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INFLUENCES OF GEOGRAPHIC ENVIRONMENT

Ellen C. Semple

Ellen C. Semple (1863–1932) was the foremost female geographer of her time and a leading exponent of environmental determinism. Both *Influences* and an earlier book, *American history and its geographic conditions* (1903) were the result of her admiration for the work of Friedrich Ratzel (**chapter 32**), whose lectures she attended at Leipzig in 1891. She describes her book as more than a translation of his ideas for the 'Anglo-Celtic mind'. It was also an extension and confirmation of his geographical laws by the inclusion of extensive evidence based on her own travels and wide reading. Its more than 600 pages include chapters on general geographical relationships, geographical factors such as movement, location and boundary, and then chapters dedicated to certain kinds of locations such as coasts, oceans, islands and mountains. For each topic she sketches out a general relationship between the physical environment and human culture, including ideas and race characteristics, drawing on both ancient and modern history for supporting evidence. According to J. K. Wright [Miss Semple's 'Influences of geographic environment': notes towards a biobibliography, *Geographical Review* 52, 346–61], the book was very well received at first and only attacked in the 1920s, mainly by the French historian, Lucien Febvre. Her views may also be contrasted with those of the anthropologist, Franz Boas (**chapter 9**). The notoriety of environmental determinism perhaps obscured the fact that the book does contain a wealth of interesting geographical observation, as well as untested and untestable assertions.

Source: *Influences of geographic environment on the basis of Ratzel's system of anthropogeographie*. New York: Henry Holt, 1911. Extract from pp. vii (the Preface) and chapter 1, 1–32.

The writer's own method of research has been to compare typical peoples of all races and all stages of cultural development, living under similar geographic conditions. If these peoples of different ethnic stocks but similar environments manifested similar or related social, economic or historical development, it was reasonable to infer that such similarities were due to environment and not to race.

Thus, by extensive comparison, the race factor in these problems of two unknown quantities was eliminated for certain large classes of social and historical phenomena.

The writer, moreover, has purposely avoided definitions, formulas, and the enunciation of hard-and-fast rules; and has refrained from any effort to delimit the field or define the relation of this new science of anthropo-geography to the older sciences. It is unwise to put tight clothes on a growing child. The eventual form and scope of the science, the definition and organization of its material must evolve gradually, after long years and many efforts of many workers in the field. The eternal flux of Nature runs through anthropo-geography, and warns against precipitate or rigid conclusions. But its laws are none the less well founded because they do not lend themselves to mathematical finality of statement. For this reason the writer speaks of geographic factors and influences, shuns the word geographic determinant, and speaks with extreme caution of geographic control. . . .

Man is a product of the earth's surface. This means not merely that he is a child of the earth, dust of her dust; but that the earth has mothered him, fed him, set him tasks, directed his thoughts, confronted him with difficulties that have strengthened his body and sharpened his wits, given him his problems of navigation or irrigation, and at the same time whispered hints for their solution. She has entered into his bone and tissue, into his mind and soul. On the mountains she has given him leg muscles of iron to climb the slope; along the coast she has left these weak and flabby, but given him instead vigorous development of chest and arm to handle his paddle or oar. In the river valley she attaches him to the fertile soil, circumscribes his ideas and ambitions by a dull round of calm, exacting duties, narrows his outlook to the cramped horizon of his farm. Up on the wind-swept plateaus, in the boundless stretch of the grasslands and the waterless tracts of the desert, where he roams with his flocks from pasture to pasture and oasis to oasis, where life knows much hardship but escapes the grind of drudgery, where the watching of grazing herd gives him leisure for contemplation, and the wide-ranging life a big horizon, his ideas take on a certain gigantic simplicity; religion becomes monotheism, God becomes one, unrivalled like the sand of the desert and the grass of the steppe, stretching on and on without break or change. Chewing over and over the cud of his simple belief as the one food of his unfed mind, his faith becomes fanaticism; his big spacial ideas, born of that ceaseless regular wandering, outgrow the land that bred them and bear their legitimate fruit in wide imperial conquests.

Man can no more be scientifically studied apart from the ground which he tills, or the lands over which he travels, or the seas over which he trades, than polar bear or desert cactus can be understood apart from its habitat. Man's relations to his environment are infinitely more numerous and complex than those of the most highly organized plant or animal. So complex are they that they constitute a legitimate and necessary object of special study. The investigation which they receive in anthropology, ethnology, sociology, and history is piecemeal and partial, limited as to the race, cultural development, epoch, country or variety of geographic

conditions taken into account. Hence all these sciences, together with history so far as history undertakes to explain the causes of events, fail to reach a satisfactory solution of their problems largely because the geographic factor which enters into them all has not been thoroughly analyzed. Man has been so noisy about the way he has "conquered Nature" and Nature has been so silent in her persistent influence over man, that the geographic factor in the equation of human development has been overlooked.

