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Contribution of Geographical Positions of the Czech Republic and Great Britain to the Histories of the Two Nations Illustrated on Selected Historical Moments

Prohlašuji, že jsem bakalářskou práci vypracoval samostatně a použil pouze uvedené prameny a literatury.

V Olomouci dne 23. 4. 2015

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“Coal does not explain the innovations it was used in, but without it no innovations could have made so much difference.”

Kenneth Pomeranz

Content

List of Abbreviations	7
Abstract	8
Introduction	9
1 History meets Geography	11
1.1 The early sources.....	11
1.2 Geographical and historical terminology.....	12
1.3 Historical geography as a branch of science.....	14
2 The first settlers	18
2.1 The first settlers of the Isles.....	18
2.1.1 Invasion in 55 BC.....	19
2.2 The first inhabitants of the Czech Lands.....	22
2.2.1 Distribution of the early population of the Czech lands.....	22
2.2.2 Farming and other means of gaining food.....	23
2.2.3 Strength of Bohemia's geography.....	24
2.3 Settlers of the Middle East.....	25
2.3.1 Utilizing metals.....	25
2.4 Comparison.....	26
2.4.1 Farming.....	27
2.4.2 Metallurgy.....	27
3 The rise of the West	29
3.1 Mineral wealth.....	29
3.2 The western industrial revolution.....	31
3.3 No rise in Africa.....	33
3.4 Heritage.....	36
Conclusion	37
List of Sources	39
Appendix 1	46
Appendix 2	47
Appendix 3	48
Appendix 4	49
Appendix 5	50
Appendix 6	51

Appendix 7.....52
Appendix 8.....53
Appendix 9.....54
Appendix 10.....55

List of Abbreviations

GDP	Gross Domestic Product
SPQR	Senatus Populusque Romanus
SEED	Schlumberger Excellence in Education Development
BEC	BIOMASS Energy Centre
ČHMÚ	Český hydrometeorologický ústav

Abstract

This bachelor thesis is divided into several chapters. Each of them focuses on one important historical event the Czech Republic and the UK have in common. In some chapters other countries are introduced to clarify the similarities or differences. Multiple different sources are used to show how the geographical dispositions such as location or mineral wealth affected historical development of the observed nations.

Introduction

I have always liked both History and Geography. Therefore when I first saw the topic listed among the others I made the decision right away. And I have regretted that choice ever since.

George (1910, p. 111) claims describing the influence of geographical position on human history is said to be the impossible task. We however focus on rather small areas of land and a limited set of events. The following pages will guide you through several most important chapters in both Czech and British history. On this quest we will together look for a link between the geographical positions and the mentioned events. But first we need to understand some key terms. We will talk about the first settlers as well as their first enemies. I will try to explain the importance of natural borders and resources. Later in the paper you can read about the Industrial Revolution and especially about its geographical background. The main scope of the thesis is concerned with the past. But at the very end of it I even look into the future.

Unfortunately, sometimes the Czech lands and the British Isles are not enough to explain the true nature of the issues we deal with. In such cases the reader is provided with a comparison of the Czech or British situation with either Asian or African one. Such an approach might seem off topic but without it I would not be able to make my point.

My presumption that the geographical position strongly contributes to the development of both nations was correct. The most interesting facts emerge in those parts of the thesis where we compare observed nations with the third one.

In the beginning I struggled with shortage of printed sources on the topic. Later I found quite a lot of them. None of these, unfortunately, compares the British Isles and the Czech lands. Therefore, I sometimes had to look for well and deep hidden links between the two countries. It is important to note, however, that this thesis does not proclaim itself as one and only truth. But it is undeniable that the connections presented below do have significant importance and that they are backed by hard data.

1 History meets Geography

The scope of the very first chapter of this thesis is to introduce the terms we deal with and also to present the issue of historical geography itself. It is vital to understand the geographical terminology because otherwise the reader might feel a bit lost. As was mentioned in the Introduction, finding a source nourishing to our cause is not an easy task. In the world where the Internet is overflowing with information one must dig deep to satisfy their academical needs. Especially on the field of historical geography.

1.1 The early sources

Further in history we go the less data we have. Our great limitation is, as predicted, absence of written records. There are no complex chronicles originated in the Stone Age. How could they be. Prehistoric age is defined as a time period preceding the invention of writing and the ability to record history. The historians argue when and where the writing has been invented. Traditionally it is stated that the art of writing came with the expansion of certain cultures in the Near East during the 4th millennium BC. The Mesopotamian people needed to record data related to trade and other economical reports. (Robinson, 2011, p. 36) However, the latest archaeological discoveries shows us that the people were able to write even during the 6th millenium BC (Merlini, 2008, p. 111 and Whitley, 2004, p. 43). One way or another, there are no written annals covering the way of life in Star Carr cavemen written by its inhabitants. Nevertheless, modern technologies and archaeological studies are able to supply us with enormous mass of interesting and important information about the ages long before the Mesopotamian traders.

1.2 Geographical and historical terminology

In this paper we use several geographical and political terms that have to be clarified at the very beginning. First, we have to define the UK and the Czech Republic. Surprisingly there is a lot of people who have problems with the terms relating to the two countries. Even though the United Kingdom of Great Britain and Northern Ireland was, is and probably will be one of the greatest economical forces in the world, the terms like England, Great Britain and others are quite often misapplied. Mandy Barrow tires explain the reason for this misuse. She argues that the origin of the terminological problem might lie in the history. For example, before the Act of Union there were the Scottish Parliament and the English Parliament. When the Kingdom of Great Britain was established, the two legislatures merged and formed the new Parliament of Great Britain in 1707. The body sat at Westminster, London, the very same place where the former English Parliament sat. Barrow (2013) presents reasons from the present as well. She states that England contains 84 % of the UK population. On top of that the capital of the Kingdom is also the English capital. Also the English language originates in England. The other two nations living on Great Britain have their own languages. But English is spoken even in their countries significantly more. (Barrow, 2014)

When we speak about the United Kingdom we deal with Great Britain, geographically speaking the island that lies between latitudes 49°N and 59°N and longitudes 8°W and 2°E and Northern Ireland, the northern part of the island called Ireland that lies West from mentioned Great Britain. England, Scotland and Wales lies within (on)

Great Britain. Located North of France the United Kingdom is divided from Continental Europe by the English Channel.

