

The Tradition of Examining the Effect of the Natural Environment on Human Society, or Environmental Determinism in Pre-Modern History

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The issue of the effect of the natural environment on human society has been (and still is being) an important topic in geographical literature since ancient times. Scholars have queried to what degree natural conditions influence the human population, its character and history, for many years and have presented various theses, theories and concepts, which they have used to try and describe this mutual relationship. The aim of this article is to present this long-standing conceptual tradition in basic outlines, from its oldest manifestation in ancient Greece to the birth of modern science at the beginning of the 19th century. Different approaches from Hippocrates, through Strabo, Ibn Khaldūn to Montesquieu will be discussed. However, most geographers in pre-modern history have approached to the topic more or less deterministically.

[Human Geography; Environmental Determinism; History of Science; History of Geography; Antiquity; Pre-Modern History]

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direction of geographic research in today's world, it still forms an important and traditional element of the history of geographical thinking. We can observe this tradition in history as a red thread emanating from ancient times and connecting scholars across the centuries, from Hippocrates to Carl Ritter and Friedrich Ratzel. The purely deterministic viewpoint of the relationship between nature and mankind has predominated over these long centuries.¹ Nature was considered the determining power, which is to blame for everything, from our physical and mental attributes, to our habits and the nature of the state establishment. It was simply up to each scholar how much influence he attributed to the natural environment.

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Ancient and Medieval Tradition

People in ancient Greece were already aware of the link between man, or human society, and the surrounding environment. The oldest document demonstrating this belief is the volume titled *On Airs, Waters and Places*,² which was most probably written by Hippocrates of Kos (approx. 460–375 BC).³ Even though this volume is more of a medical nature, it also discusses geographical and climatological factors, which have (from the author's viewpoint) an impact on the health of man and occurrence of disease. It is Hippocrates' opinion that the location of human settlements, the local climate, the type and quality of the available water, all has a fundamental impact on mankind and his health. And not only on health. The aforementioned factors not only affect man's susceptibility to suffer from various types of dis-

¹ Miroslav MARŠÍK attempted to clarify the actual theoretical core of geographical determinism and its key development trends in history in his *K otázce determinismu ve vztahu přírodního prostředí a společnosti* (The Question of Determinism in Relations between Natural Environment and Society), in: *Sborník československé společnosti zeměpisné*, 68, 2, 1963, pp. 139–148.

² HIPPOCRATES, *Aforismy. Prognostikon. O vzduchu, vodách a místech*, Praha 1993.

³ Hippocrates' authorship is not certain. Some researchers are of the opinion that one of his students was more likely the author of the volume or that there could have been two authors. H. BRUUN, *De morbo sacro and De aëre aquis locis*, in: *Classica et mediaevalia. Revue danoise de philologie et d'histoire*, 48, 1997, p. 133.

ease, but also man's physical strength, mental and moral traits and overall lifestyle. For example, Hippocrates endeavoured to use Asia⁴ as an example to show us that where the land is "the most fertile, abundantly forested, has the clearest sky and the best rain and spring water [and where] it is not too scorched by the heat, desiccated by drought and lack of rains or made to miserable by the cold [...] then the land naturally produces abundant fruits [...]. People are well-nourished here and have beautiful and lithe figures differing very little from each other in figure and size [here] [this is a reference to the seeming similarity of the physical traits⁵ of people inhabiting the Near or Central East, compared to the diversity and variability of the population of Europe⁶ – author's note]. It is natural that such a region is very similar to spring, also due to the mildness of its seasons. Masculinity, patience, diligence and courage cannot develop under such conditions [...], but hedonism rules here from necessity"⁷. According to Hippocrates the people populating Asia, are less aggressive and less courageous than Europeans as a result of the favourable, stable climate, which does not change much: "the manners [of Asians] are more moderate, which is mostly caused by the seasons, which do not change greatly and are neither too hot or too cold, but remain constant. As a result, the population is not subject to excessive excitement or excessive physical transformations, which cause the nature to become wild and increase in tenacity and quick-temperedness, than when a person lives constantly in the same state. Because constant changes are what encourages the spirit of man, not permitting him to be inactive"⁸. But he immediately adds that "lack of courage" and the general character of the Asian population is not only caused by the climatic conditions and the natural environment, but also by the political system and form of government: "those who would be endowed with masculinity and braveness by nature, change their

⁴ However, in Hippocrates' time the total area and diversity of Asia was not yet known. It is known that for example in Herodotus' time the geographical knowledge of the ancient Greeks reached to the east from the Caspian Sea to approximately 47 degrees latitude and 67 degrees longitude, which encompasses the area of northern Iran, Afghanistan, Pakistan and the north-east of India with the basin of the Indus River, at most.

⁵ E. g., skin and hair colour, etc.

⁶ He explains the variability of European inhabitants at the end of his volume, see HIPPOCRATES, p. 108.

⁷ Ibidem, p. 104.