In every problem of history there are two main factors, variously stated as heredity and environment, man and his geographic conditions, the internal forces of race and the external forces of habitat. Now the geographic element in the long history of human development has been operating strongly and operating persistently. Herein lies its importance. It is a stable force. It never sleeps. This natural environment, this physical basis of history, is for all intents and purposes immutable in comparison with the other factor in the problem – shifting, plastic, progressive, retrogressive man.

History tends to repeat itself largely owing to this steady, unchanging geographic element. If the ancient Roman consul in far-away Britain often assumed an independence of action and initiative unknown in the provincial governors of Gaul, and if, centuries later, Roman Catholicism in England maintained a similar independence towards the Holy See, both facts have their cause in the remoteness of Britain from the center of political or ecclesiastical power in Rome. If the independence of the Roman consul in Britain was duplicated later by the attitude of the Thirteen Colonies toward England, and again within the young Republic by the headstrong self-reliance, impatient of government authority, which characterized the early Trans-Allegheny commonwealths in their aggressive Indian policy, and led them to make war and conclude treaties for the cession of land like sovereign states; and if this attitude of independence in the over-mountain men reappeared in a spirit of political defection looking toward secession from the Union and a new combination with their British neighbor on the Great Lakes or the Spanish beyond the Mississippi, these are all the identical effects of geographical remoteness, made yet more remote by barriers of mountain and sea. This is the long reach which weakens the arm of authority, no matter what the race or country or epoch.

As with geographical remoteness, so it is with geographical proximity. The history of the Greek peninsula and the Greek people, because of their location at the threshold of the Orient, has contained a constantly recurring Asiatic element. This comes out most often as a note of warning; like the *motif* of Ortrud in the opera of "Lohengrin," it mingles ominously in every chorus of Hellenic enterprise or pæan of Hellenic victory, and finally swells into a national dirge at the Turkish conquest of the peninsula. It comes out in the legendary history of the Argonautic Expedition and the Trojan War; in the arrival of Phœnician Cadmus and Phrygian Pelops in Grecian lands; in the appearance of Tyrian ships on the coast of the Peloponnesus, where they gather the purple-yielding murex and kidnap Greek women. It appears more conspicuously in the Asiatic sources of Greek culture; more dramatically in the Persian Wars, in the retreat of Xenophon's Ten Thousand,

in Alexander's conquest of Asia, and Hellenic domination of Asiatic trade through Syria to the Mediterranean. . . .

If the factor is not one of geographical location, but a natural barrier, such as a mountain system or a desert, its effect is just as persistent. . . . The Alps long retarded Roman expansion into central Europe, just as they delayed and obstructed the southward advance of the northern barbarians. Only through the partial breaches in the wall known as passes did the Alps admit small, divided bodies of the invaders, like the Cimbri and Teutons, who arrived, therefore, with weakened power and at intervals, so that the Roman forces had time to gather their strength between successive attacks, and thus prolonged the life of the declining empire. So in the Middle Ages, the Alpine barrier facilitated the resistance of Italy to the German emperors, trying to enforce their claim upon this ancient seat of the Holy Roman Empire.

It was by river-worn valleys leading to passes in the ridge that Etruscan trader, Roman legion, barbarian horde, and German army crossed the Alpine ranges. Today, well-made highways and railroads converge upon these valley paths and summit portals, and going is easier; but the Alps still collect their toll, now in added tons of coal consumed by engines and in higher freight rates, instead of the ancient imposts of physical exhaustion paid by pack animal and heavily accoutred soldier. Formerly these mountains barred the weak and timid; to-day they bar the poor, and forbid transit to all merchandise of large bulk and small value which can not pay the heavy transportation charges. . . .

As the surface of the earth presents obstacles, so it offers channels for the easy movement of humanity, grooves whose direction determines the destination of aimless, unplanned migrations, and whose termini become, therefore, regions of historical importance. Along these nature-made highways history repeats itself. The maritime plain of Palestine has been an established route of commerce and war from the time of Sennacherib to Napoleon.[1] The Danube Valley has admitted to central Europe a long list of barbarian invaders, covering the period from Attila the Hun to the Turkish besiegers of Vienna in 1683. The history of the Danube Valley has been one of warring throngs, of shifting political frontiers, and unassimilated races; but as the river is a great natural highway, every neighboring state wants to front upon it and strives to secure it as a boundary.

The movements of peoples constantly recur to these old grooves. The unmarked path of the voyageur's canoe, bringing out pelts from Lake Superior to the fur market at Montreal, is followed to-day by whaleback steamers with their cargoes of Manitoba wheat. To-day the Mohawk depression through the northern Appalachians diverts some of Canada's trade from the Great Lakes to the Hudson, just as in the seventeenth century it enabled the Dutch at New Amsterdam and later the English at Albany to tap the fur trade of Canada's frozen forests. Formerly a line of stream and portage, it carries now the Erie Canal and New York Central Railroad.[2] Similarly the narrow level belt of land extending from the mouth of the

[1] George Adam Smith, Historical Geography of the Holy Land, pp. 149–157. New York, 1897.
[2] A. P. Brigham, Geographic Influences in American History, Chap. I. Boston, 1903.