The Czech Republic as a term has similar faith as the UK, Britain and England. However, the reason for misusing it is different. While the UK is a worldwide known political and economical power, the Czech Republic is significantly smaller and has noteworthy lesser economical power. For example the gross domestic product of the Czech Republic reached in 2010 approximately \$192 billion while UK's GDP hits \$2.2 trillion (Google 2015).

Therefore we can not presume that the Czech Republic is as well known as the UK. The reason for misusing the term 'the Czech Republic' and related ones may be dividing of the Czechoslovakia into two sovereign countries or several changes of names of the country (Česko 1990). Several incidents involving perverting central and eastern Europe geography occurred in the past years. One example for all: USA Today, newspaper holding the top spot during 2009 (Plambeck, 2010), published the map of Europe where Slovakia was situated instead of Slovenia. The map shows the Slovak capital Bratislava as a seaside city (see Appendix 1). However, the Czech terminological problem is more complex. The lesser economical importance may explain the problems the foreigners have with showing the Czech Republic on the world map. But as Mojmír Vlačín (2011) argues, even Czechs themselves misuse the geographical and political terms related to their own country. We are

talking about 'Česká republika'¹ and 'Česko'². *We intentionally use the Czech terminology in the body of the work and the English equivalents in the footnote.* Vlašín (2011) states that both terms are equal. The historical regions that form the present day Czech Republic are 'Čechy', 'Morava' and 'Slezsko'. The tricky one is 'Čechy'. Its English equivalent is 'Bohemia'. 'Čechy' are the biggest part of 'Česko'. As you can see the two terms are very similar. The similarity is not the only reason for the current situation. The faith of 'Čechy' resembles the one of England. It is the biggest part of the Czech Republic, the Czech capital lies within 'Česko', the name of the language spoken in the whole country is derived from its name. And we could go on. In his article Vlašín also claims that the term 'Netherlands' is in similar situation. However the Dutch were able and determined to explain the world the difference between Holland and the Netherlands and therefore there is less confusion (Allen, 2013).

As we have just demonstrated there are similarities between the Czech Republic and the United Kingdom even in the field of geographical and political terminology and troubles with them.

1.3 Historical geography as a branch of science

An interesting fact is that even very recently there were authors who claim the historical geography is 'an unsound attempt of geographers to explain history, and think

1

The Czech Republic
²Czechia

that historical geographers is most certainly trespassing and probably should be prosecuted.' On the other hand historical geographer J. B. Mitchell argues that 'the historical geographer is a geographer first, last and all the time' (Baker, 2003, p. 9). As Mitchell says, object of geographical study is examination of places not only as a piece of ground, not just part of land on its own but also places as 'products of interaction between peoples and their physical environments' (Baker, 2003, p. 10). Mitchell states that geographer tries to explain both distribution and location of certain phenomena (Baker, 2003, p. 10). Now let's take a look at Mitchell's definition of historical geography:

'Historical geography is, simply stated, geographical study of any period in the past for which more or less ordered and dated sequence is established in human affairs.'
(Baker, 2003, p. 10)

In this work we do not try to become historical geographers. In fact, according to Mitchell, perceiving historical events in relation to the geographical context is a job for historians (Baker, 2003, p. 10).

In the early 1920' historical geography struggled with several difficulties. There was too much to be said thanks to new approaches. This seems as a good thing. However, it was getting impossible to publish complex outcomes of scientists' researches in just a few pages long articles in 'ordinary scientific journals'. On the other hand there was no demand for books covering these topics in such complexity. As an outcome of this situation fifty to one hundred pages long paperback monographs forming series of several volumes were being published in this era. (Delany, 1921, p. 5)

Good and up to date complex works on the historical geographical topics are rather rare. Most of the work is put on paper as articles in less known local periodicals or short pieces of writing online. On top of that the web pages are visited by tens of visitors every day. Which is not a number that leads online search engines to show these sites on the first places of the search results. Also the topics of the papers we are able to get to are usually very narrow. That is not suitable for our research. The scope of this thesis is to find generally applicable rules and facts in pieces of writing aiming at tiny areas, short time periods or very limited set of subjects.

Significant part of printed sources used in this paper are almost hundred years old. The reason for that, as mentioned above, is the change of the way the historical geography works were published during that era.

Even though this thesis is more a historical work than a historical geographical one, we need to understand the basic principles of historical geography. Some approaches used in this field of study are applied in our work.

We start by describing physical state of things and then we look at its inhabitants and their history. First of all scientists usually divide a portion of land into units that correspond with river basins. This approach is easily used in Europe thanks to its high density of river network. The watercourses serve as natural boundaries. Generally speaking natural boundaries are something to start with. The river basin is usually occupied by a single race while a mountain range serves as a division between two lands that are settled by different people. We need to keep in mind that no river is uncrossable and therefore almost no stream has ever successfully kept two races totally apart. Of course we can not

simply draw lines based on every river basin and mountain line there are in Europe. Some basins are too small others too big and some are divided by very slight watersheds from each other. Look at the rivers Tyne and Wear for example. They form two basins but as George (1910, p. 112-113) claims, it would be absurd to give the fact that there are two different river basins any significant credit.

To sum the paragraph up, natural boundaries are very important in this field. Their part in forming human history is indisputable. We can argue over influence of some river basins and water flows generally. The importance of seacoast and continual mountain chains are however unmistakable. And since seacoasts and mountains form most of the present UK and the Czech Republic borderlines, we can fully rely on them to serve us right on following pages.

2 The first settlers

In this chapter we focus on the peoples that lived in the present time Czech Republic and United Kingdom thousands of years ago. The main scope of this chapter is, of course, the influence of the countries geographical position on the way the lands were settled as well as defended against enemy tribes and later armies, how the inhabitants were able to communicate with other peoples. For our needs we use the Middle East countries and their former dwellers to benchmark sites and occupiers of the present day Czech Republic and the United Kingdom against them. It is generally known that at the dawn of the civilizations, the Near East, was the cradle of knowledge and inventions. On the next few pages we try to study similarities and differences that may help us understand the impact of the location of settlements on the key aspects of human life.

