to understand **chorography** (the regional) and **topography** (the local), terms derived from *chora* and *topos*. It was only when the geographer arrived at these levels that the world of humans entered the study of geography. Varenius did not live long enough to write the special geography but he did write an outline of it in *Geographia Generalis*. It is only at the very end that we see a recognizable human geography with headings such as “political government,” “cities,” and “virtues and vices.” And, Varenius tells us, in order to understand the human world the geographer must use the evidence of the senses rather than pure reason and mathematics. Special geography, then, not only concerns a different set of subject-matter but necessitates a different methodology.

The geography of Varenius reflects already established versions of geography developed by the likes of Strabo and Ptolemy. Importantly, it also reflects the context that Varenius shared with Vermeer, Bleu, Tasman, and others. In order to understand how such ideas emerged it is important to consider that Varenius lived in northwest Europe at a time when maps had become central to the new trade empire of the Dutch East India Company. This was a time when news from the other side of the world arrived in the parlors of Delft or Amsterdam. It was a time of exploration, trade, navigation, and empire. Maps were placed decoratively on walls, geographers were the subject of fine art, and geography went hand in hand with governance and commerce. There is a specific kind of geographic and cartographic imagination in the work of Varenius. It is an imagination that seeks to know the world as a set of mathematical laws. It is all-encompassing. General. It is no accident that exactly such a knowledge should emerge in a place that was at the heart of a new trade empire. Thinking of the world in this way sits snugly with a desire to include dramatically different areas of the world in an overarching calculus of control and trade.

Conclusion

This short chapter has covered over 1,500 years of geographic theory. Obviously much more than this was going on in that time, but this survey of early geographies sets the theoretical scene for much of what is to follow. Some of the key theoretical questions of geography were already established by 1500. First, note how the history of geographic theory so far has featured both general forms of geographical knowledge (distances, measurements, maps, latitude, longitude, etc.) and particular forms of geographical knowledge (the portraits of particular place in Strabo, for instance). This tension between the general and the particular has maintained its place at the center of geographical debate right up to the present day. It has changed form many times but can be seen, for instance, in the distinction between special geography and general geography in the work of Varenius; in the arguments about the ideographic and nomothetic (in Chapter 5); in the humanistic distinction between space and place (see Chapter 6); and in the critique of universalizing theory by postmodern geographers (see Chapter 9).

The second important question that emerges from these early geographies is the relationship between the human and natural worlds. There was no clear distinction between human and physical geography in the work described so far. Scholars from Herodotus to Ibn Khaldun would account for both the physical and human worlds in their geographies and often attempt to describe the interactions between them. The development of the idea

of the habitable world (*ecumene*) in Greek thought set the scene for human geography centuries later which would continue to explore the notion of inhabitation – how people make the world into their home; how the natural landscape is transformed into a cultural landscape. Such questions were at the heart of cultural geography at the beginning of the twentieth century and formed a central question for humanistic geographers in the 1970s and 1980s. Indeed, the journal now known as *cultural geographies* started life in 1993 as *Ecumene*.

The third important lesson of these early geographical theories is the importance of historical and geographical context to the development of ideas. Note, for instance, how the geography of Strabo was written at a time of relative peace in the Roman Empire. An important component in the art of running an empire is understanding the world of that empire, its mathematical geography of locations and distances, its natural resources, and the customs and habits of its various peoples. Geographical theory is often constructed at the heart of empire as the center attempts to control the periphery. Geographical knowledge plays a central role in the practice of statecraft, as Strabo understood. The period between the tenth and fourteenth centuries was a time of expansion in the Islamic world and it was in North Africa and the Middle East that geography flourished in a culture that valued learning, trade, and pilgrimage. Varenus lived at the center of a rapidly globalizing trade empire that drew on geographical knowledge to navigate large distances and colonize distant lands. Travel is also a theme that links Strabo to Ibn Khaldun to Varenus. Trade and pilgrimage both involve mobility over long distances. Strabo and Ptolemy were displaced Greeks in the Roman Empire. Herodotus traveled the Mediterranean world. Ibn Battutah and Ibn Khaldun made pilgrimages to Mecca over vast distances.

By the eighteenth century the ground had been prepared for the arrival of the modern discipline of geography as a subject taught in the major universities of Europe. As we will see in the next chapter, there is clear continuity in the kinds of theoretical ideas that the new discipline embraced and the kinds of problems that scholars had been studying for several thousand years.

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