Hudson to the eastern elbow of the lower Delaware, defining the outer margin of the rough hill country of northern New Jersey and the inner margin of the smooth coastal plain, has been from savage days such a natural thoroughfare. Here ran the trail of the Lenni-Lenapi Indians; a little later, the old Dutch road between New Amsterdam and the Delaware trading-posts; yet later the King's Highway from New York to Philadelphia. In 1838 it became the route of the Delaware and Raritan Canal, and more recently of the Pennsylvania Railroad between New York and Philadelphia.[3] . . .

Geographical environment, through the persistence of its influence, acquires peculiar significance. Its effect is not restricted to a given historical event or epoch, but, except when temporarily met by some strong counteracting force, tends to make itself felt under varying guise in all succeeding history. It is the permanent element in the shifting fate of races. Islands show certain fundamental points of agreement which can be distinguished in the economic, ethnic and historical development of England, Japan, Melanesian Fiji, Polynesian New Zealand, and pre-historic Crete. The great belt of deserts and steppes extending across the Old World gives us a vast territory of rare historical uniformity. From time immemorial they have borne and bred tribes of wandering herdsmen; they have sent out the invading hordes who, in successive waves of conquest, have overwhelmed the neighboring river lowlands of Eurasia and Africa. They have given birth in turn to Scythians, Indo-Aryans, Avars, Huns, Saracens, Tartars and Turks, as to the Tuareg tribes of the Sahara, the Sudanese and Bantu folk of the African grasslands. But whether these various peoples have been Negroes, Hamites, Semites, Indo-Europeans or Mongolians, they have always been pastoral nomads. The description given by Herodotus of the ancient Scythians is applicable in its main features to the Kirghis and Kalmuck who inhabit the Caspian plains to-day. The environment of this dry grassland operates now to produce the same mode of life and social organization as it did 2,400 years ago; stamps the cavalry tribes of Cossacks as it did the mounted Huns, energizes its sons by its dry bracing air, toughens them by its harsh conditions of life, organizes them into a mobilized army, always moving with its pastoral commissariat. Then when population presses too hard upon the meager sources of subsistence, when a summer drought burns the pastures and dries up the water-holes, it sends them forth on a mission of conquest, to seek abundance in the better watered lands of their agricultural neighbors. Again and again the productive valleys of the Hoangho, Indus, Ganges, Tigris and Euphrates, Nile, Volga, Dnieper and Danube have been brought into subjection by the imperious nomads of arid Asia, just as the "hoe-people" of the Niger and upper Nile have so often been conquered by the herdsmen of the African grasslands. Thus, regardless of race or epoch – Hyksos or Kaffir – history tends to repeat itself in these rainless tracts, and involves the better watered districts along their borders when the vast tribal movements extend into these peripheral lands.

[3] R. H. Whitbeck, Geographic Influences in the Development of New Jersey, *Journal of Geography*, Vol. V, No. 6. January, 1908.

Climatic influences are persistent, often obdurate in their control. Arid regions permit agriculture and sedentary life only through irrigation. The economic prosperity of Egypt to-day depends as completely upon the distribution of the Nile waters as in the days of the Pharaohs. The mantle of the ancient Egyptian priest has fallen upon the modern British engineer. Arctic explorers have succeeded only by imitating the life of the Eskimos, adopting their clothes, food, fuel, dwellings, and mode of travel. Intense cold has checked both native and Russian development over that major portion of Siberia lying north of the mean annual isothern of 0 degree C. (32 degrees F.); and it has had a like effect in the corresponding part of Canada. It allows these sub-arctic lands scant resources and a population of less than two to the square mile. Even with the intrusion of white colonial peoples, it perpetuates the savage economy of the native hunting tribes, and makes the fur trader their modern exploiter, whether he be the Cossack tribute-gatherer of the lower Lena River, or the factor of the Hudson Bay Company. The assimilation tends to be ethnic as well as economic, because the severity of the climate excludes the white woman. In the same way the Tropics are a vast melting-pot. The debilitating effects of heat and humidity, aided by tropical diseases, soon reduce intruding peoples to the dead level of economic inefficiency characteristic of the native races. These, as the fittest, survive and tend to absorb the new-comers, pointing to hybridization as the simplest solution of the problem of tropical colonization.