2.1 The first settlers of the Isles

The famous English promoter of history studies Peter Ackroyd guides us through the very early epoch in the history of the British Isles and their settlers in his book called *Foundation: A History of England* (2011). In the first volume Acroyd (2011) states that the first men came to the present time England 900 000 years ago. There were several waves of new inhabitants throughout the years. The folk came from the southern Europe. It the era of the moving of the first Englishmen, the Earth was much warmer than now and the Ice Age was not coming for a while. Therefore this pilgrimage was rather an easy task Acroyd, 2011, p. 6). Crossing the English Channel was not a problem as well since according to Lambert (2013) a dry crossing existed between continental Europe and Great

Britain even 11 000 years ago. J. P. Sommerville (2013) argues about permanent settlements in the present time UK during the whole stone age.

Historian Tim Lambert (2013) claims that these first members of Homo family inhabiting the present day England were rather simple cavemen with just as simple stone tools. The first signs of domestication of dogs are dated much later. We are talking about an era about 7 500 BC. It is plausible that these people were able to build boats. As a milestone in history of every nation we perceive the moment they were able to farm. The first signs of farming, (e.g. significant clearing of forests striving for a land on which they can grow crops) can be identified 6 500 years ago. At the same time the people living on the British Isles were able to build simple shelters made of wood.

According to John Haywood (1998) and his team knowledge of utilizing metals appeared on the British Isles not sooner than 4 000 years ago.

2.1.1 Invasion in 55 BC

The Roman army invaded Britain twice under Caesar's command. These moves were a part of the Roman Gaul war. Even though the Roman Empire had some intelligence reports on Isles whereabouts, the army leaders and politicians were unable to conclude whether the peoples on the islands do have some sort of union in case of continental Europe invasion. They also knew very little about their enemy's military tactics. (Caesar, 2008, Book 4, Chapters 20-21)

Frere (1987) reports that there were 98 transport ships sailing across British Channel. 80 of those were carrying infantry. Each of them with 60 – 70 soldiers aboard.

That totals around 6 000 men at arms. We will talk about the 18 other ships later on. As was mentioned, the Romans knew little about the inhabitants of the British Isles and their land. From the information SPQR were able to gather, the invading army decided to land in the natural port later known as Portus Durbis on the site of present Dover, town in Kent, England. The Roman lack of knowledge of the English Channel shore was obvious and clear advantage of the defending forces. The Britons who gathered on top of the white cliffs of Dover were so close to the shoreline they were able to throw spears at anyone attempting to disembark. (Caesar, 2008, Book 4, Chapter 23) Such a rain of sharp points would be obviously a devastating strike. Caesar, observing the rows of spearmen ready to throw their deadly weapons, decided to move along the shore in search of more suitable landing site. The aggressors faced another complication. The shore seven miles away from the place the Romans first sighted defending soldiers was far more suitable. There were no cliffs overlooking the beach and therefore one problem less to care about.

Now it is the right moment for a quick detour. The waves near Dover are about two meters high almost all the time (see Appendix 2). We can observe one of the most extreme tides at the mentioned site. The difference between the sea level during the high tide and the low tide is about 6 meters there (see Appendix 3). On the other hand the daily alteration in the sea level in Anzio, Lazio region, Italy, is way below 0.5 meters (see Appendix 4). On the map we can clearly identify that the average wind speed is significantly higher around the Channel than it is at the coast of Italy (see Appendix 5). It is clear for anyone with basic knowledge of sailing that stronger the wind and wilder the water is the more complicated the manoeuvring the ship becomes. The Roman fleet was clearly built and set to conquer the Mediterranean Sea. Their ships were not constructed for the Channel type of weather

and their crew were obviously not trained for the shown conditions. All that was just mentioned leads us to the conclusion that the Channel combined with the English coastline was an ingenious borderline. And even such a powerful army as the SPQR one staggeringly struggled with it.

Back to the year 55 BC. Caesar observed the difference between the Roman and Gallic ships earlier. He admits that the Roman fleet is not suitable for the waters his army is invading. The *Classis*³ ships had more distinctive keels and lower prows than the vessels made by the northern tribes. The flat keels allowed the ships to encounter the shallows and raised prows facilitates the fight with waves. (Caesar, 1889, Book 3, Chapter 13) As a result of the two disadvantages, the Roman landing crafts had to be stationed in deep water. The SPQR soldiers then had to jump overboard into the water. Wearing their heavy armour, being smashed by the waves and becoming an easy target for the Britons' missiles was disheartening. The Roman infantry were not trained in this mode of disembarkation nor the way of fight. (Caesar, 1889, Book 4, Chapter 24)

The rest of the ships mentioned earlier carrying cavalry had troubles on their own even before they approached the Great Britain coasts. On the day of planned transfer of cavalry from the continental Europe to the Isles no severe weather conditions were expected. However, noticeable alteration of the sea level combined with the strong wind forced the Roman ships which were not suitable for this sort of weather, to fall back to the original ports. (Caesar, 1889, Book 4, Chapter 28) The unknown behaviour of the waters in the Channel caused serious supply complications (Caesar, 1889, Book 4, Chapter 29).

³Latin word for 'fleet'. The word is also used as a name for the Roman navy.

2.2 The first inhabitants of the Czech Lands

Josef Vincent Polišenský (1991) gives us enough information about the first settlers of Bohemia and Moravia in his publication *History of Czechoslovakia in Outline*. To start with, he argues that even though there are no dazzling cave paintings such as those that can be found for example in the cave of Altamira, our Palaeolithic ancestors were no artistic simpletons. The excavations throughout Moravia show us how skillful the prehistoric settlers of the Czech lands were. 30 000 years old nude female figure called 'Věstonická Venuše'⁴ discovered in 1922 in Pavlovské vrchy⁵ is a fine evidence of such skills and abilities. Fine motor skills of their Neolithic successors can be proven by presence of ornamental decoration on everyday crockery. According to Corrie C. Bakels (2009, p. 5-6) the first evidence of farming in Middle Europe can be dated reliably back into the 5 000 BC. Polišenský (1991) also says that the men that came to the Central European territory from the East around 2 000 BC were the first people in the area who were able to utilize metals.