⁸ Ibidem, p. 105.

nature as a result of the effect of the laws".⁹ We can unfortunately only guess whether Hippocrates identified climatic and natural influences to be the cause of origin of despotic state formations in Asia. In any case "a situation [climatic] that is constantly the same results in indifference, whereas constant changes are a condition for physical and mental stress; peace and indifference also cause increased cowardice, whereas hard work causes greater courage. This is why the inhabitants of Europe are more aggressive than Asians, and this is also due to their laws, because they are not ruled by their kings like the inhabitants of Asia".¹⁰ At the end of his volume Hippocrates repeats: "Where the seasons change very frequently and where the differences are very marked, that is where you will also find very diverse forms, manners and natures. These are therefore the main reasons for changes in personality, followed by the soil on which mankind lives and finally water; you will certainly find that the forms and behaviour of people usually adapt to the landscape."¹¹ As well as the climate, which Hippocrates emphasises along with the flow of air and the changing of the seasons throughout his volume, he also considers the soil and water in general to be very important. With regard to the morphological diversity of the human population, its character, physical and mental competence, it seems that he even attributed decisive importance to the aforementioned factors. Even though Hippocrates' authorship is speculative, this is a very remarkable elaboration of a theory about the influence of natural conditions on mankind.

The volume titled *On Airs, Waters and Places* gave rise to an interesting philosophical tradition, which scholars and writers of the ancient world, who followed Hippocrates, continued to develop. It is impossible to list and analyse all the articles on the topic of the relationship between the natural environment and human society that appeared during ancient times,¹² however, at least those that are either very distinctive or that continued to develop this philosophical tradition will be briefly introduced as an example.

We also encounter evaluation of the influence of the geographic environment in works by the Ancient Greek historian Ephorus of Cyme

⁹ Ibidem.

¹⁰ Ibidem, p. 108.

¹¹ Ibidem.

¹² An article on this topic was presented for example by R. PÖHLMANN, *Hellenische Anschauungen über den Zusammenhang zwischen Natur und Geschichte*, Leipzig 1897.

(approx. 405–330 BC). In his *History*, written in approximately 357 BC, Ephorus evaluated the geographical location of Boeotia¹³ in comparison to neighbouring regions. He therefore derived specific prerequisites for a Boeotic hegemony in a specific area from the advantages of its location. However, due to the lack of education and training of the local elite, this advantageous geographic location was allegedly not utilised.¹⁴ It can therefore be assumed that Ephorus did not consider the natural environment to be the decisive factor in regard to human history, but mankind itself. It is interesting that while Hippocrates was interested in the influence of natural conditions on the health, personality and character of a person alone, Ephorus was interested in another topic. Can geographic factors affect development of human history? In spite of the fact that, with a little exaggeration, we could call Ephorus a geographic indeterminist today, the discussion that followed his works produced many writers who thought exactly the opposite. For example, in 1828 the French philosopher Victor Cousin stated, in his published course of philosophy: “give me a map of the country, its configuration, its climate, its waters, its winds and its complete physical geography; give me its natural products, its flora, its fauna, etc. and I will a priori describe the humans of this country and what role this country will play in history; not randomly, but necessarily; not at a specific time, but always”.¹⁵ Cousin was not the first or the last follower of similar opinions. Natural or geographical determinism predominated in geographical literature until practically the middle of the 20th century.

Historian, diplomat and traveller Megasthenes (approx. 350–290 BC) also contributed to this topic during the Hellenistic period. Even though it was lost and we only have fragments available today, his volume *Indica* was the main source of information about India in its time (or more specifically about the Hindustan region, which he personally visited).¹⁶ In spite of the fact that he also noticed the specific geographic and climatic conditions of a country (particularly monsoons)

¹³ This is a historic Greek territory located to the north of the eastern part of the Gulf of Corinth, it neighbours Attica on the mainland, which is to the South-East.

¹⁴ B. HORÁK, *Dějiny zeměpisu I. Starověk a středověk*, Praha 1954, p. 30.

¹⁵ V. COUSIN, *Cours de philosophie. Introduction à l'histoire de la philosophie*, Paris 1828, chap. 8, pp. 17–18; also quote G. HEYDEN, *Teorie životního prostoru*, Praha 1960, p. 39.

¹⁶ G. SARTON, *Hellenistic Science and Culture in the Last Three Centuries B. C.*, New York 1993, p. 7.

and accurately described the system of watercourses in the northern area of India, he devoted most of his attention to the population, its personality, lifestyle, political establishment, social order and particularly its religion. He considered mankind to be a product of the country and the soil. He derived man's physical traits from the fertility of the land and he reasoned that the Indians' great talent for art and craft came from the pure air and from drinking very good water.¹⁷ Hippocrates' influence on Megasthenes is evident and was very strongly apparent in the works of the best-known historian of the Hellenistic period, Polybius (approx. 200–118 BC), who, in his *Histories*, explained the causes of the hard moral life of the population of Arcadia, who "are all dependant on their own work and basically lead an arduous and hard life [...] their rough behaviour [is] caused by the cold and harsh climate, which usually reigns over this region and to which all people have to adapt. This is the real reason why ethnic groups living in various places differ from each other from the aspect of their behaviour, appearance and colour of their skin and also their general lifestyle".¹⁸