The more the comparative method is applied to the study of history – and this includes a comparison not only of different countries, but also of successive epochs in the same country – the more apparent becomes the influence of the soil in which humanity is rooted, the more permanent and necessary is that influence seen to be. Geography's claim to make scientific investigation of the physical conditions of historical events is then vindicated. "Which was there first, geography or history?" asks Kant. And then comes his answer: "Geography lies at the basis of history." The two are inseparable. History takes for its field of investigation human events in various periods of time; anthropo-geography studies existence in various regions of terrestrial space. But all historical development takes place on the earth's surface, and therefore is more or less molded by its geographic setting. Geography, to reach accurate conclusions, must compare the operation of its factors in different historical periods and at different stages of cultural development. It therefore regards history in no small part as a succession of geographical factors embodied in events. Back of Massachusetts' passionate abolition movement, it sees the granite soil and boulder-strewn fields of New England; back of the South's long fight for the maintenance of slavery, it sees the rich plantations of tidewater Virginia and the teeming fertility of the Mississippi bottom lands. This is the significance of Herder's saying that "history is geography set into motion." What is to-day a fact of geography becomes to-morrow a factor of history. The two sciences cannot be held apart without doing violence to both, without dismembering what is a natural, vital whole. All historical problems ought to be studied geographically and all geographic problems must be studied historically. Every map has its date. Those in the Statistical Atlas of the United States showing

the distribution of population from 1790 to 1890 embody a mass of history as well as of geography. A map of France or the Russian Empire has a long historical perspective; and on the other hand, without that map no change of ethnic or political boundary, no modification in routes of communication, no system of frontier defences or of colonization, no scheme of territorial aggrandizement can be understood.

The study of physical environment as a factor in history was unfortunately brought into disrepute by extravagant and ill-founded generalization, before it became the object of investigation according to modern scientific methods. And even to-day principles advanced in the name of anthropo-geography are often superficial, inaccurate, based upon a body of data too limited as to space and time, or couched in terms of unqualified statement which exposes them to criticism or refutation. Investigators in this field, moreover, are prone to get a squint in their eye that makes them see one geographic factor to the exclusion of the rest; whereas it belongs to the very nature of physical environment to combine a whole group of influences, working all at the same time under the law of the resolution of forces. In this plexus of influences, some operate in one direction and some in another; now one loses its beneficent effect like a medicine long used or a garment outgrown; another waxes in power, reinforced by a new geographic factor which has been released from dormancy by the expansion of the known world, or the progress of invention and of human development.

These complex geographic influences cannot be analyzed and their strength estimated except from the standpoint of evolution. That is one reason these half-baked geographic principles rest heavy on our mental digestion. They have been formulated without reference to the all-important fact that the geographical relations of man, like his social and political organization, are subject to the law of development. Just as the embryo state found in the primitive Saxon tribe has passed through many phases in attaining the political character of the present British Empire, so every stage in this maturing growth has been accompanied or even preceded by a steady evolution of the geographic relations of the English people.

Owing to the evolution of geographic relations, the physical environment favorable to one stage of development may be adverse to another, and *vice versa*. For instance, a small, isolated and protected habitat, like that of Egypt, Phœnicia, Crete and Greece, encourages the birth and precocious growth of civilization; but later it may cramp progress, and lend the stamp of arrested development to a people who were once the model for all their little world. Open and wind-swept Russia, lacking these small, warm nurseries where Nature could cuddle her children, has bred upon its boundless plains a massive, untutored, homogeneous folk, fed upon the crumbs of culture that have fallen from the richer tables of Europe. But that item of area is a variable quantity in the equation. It changes its character at a higher stage of cultural development. Consequently, when the Muscovite people, instructed by the example of western Europe, shall have grown up intellectually, economically and politically to their big territory, its area will become a great national asset. Russia will come into its own, heir to a long-withheld inheritance.

Many of its previous geographic disadvantages will vanish, like the diseases of childhood, while its massive size will dwarf many previous advantages of its European neighbors. . . .

Meanwhile, local geographic advantages in the old basins remain the same, although they are dwarfed by the development of relatively greater advantages elsewhere. The broken coastline, limited area and favorable position of Greece make its people to-day a nation of seamen, and enable them to absorb by their considerable merchant fleet a great part of the trade of the eastern Mediterranean,[10] just as they did in the days of Pericles; but that youthful Aegean world which once constituted so large a part of the *oikoumene*, has shrunken to a modest province, and its highways to local paths. The coast cities of northern Germany still maintain a large commerce in the Baltic, but no longer hold the pre-eminence of the old Hanse Towns. The glory of the Venetian Adriatic is gone; but that the sea has still a local significance is proven by the vast sums spent by Austria and Hungary on their hand-made harbors of Trieste and Fiume.[11] The analytical geographer, therefore, while studying a given combination of geographic forces, must be prepared for a momentous readjustment and a new interplay after any marked turning point in the economic, cultural, or world relations of a people.

Skepticism as to the effect of geographic conditions upon human development is apparently justifiable, owing to the multiplicity of the underlying causes and the difficulty of distinguishing between stronger and weaker factors on the one hand, as between permanent and temporary effects on the other. We see the result, but find it difficult to state the equation producing this result. But the important thing is to avoid seizing upon one or two conspicuous geographic elements in the problem and ignoring the rest. The physical environment of a people consists of all the natural conditions to which they have been subjected, not merely a part. Geography admits no single blanket theory. The slow historical development of the Russian folk has been due to many geographic causes – to excess of cold and deficiency of rain, an outskirt location on the Asiatic border of Europe exposed to the attacks of nomadic hordes, a meager and, for the most part, ice-bound coast which was slowly acquired, an undiversified surface, a lack of segregated regions where an infant civilization might be cradled, and a vast area of unfenced plains wherein the national energies spread out thin and dissipated themselves. The better Baltic and Black Sea coasts, the fertility of its Ukraine soil, and location next to wide-awake Germany along the western frontier have helped to accelerate progress, but the slow-moving body carried too heavy a drag. . . .