2.2.1 Distribution of the early population of the Czech lands

As was mentioned before, river basins play important role in settlement distribution. The logical consequence of high dense river network, such as in the Czech lands, is the presence of copious prehistoric settlements. A map of excavation sites is attached as an Appendix 6. On the map we can see the location of the settlements belonging to the era of Únětice culture (about 2 000 BC). All of them are located very

⁴The commonly used English equivalent for the name of the figure is 'Venus of Dolní Věstonice'

⁵'Pavlov Hills'

close to the rivers. There is not a single one exception shown on the map. Based on the fact we can state that the mankind development was tightly bound to the watercourses.

2.2.2 Farming and other means of gaining food

It is logical that it is almost impossible to develop and do farming on the frozen ground. It is extremely difficult to hoe iced soil. Such a terrain and conditions are hostile to sprouting. Even though there was no permanent glacier, the people living in the Czech lands less than 20 000 years ago had to fight with extreme chill. Based on the data we have already provided and on the statistics provided by ČHMÚ (2014) we estimate that the temperature rose above zero °C not sooner than during April and dropped again below the freezing point in September. The full vegetation cycle of the plants men would like to use as food for them and their future domesticated animals the less then six months are simply not enough.

Farming was clearly not among the option for the people occupying present day Czech Republic during the last glacial period. Max Pflingsten (2014) demonstrates what way of life our ancestors led. The human was not the only one who struggled with the weather and the environment so deeply changed by it. The once fertile plains covered with thick green grass were altered into ice deserts. The glaciers and ice not only blocked the soil and kept it from being fertile, they also held tremendous amount of water in them. As a result of that the Earth was much drier place in those days. 20 000 years ago the ice caps held so much water that the sea level was 120 meters lower than it is today. (National Geographic, 2014) The mammals who lived here adapted their way of live to the situation of those days. They became highly nomadic. They travelled immense distances in search

for food. The hunters followed the herds across the wasteland everywhere they moved. With the thaw the need for such a long and exhausting journeys disappeared. The grass sprouted almost everywhere and grew in sufficient speed to feed the on smaller area. Nevertheless, Pfingsten (2014) claims that the animals accepted going through the long and draining travels as a part of their lives. The migrations became instinctive. And so the men kept on travelling with them. Trooping is definitely not convenient for development of farming. The ability to grow own crops was adopted later in history in this particular part of the world. According to John Haywood (1998) the era of farming arrived to Central Europe not sooner than 4 500 BC.

2.2.3 Strength of Bohemia's geography

As A. B. George (1910, p. 116) says “*Bohemia is in fact the key to the physical geography of all Europe north of Alps*”. It is not without interest that speaking of plain physical geography Bohemia should be considered as a part of Northern Europe. Elbe river makes up a highway leaving Bohemia through massive mountain chain. This comes hand in hand with Elbe flowing into the North Sea and taking its whole basin with it. We have mentioned the importance of river basins in geography and historical geography earlier. These facts are the obvious reason for perceiving Bohemia the part of Northern Europe. While on the other hand Bohemia region has always been better connected with its south and east neighbours. Reasons for this are simple. The northern and western mountains are significantly much more massive than the ones in the south and east. (George, 1910, p. 117)

The strength in Bohemia's geography is its roughly square shape surrounded by mountain chains of significant height. Their size does not allow snow to rest on their tops through the whole year though but still it is perceptible obstacle for a marching army. These well-shaped natural borders create exceptional barrier. While rivers flowing through them forms passages both easy to use for transporting men and goods and fairly defensible. (George, 1910, p. 116)

2.3 Settlers of the Middle East

Because the Middle East is not within the scope of this paper, we dedicate this part of the world as little space as possible. On the other hand we need to know some basic facts about the area and its occupants to point out several interesting facts that may stay behind the huge gap between the level of cultural development of our observed lands and peoples and this particular region with its folk.

2.3.1 Utilizing metals

Haywood and his team (1998) claim that the first notion of people who were able to craft from metals are dated back to 7 000 BC. Ancient Middle East civilizations were definitely the first to adopt such a skill. According to Encyclopaedia Britannica (2014) these first metal involving experiments must not be understood as creating for example shovels or swords. The reason for that is that the people of ancient Anatolia used only pure

copper combined with stone. These people had no knowledge and technology for casting bronze, which is far more suitable material for stressed tools. As Britannica (2014) demonstrates, the first copper items were just a small precious objects. During the fourth millennium BC the familiarity with metallurgy spread throughout the neighbouring peoples and became one of the most important factors on the way to urbanization in Mesopotamia.

Haywood (1998) puts out some interesting facts that shows us the level of advancement of the eastern cultures. We have already said that the settlers of the British Isles domesticated dogs around 7 500 BC, they were able to farm three thousand years later, roughly the same time the people living in the Czech Lands, and both of them learned to utilize metals 4 000 years ago. In their book, Haywood and his team present the following data. The first domesticated dog appeared in the Middle East around 11 000 BC, more then three thousand years before those on the Isles. On top of that, the first sign of farming can be seen 10 000 years ago East of us while the Europeans have to wait another 3 500 years for their first own grown crop. As for utilizing metals, we are dealing with this topic thoroughly later in this text.

2.4 Comparison

When we look at the charts that show us the variation of the average year global temperature, we can see that there were long periods during which the average temperature drops considerably (SEED, 2014). The mean annual temperature for the past forty years in the UK is approximately 8 °C (Met Office, 2014). The decrease in temperature from 8 °C to -1 °C (this drop of temperature corresponds with data in the SEED (2014) table) exceeds the most extreme values of the mentioned ages in the Met Office (2014) data. In addition

the ice ages lasts for tens of thousands of years (SEED, 2014). The Czech Republic experiences even lower long term mean annual temperature than the United Kingdom. Doctor Radim Tolasz (2012) supplies us with the information about the mean annual temperature in the Czech Republic on his blog. He states that the average long term annual temperature is 7.5 °C. On the other hand, the observed figure for the Middle East region is about 18 °C (Weatheronline, 2014). As a result of that, the land we now know as Iran experienced temperatures even slightly higher than the warmest interglacial years in the central Europe at the time when the British Isles and the Czech lands suffered of the Ice Age (Tolasz, 2012).