The work by Greek philosopher, historian and geographer Strabo (64 BC – 21 AD) is the culmination of the ancient concept of the influence of natural conditions on society. In his *Geography* (*Geographica*), the most extensive geographic work of ancient times,¹⁹ he provided a description of individual countries,²⁰ where he discussed the structure of the surface and also the economic and cultural conditions, with frequent inserts from the field of history or fauna and flora. He himself considered geography more a philosophical branch, the role of which

¹⁷ HORÁK, p. 41; J. W. McCRINDLE (ed.), *Ancient India as described by Megasthenes and Arrian*, London 1877, p. 31.

¹⁸ POLYBIOS, *Dějiny II (kniha III–V)*, volume IV, Praha 2009, p. 124.

¹⁹ However, the importance of Strabo's *Geographica* is not just in its respectable size (17 volumes), which has surprisingly survived practically whole (only a very small part is missing), but also in the fact that most of the knowledge about ancient geography is provided to us by Strabo himself. Many older works have either irrevocably disappeared or only fragments have survived. Fortunately, the first part of Strabo's monumental work is a sort of critique of all previous geographic works, beginning with Homer. G. J. MARTIN, *All Possible Worlds. A History of Geographical Ideas*, New York – London 2005, p. 34.

²⁰ The first two volume contain critiques of previous scholars and a summary of their geographical knowledge. These are followed by eight volumes devoted to Europe, another six to Asia and the last volume devoted to the region of Africa known at the time, but mainly to Egypt and the region of Ethiopia.

is to determine the relationship between the natural conditions of individual landscape areas and the cultural condition of the population. As a result, he asked what impact does the geographic environment have on development of history. On the contrary to his predecessors, he assumed a more cautious standpoint. He considered the climate and the character of the natural environment on one hand, and unrestricted activities and the creative power of the “nations” on the other hand more or less equal factors: *“In comparison to other continents, Europe has various advantages given by nature, which have made it the most suitable region for perfecting the human generation. Only a small area is uninhabitable due to the cold. The cold and mountainous landscapes are sparsely populated, but if they receive industrious educators, their population becomes milder. So the Hellenes, even though they lived on mountainous and rocky soil, lived a happy life, devoting energy to state administration, art and everything that is the purpose of life. The Romans were credited with civilising numerous regions, which had previously been sparsely populated, harsh and enclosed, which they conquered and made accessible.”*²¹ Strabo, like his predecessors, also placed great importance on the geographic environment and the climate when he wrote that *“fertile plains with a mild climate have mild populations, poor areas have aggressive and rough populations and both these groups complement each other”*.²² He also puts forth a completely new opinion: *“If they do not help each other, the armed group has the advantage, unless its aggression is balanced by the number of its opponents. But Europe also has beneficial conditions in this aspect. It is entirely permeated by plains and mountains, so the settled agricultural element is evident next to the aggressive element. However, the friends of peace are more numerous and therefore have the advantage with the support of ruling nations, initially the Hellenes, subsequently the Macedonians and Romans.”*²³ Strabo therefore believed that a sort of battle historically took place between the peaceful population of the fertile lowlands and the aggressive residents of poor mountainous regions. In the sixth volume of his work Strabo discusses the causes of the rise of the Roman Empire. He believes that the geographic location of Italy, which he considers

²¹ Strabo is paraphrased by HORÁK, pp. 56–57; cf. B. FARRINGTON, *Věda ve starém Řecku a její význam pro nás II. Od Theofrasta po Galena*, Praha 1951, pp. 133–134.

²² HORÁK, pp. 56–57.

²³ Ibidem.

exceptionally advantageous, is a key factor in this issue.²⁴ The Apennine peninsula forms the natural centre of the Mediterranean region, it has numerous harbours and the sea itself, the importance of which he emphasises the most, it affords extensive opportunity for fishing, trade and transport by sea. This was a very important observation by Strabo. Modern political geography continues to rate the importance of seas and oceans, in relation to the wealth and power of nations, very highly. As a result of his assessment of the geographical location of Italy and his perception of the importance of the Mediterranean Sea in relation to the expansion of the Roman Empire, we could call Strabo the forefather of political geography with a little exaggeration. Geoffrey J. Martin also comments that “*Strabo wrote for a specific group of readers: the educated statesman and military commanders. His purpose was to provide a text for the information of Roman administrators and military commanders*”.²⁵ This also meant that his sphere of interest was close to that of political geographers and geo-politicians of the era of European imperialism at the end of the 19th century.