Every country forms an independent whole, and as such finds its national history influenced by its local climate, soil, relief, its location whether inland or maritime, its river highways, and its boundaries of mountain, sea, or desert. But it is also a link in a great chain of lands, and therefore may feel a shock or vibration imparted at the remotest end. The gradual desiccation of western Asia which took

[10] Hugh Robert Mill, International Geography, p. 347. New York, 1902.
[11] Joseph Partsch, Central Europe, pp. 228–230. London, 1903.

a fresh start about 2,000 years ago caused that great exodus and displacement of peoples known as the *Völkerwanderung*, and thus contributed to the downfall of Rome; it was one factor in the Saxon conquest of Britain and the final peopling of central Europe. The impact of the Turkish hordes hurling themselves against the defenses of Constantinople in 1453 was felt only forty years afterward by the far-off shores of savage America. Earlier still it reached England as the revival of learning, and it gave Portugal a shock which started its navigators towards the Cape of Good Hope in their search for a sea route to India. The history of South Africa is intimately connected with the Isthmus of Suez. It owes its Portuguese, Dutch, and English populations to that barrier on the Mediterranean pathway to the Orient; its importance as a way station on the outside route to India fluctuates with every crisis in the history of Suez.

The geographic factors in history appear now as conspicuous direct effects of environment, such as the forest warfare of the American Indian or the irrigation works of the Pueblo tribes, now as a group of indirect effects, operating through the economic, social and political activities of a people. These remoter secondary results are often of supreme importance; they are the ones which give the final stamp to the national temperament and character, and yet in them the causal connection between environment and development is far from obvious. They have, therefore, presented pitfalls to the precipitate theorizer. He has either interpreted them as the direct effect of some geographic cause from which they were wholly divorced and thus arrived at conclusions which further investigation failed to sustain; or seeing no direct and obvious connection, he has denied the possibility of a generalization.

Montesquieu ascribes the immutability of religion, manners, custom and laws in India and other Oriental countries to their warm climate.[17] Buckle attributes a highly wrought imagination and gross superstition to all people, like those of India, living in the presence of great mountains and vast plains, knowing Nature only in its overpowering aspects, which excite the fancy and paralyze reason. He finds, on the other hand, an early predominance of reason in the inhabitants of a country like ancient Greece, where natural features are on a small scale, more comprehensible, nearer the measure of man himself.[18] The scientific geographer, grown suspicious of the omnipotence of climate and cautious of predicating immediate psychological effects which are easy to assert but difficult to prove, approaches the problem more indirectly and reaches a different solution. He finds that geographic conditions have condemned India to isolation. On the land side, a great sweep of high mountains has restricted intercourse with the interior; on the sea side, the deltaic swamps of the Indus and Ganges Rivers and an unbroken shoreline, backed by mountains on the west of the peninsula and by coastal marshes and lagoons on the east, have combined to reduce its accessibility from the ocean. The effect of such isolation is ignorance, superstition, and the early

[17] Montesquieu, Spirit of the Laws, Book XIV, chap. IV.
[18] Henry Buckle, History of Civilization in England, Vol. I, pp. 86–106.

crystallization of thought and custom. Ignorance involves the lack of material for comparison, hence a restriction of the higher reasoning processes, and an unscientific attitude of mind which gives imagination free play. In contrast, the accessibility of Greece and its focal location in the ancient world made it an intellectual clearing-house for the eastern Mediterranean. The general information gathered there afforded material for wide comparison. It fed the brilliant reason of the Athenian philosopher and the trained imagination which produced the masterpieces of Greek art and literature.

Heinrich von Treitschke, in his recent "Politik," imitates the direct inference of Buckle when he ascribes the absence of artistic and poetic development in Switzerland and the Alpine lands to the overwhelming aspect of nature there, its majestic sublimity which paralyzes the mind.[19] He reinforces his position by the fact that, by contrast, the lower mountains and hill country of Swabia, Franconia and Thuringia, where nature is gentler, stimulating, appealing, and not overpowering, have produced many poets and artists. The facts are incontestable. They reappear in France in the geographical distribution of the awards made by the Paris *Salon* of 1896. Judged by these awards, the rough highlands of Savoy, Alpine Provence, the massive eastern Pyrenees, and the Auvergne Plateau, together with the barren peninsula of Brittany, are singularly lacking in artistic instinct, while art flourishes in all the river lowlands of France. Moreover, French men of letters, by the distribution of their birthplaces, are essentially products of fluvial valleys and plains, rarely of upland and mountain.[20]

This contrast has been ascribed to a fundamental ethnic distinction between the Teutonic population of the lowlands and the Alpine or Celtic stock which survives in the isolation of highland and peninsula, thus making talent an attribute of race. But the Po Valley of northern Italy, whose population contains a strong infusion of this supposedly stultifying Alpine blood, and the neighboring lowlands and hill country of Tuscany show an enormous preponderance of intellectual and artistic power over the highlands of the peninsula.[21] Hence the same contrast appears among different races under like geographic conditions. Moreover, in France other social phenomena, such as suicide, divorce, decreasing birth-rate, and radicalism in politics, show this same startling parallelism of geographic distribution,[22] and these cannot be attributed to the stimulating or depressing effect of natural scenery upon the human mind.