2.4.1 Farming

As was mentioned above, favourable climate makes cultural development easier and smoother. More to the North we go, the cooler it gets and the cultural and technological development is slower. We dare to say so because of what doctor Oosthoek (2014) claims: *'Between the Neolithic and the 18th century, agriculture was the main cause of culturally driven environmental change.'* We pointed out that the climate of the ending Ice Age clearly made the progressive changes in the way of obtaining food way more difficult or even impossible.

2.4.2 Metallurgy

As we can see on the map (see Appendix 7) even though the copper ore is available equally across the Europe and the Middle East, Southern and South East regions invented

and used metallurgy significantly sooner than for example dwellers on the Isles. It is obvious from what we have shown in this paper that every society went through the same steps. All of them were farmers after they were gatherers and the people were able to utilize metals after they successfully grew their own crops.

The data gathered in the previous chapters suggests how crucial influence of the Ice Age and climate in general on the evolution of our societies is. In light of all that was just mentioned we have a better understanding of the reasons why the inhabitants of the British Isles and the Czech lands adopted metallurgy millennia after the settlers of the Middle East. We have just proven that geographical position plays the key role in achieving higher level of technological advancement.

3 The rise of the West

In the middle of the 18th century a series of technical, economical and social changes took place. These advances led into the most important change in human society. In this chapter we scope on the main reasons for this change. And not only on the events that led Europeans to the top but we turn our eyes once again to the East and argue why the socioeconomic development of the eastern civilizations was not as fast as the evolution of the western countries.

3.1 Mineral wealth

Very interesting link between geography and history is the fact that there is a mineral wealth under our feet. These deposits, for obvious reasons, can not be moved and are bound to the land. This fact forces us to look at geology of the UK and the present Czech Republic as well. In this chapter we discuss the influence of presence of mineral resources on socioeconomic evolution of the two countries. There are obvious similarities and differences as well.

Both the British Isles and the Czech lands are rich in raw materials vital for the fast and effective development of the folk living there. We have already covered the *great* impact of water flows on forming and development of the first settlements in the Chapter 2.2.1 Distribution of the early population of the Czech lands. Successful discovery of a source of water does not demand any special ability or technology. Especially not in the area with such dense river network as the Czech and British one. However, discovery of metal ores or natural gas deposits is a task for far more developed and technically able

community. Because the importance of the minerals was noticed later in history, it is clear that distribution of the prehistoric settlements does not depend on their presence or absence.

At the end of the previous chapter, we have presented the map of places where copper and tin ore is found (see Appendix 7). That is of course not all the mineral wealth of the regions. There are other raw materials stored below our feet that may have changed the course of history of the two countries much more than the mentioned ones. When we look back in time to the end of the Bronze Age, we can see that when people became able to process iron ore, the importance of casting bronze became less and less important. More extensive farming and new ways of the war demanded more resistant material. (Pfungsten, 2015) In the chapter 2.1.1 Invasion in 55 BC, we have mention the Roman ships. Constructing such a big war machine is extremely material demanding. See these selected parameters of bronze and steel to see the difference.

Ultimate tensile strength of copper is about 220 MPa (Andršová 2013) whilst the same parameter of bronze, its alloy, is twice as big (Losertová, 2013). On top of that steels are even 4 times stronger than copper (Filip, 2013).

One of the way the SPQR ships fought was *the ramming*. This technique consists of running the bow of the striking ship to another at high speed. Especially when fighting barbarians, whose ships were made of oak, were high, and well designed for the waters they sailed. (Caesar, 1889) The importance of metal's strength is quite self explanatory. Using a soft metal alloy for fortifying the bow of the ship would make the ramming impossible or at least almost ineffective and rather self-destructing.

We have once again went back in time and have used an example well known from the previous chapters of this work to prove that new technologies would not be real without sufficient mineral deposits. That makes another example of the influence of the position of the early settlements on future technical and even political evolution.

3.2 The western industrial revolution

Surprisingly Europeans, who became the leading force later on in the World history, were petty in comparison with the 10th century Chinese. David Landes (1998) in his work *The Wealth and Poverty of Nations* claims that what we call The (European) Industrial Revolution took place in China centuries earlier. We have shown the importance of natural resources to the cultural and economical progress. According to Landes (1998, p. 55) research it is only logical that China, rich in iron ore, coal and other raw materials took the advantage of such a wealth and its people were turning about 125, 000 tons of pig iron nearing the end of 11th century. The Eastern scientists gave the world plenty of inventions such as wheelbarrow, compass, gunpowder and much more.

Landes (1998, p. 31) claims Europe went a different way. The way of wars, invasions, counterattacks, burning down settlements, retreats and more invasions. He also shows two points of view on the matter of civilization's growth. One that says that increase comes naturally when both opportunity and security exist. The second adds enterprise to the formula.

One of the biggest differences that may have had an impact on the development of the Orient and the Occident is the right to private property. Landes (1998, p. 31-40) points

out that the divine Oriental rulers were the owners of the land and everything on it. This fact combined with the Oriental philosophy saying that one and only mean of existence of ordinary man is to serve and 'enhance the pleasure' of his ruler gives the rulers almost unlimited power. On the other hand there is a long Judaic-Christian cultural development in both British Isles and the Czech Lands as well as the whole Europe. The doctrines originated in the Bible considerably blend into Europe's political consciousness as from late 12th century. Landes emphasizes the fact that the European rulers held the wealth and power of God and not their own. And since the medieval Christian philosophy castigates hypocritical monarchs, especially those mistreating their subjects, these commoners can be more or less sure the lords will not do whatever they wish with their property. Landes also introduces another major difference between the Orient and Occident. The Oriental monarchies are ecumenical. That means the power is not split between the central and local nobility. With less fractions there is almost none competition between lesser monarchs. The approach to the subject is almost identical throughout the empire and therefore the desire to move to another part of a country does not nearly exist. Which leads us to the idea mentioned above. The Chinese commoners were prone to serve the current lord with all the power they had. European monarchies, on the other hand, fought not only with foes outside their borders but very often within them. It is not rare that common folk run from one lord to another or that they search for a new life in cities. This phenomenon combined with already mentioned right to private property leads us to following conclusion. The 12th century Chinese folk work far more eagerly to increase their lords' wealth than contemporary Europeans. In Europe, unlike in China, it was very important, even crucial, to offer something in exchange for participating on monarch's growth of power. If a

Chinese lord needed a few thousand people to move because a new place where coal or iron ore was found, he just moved them.