In the middle ages scholars of the Latin cultural circle had no interest at all in the influence of the natural environment on human society (as far as we know). The church was the provider of medieval learning, and although it facilitated some results of ancient learning with which church’s religious dogma was forced to come to terms with, medieval thinking was generally based on the religious perception of the world. The earth, all fauna and flora and also man (including his morphological variations) were the work of God. The act of creation gave the world unchanging natural laws and each natural phenomenon was subject to the will of God. Speculation about the degree of natural determinism was absolutely inconsequential.

Latin geographic literature of the early Middle Ages was itself fairly inconsequential. It is limited to compilation work, which is partially based on the findings of Christian missionaries and traveller, and mostly on the knowledge of ancient authors. It was only at the beginning of the high middle ages, when universities flourished in the 11th and 12th centuries, that the foundations of unrestricted learning and science²⁶ were laid and interest in geography was rekindled. Re-

²⁴ FARRINGTON, p. 135.

²⁵ MARTIN, p. 35.

²⁶ However, scholastics always insisted on the correctness of the Christian teachings.

ports from travellers into the interior of Asia from the 13th and 14th centuries began to expand geographic knowledge and also incite interest in new geographic discoveries and overseas expeditions. In spite of increasing geographic knowledge, the nature of medieval geography remained strictly toponymic, topographic and ethnographic. Geographic works (with some exceptions)²⁷ retained this nature until the scientific revolution commenced at the turn of the 15th and 16th centuries. But even then, geographers did not devote their energy to the relationship between the natural environment and human society. This topic, which was unlocked in ancient times, was chiefly developed by philosophers within the terms of the philosophy of history.

A completely different level of geographic science was characteristic of the Arabic civilizational group in the middle ages. Ancient volumes, not only in the field of mathematics, astronomy and medicine and also geography, were protected, translated and reproduced in the Arabic world. Arabic historian and philosopher of history Ibn Khaldūn (1332–1406) was one Muslim scholar, whose works and whose discussion of the influence of the natural environment on the human population contributed to geography. In 1377 he completed an extensive introduction into his world history, known under the title of *Muqaddimah*.²⁸ In this work he examines the causes of the rise and fall of civilisations and presents his philosophy of history. According to Ibn Khaldūn, the historic process is governed by specific laws of the development of society, which, in spite of not having absolute validity as natural laws, are still fairly constant and mean that the same conditions result in the same consequences. These laws are primarily valid for the whole of society and essentially cannot be influenced by

They simply endeavoured to present all learning in compliance with the “only truth” as it was understood by the church. They never tried to rationally understand the whole of human knowledge and experience without freeing themselves of the bindings of church dogmas. As clergymen they wrote for clergymen and to the benefit of the church and the Christian faith. Their only motive for writing was to support the church’s truth and redemptive knowledge of God. G. H. T. KIMBLE, *Geography in the Middle Ages*, London 1938, pp. 91–92.

²⁷ For example Albertus Magnus, see HORÁK, pp. 111–112.

²⁸ The entire work bears the rhymed title *Kitābu l-‘ibari wa Dīwāni l-Mubtada’ wal-Habar fī ayāmi l-‘arab wal-‘ajam wal-barbar, waman ‘Āsarahum min Dhawī sh-Shalṭāni l-Ākbār* [Book of Lessons, Record of Beginnings and Events in the History of the Arabs and the Berbers and Their Powerful Contemporaries].

the actions of an individual. However, they can be exposed on the basis of historic study of a significant number of facts, observation of a number of parallels and causes and consequences. In spite of the fact that Ibn Khaldūn considers social factors such as cohesiveness, wealth, method of subsistence, employment, etc. to be of much greater importance from the aspect of the formation of history,²⁹ he attributed a different meaning to the natural environment. Like most Greek philosophers he was convinced that the earth is shaped like a ball, whereas he divided its populated northern hemisphere into seven earth zones according to climate: *“populated area [...] has its centre in the direction of the north as a result of excessive heat to the south and excessive cold to the north. The north and south represent the opposite limits of cold and heat. [...] The fourth earth zone is the mildest populated area. The neighbouring third and fifth earth zones are close to it in mildness. The sixth and second earth zones, which adjoin them, are far from mild and the first and seventh earth zones are even less mild”*.³⁰ Ibn Khaldūn stated that the closer to the centre (of the fourth mild earth zone) the human population is located, the better the conditions for an advanced culture and “balance” and vice versa. *“With regard to the residents of the various earth zones, which are far from balance, such as the first, second, sixth and seventh zones, these are also far from balance in all aspects. Their houses are made from mud or reeds, their food is millet and grasses, their clothes are made from the leaves of trees, which they sew together to cover themselves, or the skins of animals. However, they mostly go naked. The fruits and vegetables in their countries are unusual. They do not use either rare metal for trade, but copper, iron or furs, for which they determine an exchange value. Their personality traits are close to the traits of animals. It is even said that many blacks from the first earth zone live in caves and thickets, eat wild plants, live in wild solitude and do not associate with each other, but on the contrary eat each other. The Slavs are in a similar situation. The cause of this is that the distance from the mild zones creates an inclination and nature similar to the nature of animals, which makes them distant from humanity. The same applies to their religious situation. They do not know the prophet’s or have any religious law, with the exception of an inconsequential minority, which lives near the mild zone. [...] [With some exceptions] the population of the harsher zones to the south and*

²⁹ I. HRBEK, Ibn Chaldún: osudy politika a myslitele, in: IBN CHALDÚN, *Čas království a říší Mukaddima. Úvod do historie*, Praha 1972, p. 24.