Mountain regions discourage the budding of genius because they are areas of isolation, confinement, remote from the great currents of men and ideas that move along the river valleys. They are regions of much labor and little leisure, of poverty to-day and anxiety for the morrow, of toil-cramped hands and toil-dulled brains.

[19] Heinrich von Treitschke, *Politik*, Vol. I, p. 225. Leipzig, 1897. This whole chapter on *Land and Leute* is suggestive.

[20] W. Z. Ripley, Races of Europe, pp. 524–525. New York, 1899.

[21] *Ibid.*, 526.

[22] *Ibid*, 517–520, 533–536.

In the fertile alluvial plains are wealth, leisure, contact with many minds, large urban centers where commodities and ideas are exchanged. The two contrasted environments produce directly certain economic and social results, which, in turn, become the causes of secondary intellectual and artistic effects. The low mountains of central Germany which von Treitschke cites as homes of poets and artists, owing to abundant and varied mineral wealth, are the seats of active industries and dense populations,[23] while their low reliefs present no serious obstacle to the numerous highways across them. They, therefore, afford all conditions for culture.

Let us take a different example. The rapid modification in physical and mental constitution of the English transplanted to North America, South Africa, Australia and New Zealand has been the result of several geographic causes working through the economic and social media; but it has been ascribed by Darwin and others to the effect of climate. The prevailing energy and initiative of colonists have been explained by the stimulating atmosphere of their new homes. Even Natal has not escaped this soft impeachment. But the enterprise of colonials has cropped out under almost every condition of heat and cold, aridity and humidity, of a habitat at sea-level and on high plateau. This blanket theory of climate cannot, therefore, cover the case. Careful analysis supersedes it by a whole group of geographic factors working directly and indirectly. The first of these was the dividing ocean which, prior to the introduction of cheap ocean transportation and bustling steerage agents, made a basis of artificial selection. Then it was the man of abundant energy who, cramped by the narrow environment of a Norwegian farm or Irish bog, came over to America to take up a quarter-section of prairie land or rise to the eminence of Boston police sergeant. The Scotch immigrants in America who fought in the Civil War were nearly two inches taller than the average in the home country.[24] But the ocean barrier culled superior qualities of mind and character also – independence of political and religious conviction, and the courage of those convictions, whether found in royalist or Puritan, Huguenot or English Catholic.

Such colonists in a remote country were necessarily few and could not be readily reinforced from home. Their new and isolated geographical environment favored variation. Heredity passed on the characteristics of a small, highly selected group. The race was kept pure from intermixture with the aborigines of the country, owing to the social and cultural abyss which separated them, and to the steady withdrawal of the natives before the advance of the whites. The homogeneity of island peoples seems to indicate that individual variations are in time communicated by heredity to a whole population under conditions of isolation; and in this way modifications due to artificial selection and a changed environment become widely spread.

Nor is this all. The modified type soon becomes established, because the abundance of land at the disposal of the colonists and the consequent better conditions of living encourage a rapid increase of population. A second geographic factor of

[23] Joseph Partsch, Central Europe, pp. 256–257, 268–271. London, 1903.
[24] W. Z. Ripley, Races of Europe, p. 89. New York, 1899.

mere area here begins to operate. Ease in gaining subsistence, the greater independence of the individual and the family, emancipation from carking care, the hopeful attitude of mind engendered by the consciousness of an almost unlimited opportunity and capacity for expansion, the expectation of large returns upon labor, and, finally, the profound influence of this hopefulness upon the national character, all combined, produce a social rejuvenation of the race. New conditions present new problems which call for prompt and original solution, make a demand upon the ingenuity and resourcefulness of the individual, and therefore work to the same end as his previous removal from the paralyzing effect of custom in the old home country. Activity is youth and sluggishness or paralysis is age. Hence the energy, initiative, adaptability, and receptivity to new ideas – all youthful qualities – which characterize the Anglo-Saxon American as well as the English Africander, can be traced back to the stimulating influences, not of a bracing or variable climate, but of the abundant opportunities offered by a great, rich, unexploited country. Variation under new natural conditions, when safe-guarded by isolation, tends to produce modification of the colonial type; this is the direct effect of a changed environment. But the new economic and social activities of a transplanted people become the vehicle of a mass of indirect geographic influences which contribute to the differentiation of the national character.