3.3 No rise in Africa

As Michael Romano (2003, p. 115) says, the Industrial Revolution can be perceived from two different angles. Either it is the slow, gradual and still unfinished process which began during the Stone Age or it is a dramatic revolution taking place during a few decades in the eighteenth and nineteenth century. The Chinese clearly dominated the early era of the first definition of the Revolution as was show above. Even though the Czech, British and Chinese deposits essential for starting the change from agricultural to industrial society are similar, the revolution took place in very different eras. The reasons for that are not geographical but rather political, religious and social. The situation was quite different in Africa. In this chapter, we show how great impact the distribution of natural resources throughout our planet have on the development of the peoples occupying it.

We have already mentioned the importance of iron ore and coal for the industrial revolution. These two materials are indeed crucial and essential for such a shift in human society. The act of melting ores to create pig iron requires sufficient amount of heat. Joel Hermansen (2015) points out that there are several inventions that changed the world during the industrial revolution. One of the most important ones is the steam engine. Marhall Brain (2015) from How Stuff Works explains the basic principles of the steam engine. To make the engine work we need to add heat to water that will move a piston. The

piston is then able to transfer the created energy into kinetic energy. Hermansen (2015) claims that people traditionally use wood to create heat. From the data shown in the table published by Biomass Energy Centre (2011) it is clear that wood is far from being efficient. Coal gives twice as much energy as wood. And that is not the only advantage of coal. Coal is more than three times denser than wood. We can not only get more energy by burning coal, we also save storage capacity. The data appears to suggest coal as the fuel of the industrial revolution.

Looking at the two maps in Appendices 9 and 10 we can read several interesting facts. To be as illustrative as possible, we focus on the whole Earth and not only Czech Lands, British Isles and Africa. First of all we can notice that iron ores are more or less evenly distributed all over the globe. On the other hand there are regions rich in coal and others with almost no deposits of this raw material. While there are both coal and iron ores in North America, continental Europe and on the British Isles, there are just a few places where iron ore and coal are found close together in Africa or Scandinavia. Some authors, such as Andre Gunder Frank (1998, p. 315) in his *ReORIENT*, claim that China faced the same problem encountered by Africa and therefore had difficulties keeping up with Europe and the United States during their Industrial Revolution.

Abilov (2011) states that there are various explanations for the cause of the Industrial Revolution in Europe. Still one of the most often presented one says that richness in both above mentioned materials, coal and iron ore, was crucial. Looking at the maps leads us to the the following conclusion:

As Pomeranz (2002, p. 444) elucidates in his paper published in *The American Historical Review* “*Coal does not explain the innovations it was used in, but without it no innovations could have made so much difference.*” The lack of coal in sub-Saharan Africa could be one of the most important reasons its peoples did not take part in the Industrial Revolution. On the other hand, the importance of distance fades away in today’s globalized world. According to *The Economist’s* chart (see Appendix 8), beside China, India and Vietnam, there are only sub-Saharan African counties in the top ten fastest growing economies. As we read through Paulo de Sa’s (2014) article dealing with Africa’s industrialization published on *The World Bank* website we see one former outsider, China, helping the other, Africa to become one of the greatest economy of the world. Still the bright future for Africa is not as close as it might seem. De Sa (2014) also puts forward the claim that most of the countries in the mentioned region mine the raw materials, export them to China and India and then import the products made with the African iron back home for extra money. That is to say not the right position the African countries want to be in.

The age of the Industrial Revolution is long gone and new possibilities have risen. Since (according to Lopes’s and Elumelu’s (2013) article for CNN) African soil holds 12 % of the world’s oil, 40 % of all the gold and up to 90 % of the world’s chromium and platinum reserves.

Since we have mentioned the Middle Eastern nations earlier in this work, we also should pay attention to these peoples in this part of the thesis. As Abbas Maleki (2014) mentions in his article for Belfer Center, even though Iran holds 7 % of all natural

resources in the world, Europe grew significantly faster during the Age of Steam. Iraq, on the other hand, is the complete opposite. The land holds almost nothing that neither the 19th century nor today's industry needs. And of course as was presented earlier in this paper, insufficient amount of raw materials needed in present day industry or its unsuitable distribution is deadly for the countries economies.

We can once again see how the geographical position and raw material distribution inflicts the speed of economical growth and even possibility to transfer agricultural society to industrial one.

3.4 Heritage

Ores and fuels have to be mined. It is obvious that mining and subsequent processing the materials produces pollution. According to the Czech regulation the acceptable amount of dust in the air is $50 \mu\text{g}/\text{m}^3$. Unfortunately there are regions in the Czech Republic where the extensive mining and heavy industry causes more than 4 times as high level of air pollutants. (Zadražilová, 2012) Fortunately for the environment, some mines have already handed over all they could and are now being closed (Ostrava, 2015).

Past mining does not have to destroy the area for thousands of years. Wealden is well known for its present day agricultural importance. It was not so in the past. In the Middle Ages it was the centre of the British Empire iron trade (Delany, 1921, p.7). This historical experience definitely gives hope to North Bohemia and Czech Silesia.

Conclusion

There is so much more to be said about the influence of geographical parameters on the development of the Czech Republic and the United Kingdom. However the extend of this paper is limited and talking about more topics while keeping the length of the thesis would definitely lead to shallowness of the work.

The data gathered in the paper have definitely proved our original presumption to be 100% true. That is the geographical position plays the crucial role in evolution of both Czech and British societies. And not just that. We have also discovered unexpected links between the Czech Lands and the British Isles. Even though Britain is an island and Bohemia and Moravia are far from any shore, their inhabitants were well protected by the natural borders throughout the history.

We have also compared both observed nations with the third ones. Peoples from Middle and Far East and also inhabitants of Africa. We have proven that the geographical dispositions were essential during forming the civilizations. Even though it seemed that both the British Isles and the Czech Lands were harsh to their dwellers sometimes, the lands have payed back with interest.