³⁰ IBN CHALDÚN, *Čas království a říší Mukaddima. Úvod do historie*, Praha 1972, p. 111.

north knows no religion and science is unfamiliar to them. Their entire situation is remote from the conditions of humankind and close to the conditions of wild animals."³¹ On the contrary, "the population of the middle zones is balanced in its physical and personality traits and in its lifestyle; it has all the natural conditions essential for a civilised life, such as methods of subsistence, accommodation, crafts, science, political guidance and royal authority. And this is also why they have prophets, religious sects, dynasties, religious laws, science, provinces, towns, buildings, gardening, arts and everything that is restrained. The populations of these earth zones, if we have historic reports of them, include for instance the Arabs, Byzantines, Persians, Israelites, Greeks, Indians and Chinese".³² In spite of the fact that Ibn Khaldūn considers the classification of populations in specific earth zones crucial for cultural conditions, he admits that the fertility of the populated region and the resulting structure of the food also has a great influence on the character of the population. In regions that are distinguished by their fertility: "large amounts of food and its moistness create harmful excess substances in the body, which cause uneven enlargement of the body and also cause excessive spoiled and rotten matter. This results in pale skin and an ugly body, because such people have too much meat. When the moisture with its negative vapours reaches the brain, the mind and the ability to think are clouded. This results in stupidity, indifference and general immoderation".³³ Ibn Khaldūn believes that healthiest and most beautiful human bodies and the best spiritual nature can be found in people inhabiting desert regions in the central earth zone. A moderate life allegedly develops the best virtues such as moderation, an open mind to knowledge and understanding, and also a greater degree of devoutness.³⁴ With regard to development of history, Ibn Khaldūn perceives it dialectically. He identified two basic groups across the human population: desert or steppe nomads³⁵ and settled cultural inhabitants of cities and the surrounding areas. He places both these groups in opposition, whereas he considers one of the driving forces of history to be their mutual encounters and influence on each other. He also understands specific

³¹ Ibidem, pp. 112–113.

³² Ibidem, p. 115.

³³ Ibidem, pp. 118–119.

³⁴ Ibidem, pp. 119–120.

³⁵ However, he also includes semi-nomads and settled rural farming populations in remote areas in this category, see HRBEK, p. 29.

phases in the development of history. He describes the phases of the rise of centres of power accompanied by the flourishing of culture and power, which alternate with phases of stagnation or decline accompanied by corruption, which subsequently leads to decline and the fall of civilisation.³⁶ As soon as this occurs the original civilisation succumbs to the invasion of “barbarian” nomads, who establish their own civilisation on the ruins of the former civilisation, which is enriched by the learning and art of the conquered culture. However, the conquerors gradually also become settled and more “peaceful” until they are themselves conquered by a new wave of arriving nomads.³⁷ Ibn Khaldūn thereby expressed a number of important ideas and provided a very interesting concept of the development of history and a theoretical framework, which will appear in various versions in many volumes by modern historians.³⁸

Modern Tradition (16th–18th Centuries)

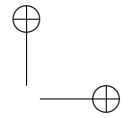
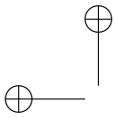
As mentioned previously, until the first half of the 19th century only philosophers were interested in the relationship between the geographical environment and human society, chiefly within the terms of the philosophy of history, or thinkers whose interests overlapped into the humanities and social sciences. At the beginning of the new age, disputations were re-opened by French philosopher, humanist and political theoretician Jean Bodin (1530–1596), who queried the causes of constant historic changes, whereas he was chiefly interested in the different fates of state formations. He endeavoured to explain the causes of historic processes chiefly in his two pivotal works: *Method for the easy knowledge of history* (*Méthode pour faciliter la connaissance de l'histoire / Methodus ad facilem historiarum cognitionem*, 1566) and *The Six Books of the Republic* (*Les Six Livres de la République / De republica libri sex*, 1576). According to Bodin historic changes and the fates of states depend on:

1. a metaphysic (godly) being,

³⁶ MARTIN, pp. 50–51; R. E. DICKINSON – O. J. R. HOWARTH, *The Making of Geography*, Oxford 1933, pp. 53–54.

³⁷ T. CRESSWELL, *Geographic Thought. A Critical Introduction*, Chichester 2013, p. 27.

³⁸ W. E. GATES, The Spread of Ibn Khaldūn's Ideas on Climate and Culture, in: *Journal of the History of Ideas*, 28, 3, 1967, pp. 415ff.



2. human will and
3. natural influences.