The tendency to overlook such links between conspicuous effects and their remote, less evident geographic causes has been common in geographic investigation. This direct rather than indirect approach to the heart of the problem has led to false inferences or to the assumption that reliable conclusions were impossible. Environment influences the higher, mental life of a people chiefly through the medium of their economic and social life; hence its ultimate effects should be traced through the latter back to the underlying cause. But rarely has this been done. Even so astute a geographer as Strabo, though he recognizes the influence of geographic isolation in differentiating dialects and customs in Greece,[25] ascribes some national characteristics to the nature of the country, especially to its climate, and the others to education and institutions. He thinks that the nature of their respective lands had nothing to do with making the Athenians cultured, the Spartans and Thebans ignorant; that the predilection for natural science in Babylonia and Egypt was not a result of environment but of the institutions and education of those countries.[26] But here arise the questions, how far custom and education in their turn depend upon environment; to what degree natural conditions, molding economic and political development, may through them fundamentally affect social customs, education, culture, and the dominant intellectual aptitudes of a people. It is not difficult to see, back of the astronomy and mathematics and hydraulics of Egypt, the far off sweep of the rain-laden monsoons against the mountains of Abyssinia and the creeping of the tawny Nile flood over that river born oasis. . . .

In all democratic or representative forms of government permitting free

[25] Strabo, Book VII, chap. I, 2.
[26] Strabo, Book II, chap. III, 7.

expression of popular opinion, history shows that division into political parties tends to follow geographical lines of cleavage. In our own Civil War the dividing line between North and South did not always run east and west. The mountain area of the Southern Appalachians supported the Union and drove a wedge of disaffection into the heart of the South. Mountainous West Virginia was politically opposed to the tidewater plains of old Virginia, because slave labor did not pay on the barren "upright" farms of the Cumberland Plateau; whereas, it was remunerative on the wide fertile plantations of the coastal lowland. The ethics of the question were obscured where conditions of soil and topography made the institution profitable. In the mountains, as also in New England, a law of diminishing financial returns had for its corollary a law of increasing moral insight. In this case, geographic conditions worked through the medium of direct economic effects to more important political and ethical results.

The roots of geographic influence often run far underground before coming to the surface, to sprout into some flowering growth; and to trace this back to its parent stem is the necessary but not easy task of the geographer.

The complexity of this problem does not end here. The modification of human development by environment is a natural process; like all other natural processes, it involves the cumulative effects of causes operating imperceptibly but persistently through vast periods of time. Slowly and deliberately does geography engrave the sub-titles to a people's history. Neglect of this time element in the consideration of geographic influences accounts equally for many an exaggerated assertion and denial of their power. A critic undertakes to disprove modification through physical environment by showing that it has not produced tangible results in the last fifty or five hundred years. This attitude recalls the early geologists, whose imaginations could not conceive the vast ages necessary in a scientific explanation of geologic phenomena.

The theory of evolution has taught us in science to think in larger terms of time, so that we no longer raise the question whether European colonists in Africa can turn into negroes, though we do find the recent amazing statement that the Yankee, in his tall, gaunt figure, "the colour of his skin, and the formation of his hair, has begun to differentiate himself from his European kinsman and approach the type of the aboriginal Indians."[28] Evolution tells the story of modification by a succession of infinitesimal changes, and emphasizes the permanence of a modification once produced long after the causes for it cease to act. The mesas of Arizona, the earth sculpture of the Grand Canyon remain as monuments to the erosive forces which produced them. So a habitat leaves upon man no ephemeral impress; it affects him in one way at a low stage of his development, and differently at a later or higher stage, because the man himself and his relation to his environment have been modified in the earlier period; but traces of that earlier adaptation survive in his maturer life. Hence man's relation to his environment must be looked at through the perspective of historical development. It would be impossible to explain the history and national character of the contemporary English solely by

[28] Hans Helmolt, History of the World, Vol. II, pp. 244–245. New York, 1902–1906.

their twentieth century response to their environment, because with insular conservatism they carry and cherish vestiges of times when their islands represented different geographic relations from those of today. Witness the woolsack of the lord chancellor. We cannot understand the location of modern Athens, Rome or Berlin from the present day relations of urban populations to their environment, because the original choice of these sites was dictated by far different considerations from those ruling to-day. In the history of these cities a whole succession of geographic factors have in turn been active, each leaving its impress of which the cities become, as it were, repositories.

The importance of this time element for a solution of anthropo-geographic problems becomes plainer, where a certain locality has received an entirely new population, or where a given people by migration change their habitat. The result in either case is the same, a new combination, new modifications superimposed on old modifications. And it is with this sort of case that anthropo-geography most often has to deal. So restless has mankind been, that the testimony of history and ethnology is all against the assumption that a social group has ever been subjected to but one type of environment during its long period of development from a primitive to a civilized society. Therefore, if we assert that a people is the product of the country which it inhabits at a given time, we forget that many different countries which its forbears occupied have left their mark on the present race in the form of inherited aptitudes and traditional customs acquired in those remote ancestral habitats. The Moors of Granada had passed through a wide range of ancestral experiences; they bore the impress of Asia, Africa and Europe, and on their expulsion from Spain carried back with them to Morocco traces of their peninsula life.