It is beyond any doubt that luck has its indisputable importance as well. Our ancestors had no idea what is hidden deep inside the ground when they first stepped into their new home. Yet without all that wealth they have gradually discovered the Industrial Revolution would not have happened. But it is not just sheer luck. Without all those clever

minds who have been working hard to make the world a better place coal would be a black rock and iron ore stone to be thrown on the target.

Since every step forward has its price and in case of extensive mining the price is significant, we have shown also the downside of mineral wealth. On the other hand we can see the happy end in case of Wealden. And because we can not simply start all over again, we should be grateful for all the good our countries have done for us throughout the history and we should do our best to repay them.

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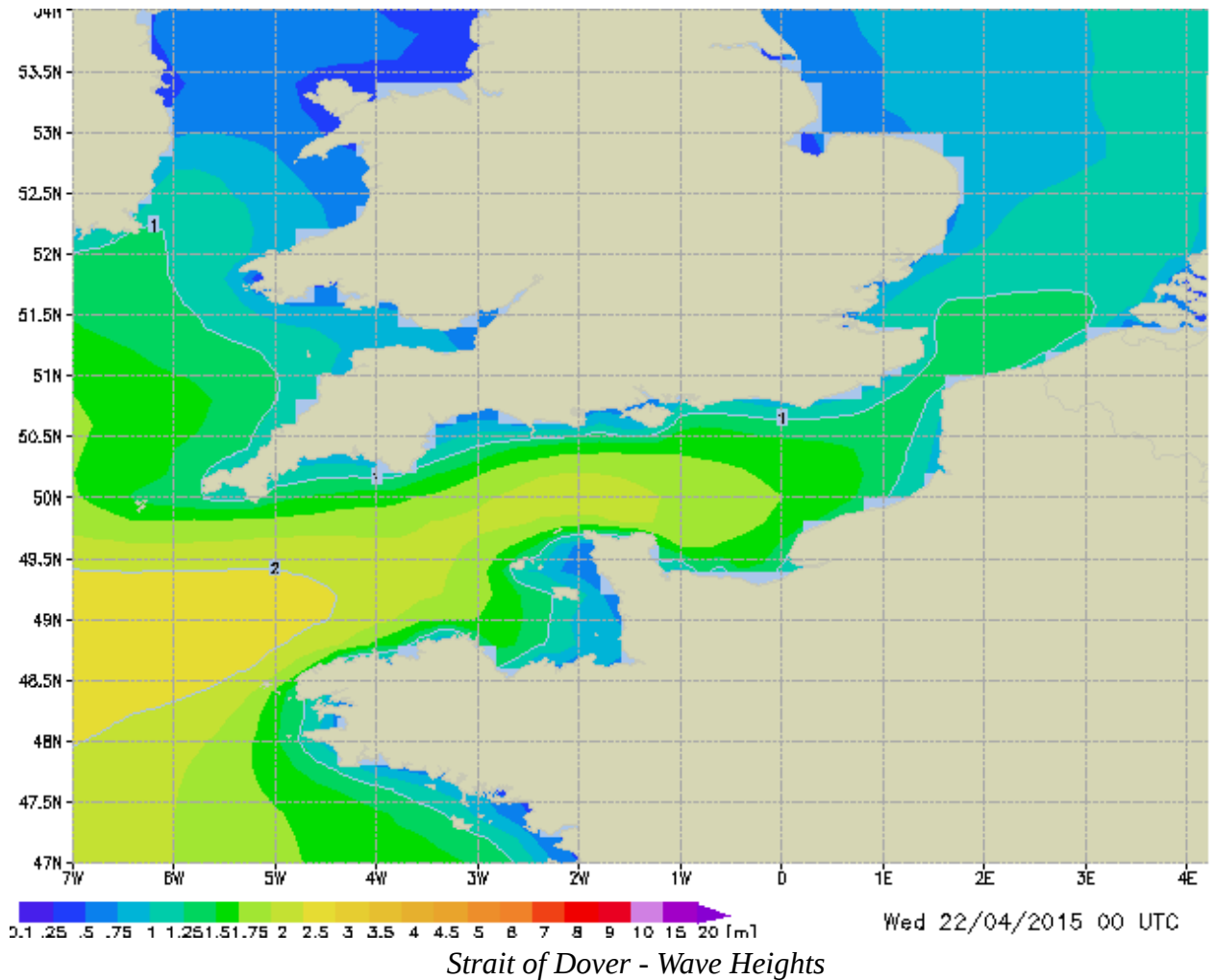
Appendix 1



Seashore Bratislava

Source: Ani média nejsou dokonalá. *Škola médií* [online]. Dostupné z:
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Appendix 2