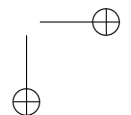
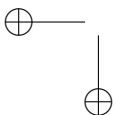
However, he came to the conclusion that revealing the influences of metaphysic (godly) will is outside the realm of human understanding. Even human will is so variable and incalculable that it cannot be the subject of research. This is why he focused on revealing innate or natural influences at least. It is clear that he drew inspiration from ancient thinkers. Of all the geographical factors, he attributed the greatest importance to climate.³⁹ In order to demonstrate that climate affects humans he divided the globe from the equator on both sides into three zones up to the poles. By doing this he defined the equatorial zone, which is scorched by the sun, then the polar zone, which is rigid with cold and finally the moderate zone. He then classified nations into these zones and explained their differences as a result of the various climatic conditions in which these nations live. In his opinion, people in cold countries are physically strong and aggressive, whereas those in warmer countries are more spiritually and intellectually talented: “the greatest military commanders come from the north, but art, philosophy and mathematics originated in the south”.⁴⁰ He believed that this indicates that people who live between these zones, in a favourable climate, are gifted with an average of both spiritual and physical abilities.⁴¹ Bodin’s opinion reveals that he drew inspiration from much older traditions and that he was undoubtedly very familiar with Hippocrates and other ancient authors.⁴² However, Bodin does not restrict himself to simply describing the influence of the climate. In compliance with the assumption at the time that the constellation of the planets and stars could have an actual influence on the fates of people and nations, he also took astronomic influences into account. In his opinion people who live in southern regions of the world are influenced by the planet Saturn, in the sense that their lives are permeated by religious contemplation. On the contrary, people who live in northern regions

³⁹ M. J. TOOLEY, Bodin and the Mediaeval Theory of Climate, in: *Speculum*, 28, 1, 1953, pp. 64–83.

⁴⁰ HEYDEN, p. 25.

⁴¹ Ibidem, pp. 24–25.

⁴² D. N. LIVINGSTONE, *The Geographical Tradition. Episodes in the History of a Contested Enterprise*, Malden – Oxford – Merlbourne – Berlin 2008, p. 97.



are influenced by Mars, they are aggressive and are excellent at using mechanical devices. And finally, people from the central zone are influenced by Jupiter and are capable of achieving a civilised lifestyle within the terms of a legal state.⁴³

Of course we could mention a number of philosophers and writers who expressed an opinion or somehow touched on the topic of the influence of the natural environment on human society from the 17th to the middle of the 18th century.⁴⁴ It was only French enlightened philosopher Charles Louis Montesquieu (1689–1755) who endeavoured to elaborate on the topic more complexly in his work *The Spirit of the Laws* (*L'esprit des lois*, 1748). On the contrary to his predecessors, he endeavoured to substantiate his statements by observation or by studying literature of an ethnographic nature or reports from travels. The primary goal of his volume was to reveal and examine all relations that collectively form the so-called spirit of law. This spirit “consists of the various relations that laws can have to various things”.⁴⁵ He was interested in revealing the structure of law and relations, customs and traditions, which determine such law or legal relations. Montesquieu states that laws “must be intrinsic to the humans for which they were created [...]”.⁴⁶ Because laws must apply to the nature and principles of government. Laws must apply to the natural conditions of the country; to the cold, hot or mild climate; to the quality of the soil, to the location of the region and its size; to the lifestyle of the people, who may be farmers, hunters or shepherds; the laws must be in relation to the level of freedom [...]; to the religion of the population and to its affections, wealth, number, trade, to its morals and customs”.⁴⁷ It is important to realise that his concept of the law was firmly anchored in a deistic understanding of the world. For him “the very idea of the law, whether natural or social, only made sense in

⁴³ MARTIN, p. 96.

⁴⁴ For example, Jean Chardin (1643–1713) in his work *Voyages de monsieur le chevalier Chardin en Perse et autres lieux de l'Orient* (1711); Giambattista Vico (1668–1744) in his work *Principi di scienza nuova. D'intorno alla comune natura delle nazioni* (1725); Voltaire (1694–1778) in his work *Essay sur l'histoire générale, et sur les moeurs et l'esprit des Nations, depuis Charlemagne jusqu'à nos jours* (1761–1763), subsequently in *Essai sur les moeurs et l'esprit des nations* (1771); Georges Louis Leclerc de Buffon (1707–1788) in his work *Histoire naturelle de l'homme* (1749), are mentioned in literature.

⁴⁵ Ch. L. MONTESQUIEU, *O duchu zákonů I*, I/3, Praha 2010, p. 20.

⁴⁶ “[T]he laws of one nation can only very occasionally suit another nation.” Ibidem, p. 20.