A race or tribe develops certain characteristics in a certain region, then moves on, leaving the old abode but not all the accretions of custom, social organization and economic method there acquired. These travel on with the migrant people; some are dropped, others are preserved because of utility, sentiment or mere habit. For centuries after the settlement of the Jews in Palestine, traces of their pastoral life in the grasslands of Mesopotamia could be discerned in their social and political organization, in their ritual and literature. Survivals of their nomadic life in Asiatic steppes still persist among the Turks of Europe, after six centuries of sedentary life in the best agricultural land of the Balkan Peninsula. One of these appears in their choice of meat. They eat chiefly sheep and goats, beef very rarely, and swine not at all.[29] The first two thrive on poor pastures and travel well, so that they are admirably adapted to nomadic life in arid lands; the last two, far less so, but on the other hand are the regular concomitant of agricultural life. The Turk's taste to-day, therefore, is determined by the flocks and herds, which he once pastured on the Trans-Caspian plains. . . .

The origin of Roman political institutions is intimately connected with conditions of the naturally small territory where arose the greatness of Rome. But now, after two thousand years we see the political impress of this narrow origin spreading to the governments of an area of Europe immeasurably larger than the

[29] Roscher, *National-oekonomik des Ackerbaues*, p. 33, note 3. Stuttgart, 1888.

region that gave it birth. In the United States, little New England has been the source of the strongest influences modifying the political, religious and cultural life of half a continent; and as far as Texas and California these influences bear the stamp of that narrow, unproductive environment which gave to its sons energy of character and ideals. . . .

A people may present at any given time only a partial response to their environment also for other reasons. This may be either because their arrival has been too recent for the new habitat to make its influence felt; or because, even after long residence, one overpowering geographic factor has operated to the temporary exclusion of all others. Under these circumstances, suddenly acquired geographic advantages of a high order or such advantages, long possessed but tardily made available by the release of national powers from more pressing tasks, may institute a new trend of historical development, resulting more from stimulating geographic conditions than from the natural capacities or aptitudes of the people themselves. Such developments, though often brilliant, are likely to be short-lived and to end suddenly or disastrously, because not sustained by a deep-seated national impulse animating the whole mass of the people. They cease when the first enthusiasm spends itself, or when outside competition is intensified, or the material rewards decrease. . . .

The history and culture of a people embody the effects of previous habitats and of their final environment; but this environment means something more than local geographic conditions. It involves influences emanating from far beyond the borders. No country, no continent, no sea, mountain or river is restricted to itself in the influence which it either exercises or receives. The history of Austria cannot be understood merely from Austrian ground. Austrian territory is part of the Mediterranean hinterland, and therefore has been linked historically with Rome, Italy, and the Adriatic. It is a part of the upper Danube Valley and therefore shares much of its history with Bavaria and Germany, while the lower Danube has linked it with the Black Sea, Greece, the Russian steppes, and Asia. The Asiatic Hungarians have pushed forward their ethnic boundary nearly to Vienna. The Austrian capital has seen the warring Turks beneath its walls, and shapes its foreign policy with a view to the relative strength of the Sultan and the Czar.

The earth is an inseparable whole. Each country or sea is physically and historically intelligible only as a portion of that whole. Currents and wind-systems of the oceans modify the climate of the nearby continents, and direct the first daring navigations of their peoples. The alternating monsoons of the Indian Ocean guided Arab merchantmen from ancient times back and forth between the Red Sea and the Malabar coast of India.[33] The Equatorial Current and the northeast trade-wind carried the timid ships of Columbus across the Atlantic to America. The Gulf Stream and the prevailing westerlies later gave English vessels the advantage on the return voyage. Europe is a part of the Atlantic coast. This is a fact so significant that the North Atlantic has become a European sea. The United States also is a part

[33] Bunbury, History of Ancient Geography, Vol. II, pp. 351, 470–471. London, 1883.

of the Atlantic coast: this is the dominant fact of American history. China forms a section of the Pacific rim. This is the fact back of the geographic distribution of Chinese emigration to Annam, Tonkin, Siam, Malacca, the Philippines, East Indies, Borneo, Australia, Hawaiian Islands, the Pacific Coast States, British Columbia, the Alaskan coast southward from Bristol Bay in Bering Sea, Ecuador and Peru.

As the earth is one, so is humanity. Its unity of species points to some degree of communication through a long prehistoric past. Universal history is not entitled to the name unless it embraces all parts of the earth and all peoples, whether savage or civilized. To fill the gaps in the written record it must turn to ethnology and geography, which by tracing the distribution and movements of primitive peoples can often reconstruct the most important features of their history.

Anthropo-geographic problems are never simple. They must all be viewed in the long perspective of evolution and the historical past. They require allowance for the dominance of different geographic factors at different periods, and for a possible range of geographic influences wide as the earth itself. In the investigator they call for pains-taking analysis and, above all, an open mind.