⁴⁷ Ibidem, pp. 20–21.

the context of the belief in a supremely intelligent being. Just as every artefact has a craftsman and every machine an artisan, so each law has a legislator, whether human or divine".⁴⁸ The volume originated at a time when the opinion that nature functions as a complicated machine predominated in western society.⁴⁹ Mechanical and mathematical understanding of the world also applied to human beings. Even the human body can be considered a machine.⁵⁰ Scholars believed that the human body was made up of solid substances and fluids, whereas the basic building block of the entire body is the "fibre". This conviction enabled Montesquieu to establish a basic premise: "Cold air shrinks the edges of the outer fibres of our body, which increases the flexibility of these fibres and promotes the flow of blood back to the heart. Cold air also reduces the length of these fibres,⁵¹ whereby it continues to increase their strength. On the contrary, warm air loosens the edges of the fibres and extends them, thereby reducing their strength and flexibility."⁵² From this assumption he logically derives that "people from colder climates are therefore more capable. The activity of the heart and the reactions at the ends of the fibres are better here, the bodily fluids are in better balance, the blood moves more easily back to the heart, so the heart is stronger. [...] People living in warmer climates are timid like old people, while people living in cold climates are bold like young people".⁵³ On the other hand, "in a colder climate people will not be very sensitive to pleasures; this sensitivity will be greater in a mild climate and extreme in a hot climate. Just as we differentiate the climate depending on the latitude, we can also essentially differentiate climate by the level of sensitivity. [...] People who have few vices, sufficient virtues, are very sincere and direct live in northern climates. If you draw nearer to southern lands, you will feel that you are moving away from morals themselves. In countries with a mild climate you will find inconstant people with regard to their behaviour, vices and virtues. The climate here is not so decisive that it fixes their personality. The climate may be so hot that it leaves a body without strength. In this case

⁴⁸ LIVINGSTONE, p. 122.

⁴⁹ According to French philosopher René Descartes and his followers, God put this mechanical universe into motion by giving it the initial push. Isaac Newton also believed that the universe is more like some sort of divine clock, in which God, as the creator, does not interfere any further.

⁵⁰ U. IM HOF, *Evropa a osvícenství*, Praha 2001, p. 168.

⁵¹ Iron rails similarly shrink in sub-zero temperatures for example.

⁵² MONTESQUIEU, XIV/2, pp. 261–262.

⁵³ *Ibidem*, p. 262.

the spirit is suffused with dejection: no curiosity, noble behaviour or generous emotion. All affection will be passive and idleness will be an advantage here".⁵⁴ It is clear from the excerpts above that Montesquieu considers the climate a decisive factor for the physical and mental nature of the human population. In his opinion a hot and constant climate makes nations idle and timid, on the contrary, a cold climate produces courage and aggression. However, it is also clear from this volume that the climate also has a specific effect on the "spirit of law", i. e. the nature of the government and the legal arrangement of the state, or even the customs and standards of a specific society. He gives the existence of slavery as an example, as it is more natural and better justified in hot southern countries, where *"the heat exhausts the body [so] that only the fear of being punished can make people carry out hard work"*.⁵⁵ The climate may also influence history itself. Montesquieu writes that in geographical areas where hot regions frequently neighbour cold regions, or where strong nations often stand against weak nations, such as in Asia for instance, the frequent occurrence of conflict is inevitable and leads to the subjugation of one nation by another. On the contrary, in Europe where climatic transitions and differences between nations are smaller, the conflict is not as dramatic.⁵⁶ However, even when a nation was conquered by another and *"the nation lost its laws, the climate [ensured] that these were not lost irrevocably"*.⁵⁷ The spirit of the law is therefore a specific reflection of the geographic environment. But it is not just the climate that reflects the spirit of the law. Montesquieu also attributes great influence to the soil and the surface of the populated land: *"Fertile land in a specific country naturally introduces subordination. [...] The government of one is therefore more frequent in countries with fertile soil and the government of many in countries where the soil is not as productive."*⁵⁸ He demonstrates this on the example of different government systems in the states of ancient Greece: *"The poor soil of Attica gave rise to a government of the people, while the fertile soil in Sparta gave rise to an aristocratic government."*⁵⁹ He gives the following explanation:

⁵⁴ Ibidem, p. 263.

⁵⁵ Ibidem, XIV/7, p. 282.

⁵⁶ Ibidem, XVII/3–4, pp. 314–315.

⁵⁷ Ibidem, XVII/3, p. 314.

⁵⁸ Ibidem, XVIII/1, p. 319.

⁵⁹ Ibidem.

*"Fertile lands represents a plain on which it is absolutely impossible to fight someone who is stronger over something. The weaker therefore submits and if he is conquered, the spirit of freedom cannot return, because rural properties are a guarantee of loyalty. However, in the mountains it is possible to defend the little a person has. Freedom, i. e. a government from which a man takes pleasure, is the only good that is worth everyone defending. Freedom is therefore more likely to occur in mountainous and difficult to access countries than in those in which it seems that nature gave more freely."*⁶⁰

These are very important reflections and statements by Montesquieu, which he used to unify, elaborate on and culminate the surviving ancient tradition. However, many younger authors, who expressed their opinion of the relationship between man and the geographic environment, unfortunately saw Montesquieu as a strict natural determinist and objected to him. He was similarly perceived and condemned by most literature⁶¹ concerned with the history of geography and geographic concepts. Although Montesquieu stated that people in cold climates acquire different characteristics to those in hot climates, more thorough examination of his volumes can reveal that application of suitable laws can minimise the effects of the climate.⁶² As a result, some describe Montesquieu more as a possibilist, rather than a natural determinist.⁶³ Others state that the nature of human populations was "formed"⁶⁴ by environmental factors according to Montesquieu and not predetermined.

Johann Gottfried Herder (1744–1803) was one of the sharpest critics of Montesquieu's concept of natural, or climatic "determinism". The basis of his reasoning was simply the fact that (if we admit that human beings are influenced by the natural environment) it is incorrect to assume that the impact of natural influences was and would be always the same, or universal. In his opinion scholars should cease their constant generalisation and also their summarisation of natural influences into one or two decisive factors.⁶⁵ In his pivotal work titled *Outlines of*

⁶⁰ Ibidem, XVIII/2, p. 320.

⁶¹ E. g., HEYDEN, pp. 25–28.

⁶² MARTIN, p. 97.

⁶³ K. M. KRIESEL, Montesquieu: Possibilistic Political Geographer, in: *Annals of the Association of American Geographers*, 58, 3, 1968, pp. 557–574.

⁶⁴ LIVINGSTONE, p. 122.

⁶⁵ Ibidem.

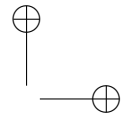
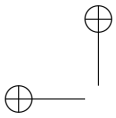
a Philosophy of the History of Man (Ideen zur Philosophie der Geschichte der Menschheit, 1784–1791), he defined his own concept of the relationship between nature and culture or natural environment and society. However, Herder's approach is theological. He considers the world a stage on which a divine drama takes place and where all events have their specific purpose. Herder believed that we can partially reveal God's plans if we follow the traces that he left previously, for instance at the sites of origin of the human species, in the pattern of settlement of the earth by mankind or in the distribution of landmasses on the planet.⁶⁶ With regard to his assessment of the influence of the natural environment on human society and history, he refused Montesquieu's "overestimation" of the influence of climate. According to Herder the climate "does not force, but simply predisposes".⁶⁷ Herder evidently suspected that it is unsustainable to consider practically unchanging climatic conditions to be the cause of constantly changing social relations.⁶⁸ This is why he considered a number of other factors, such as the quality of the soil, vegetation, geographic location, the structure of the coast, etc.⁶⁹ Geographical conditions were one of Herder's most important historic factors. All "historic movement" allegedly depends on these. Herder considers the point of origin of all historic movement and the dispersal of man to be the mountainous region of Central Asia, where the cradle of humanity must apparently be sought in one of the valleys. This is the point from which humans and culture spread along rivers down to the lowlands. According to Herder most historic movement was descendant i. e. from mountainous areas to the lowlands. Mountainous areas are the epicentres of historic activity. This is where nations that are virtuous, aggressive and bold arise, which then "flood" the lowlands and renew the energy of the exhausted tribes there. On the basis of this theory Herder examined the correlation between various historic processes and the location, shape, height and physiognomy of various landscapes and areas of the earth. It is interesting that it was Herder who first appreciated the

⁶⁶ Ibidem, pp. 122–123.

⁶⁷ J. G. HERDER, *Ideje k filosofii dějin lidstva*, in: A. PRAŽÁK – J. PATOČKA (eds.), *Vývoj lidskosti*, Praha 1941, p. 137.

⁶⁸ HEYDEN, pp. 30–31.

⁶⁹ B. HORÁK – D. TRÁVNÍČEK – I. HONZL, *Dějiny zeměpisu III. Novověk od 17. století*, Praha 1968, p. 77.



importance of flora. However, it is clear from the aforementioned that his method, particularly his description of “historic movement”, does not correspond very closely with his own theological understanding of the world. In spite of this Herder’s work is a masterpiece of synthesis. He took an extensive range of existing geographic and travel literature into consideration. He also took a large spectrum of perceptions into consideration. From information and reports about various nations, through ethnographic descriptions and sketches of Eskimos, Laps or Berbers, to speculation regarding the development and historic forms of the human species. Herder used this method to greatly reinforce long-standing relations between geographic and anthropological traditions.

The number of publications, taking the existing tradition of examining the influence of the geographic environment on human society, its character and history into account, has continued to increase since the beginning of the 19th century. This topic ceased to be developed exclusively by philosophers and historians also started to express an opinion. However, in relation to the increasing volume of geographic, ethnological and anthropological findings, this topic was assumed mainly by academic geographers. It was essentially no longer possible for philosophers to objectively and complexly assess such as wide-ranging issue. As a result, the initiative was assumed by modern geographic science, the beginnings of which are related to the establishment of the first department of geography at the university of Berlin in 1825. The first professor of geography here was Carl Ritter (1779–1859). And it is in his works that the concept of geographic determinism was given a true scientific basis for the first time.