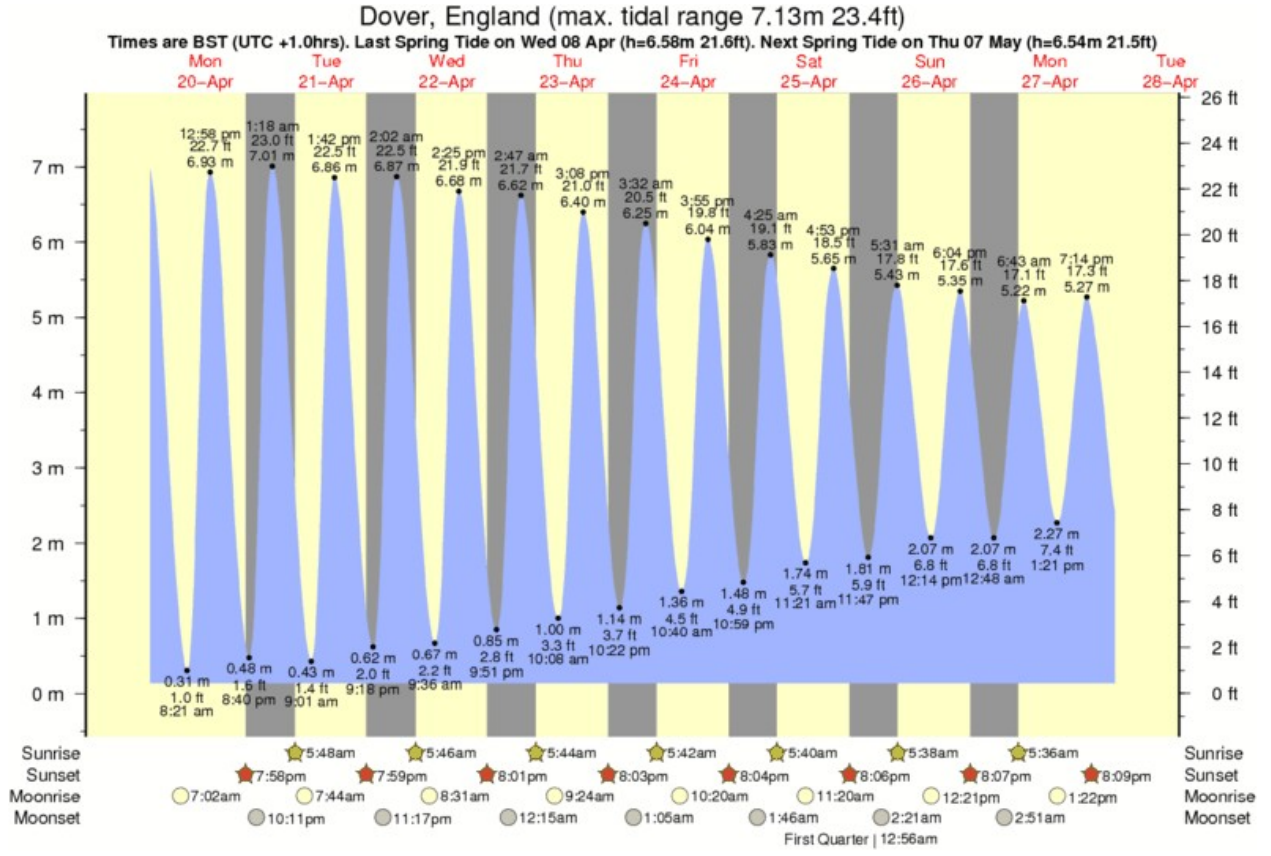


Source: sailing europe english channel strait of dover wave heights. *WeatherOnline* [online].

Dostupné z: <http://www.weatheronline.co.uk/marine/weather?>

LEVEL=5&LANG=en&MENU=0&TIME=0&MN=gfs&MODELLTYP=wave&WIND=g90

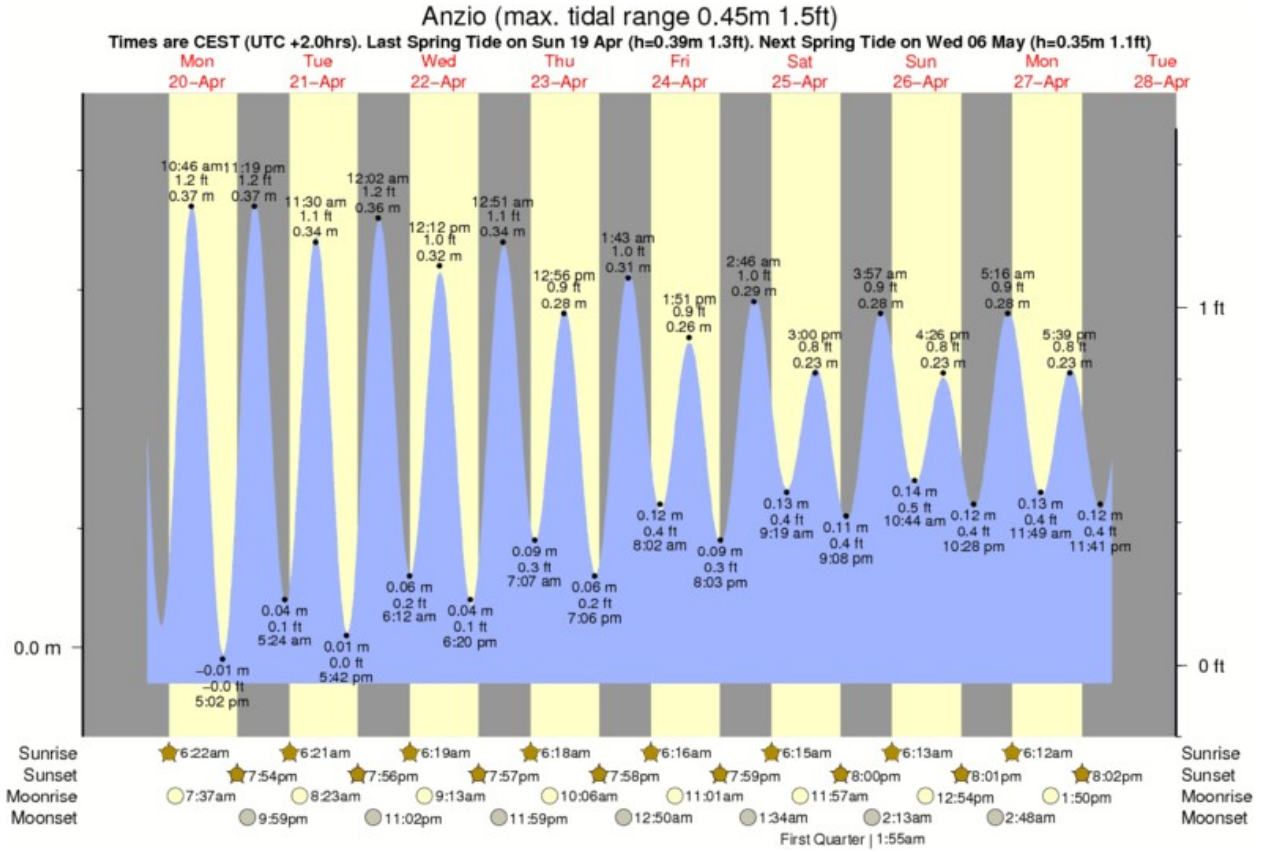
Appendix 3



Dover Tidal Range

Source: Tide Times and Tide Chart for Dover. *Tide-forecast* [online]. Dostupné z:
<http://www.tide-forecast.com/locations/Dover-England/tides/latest>

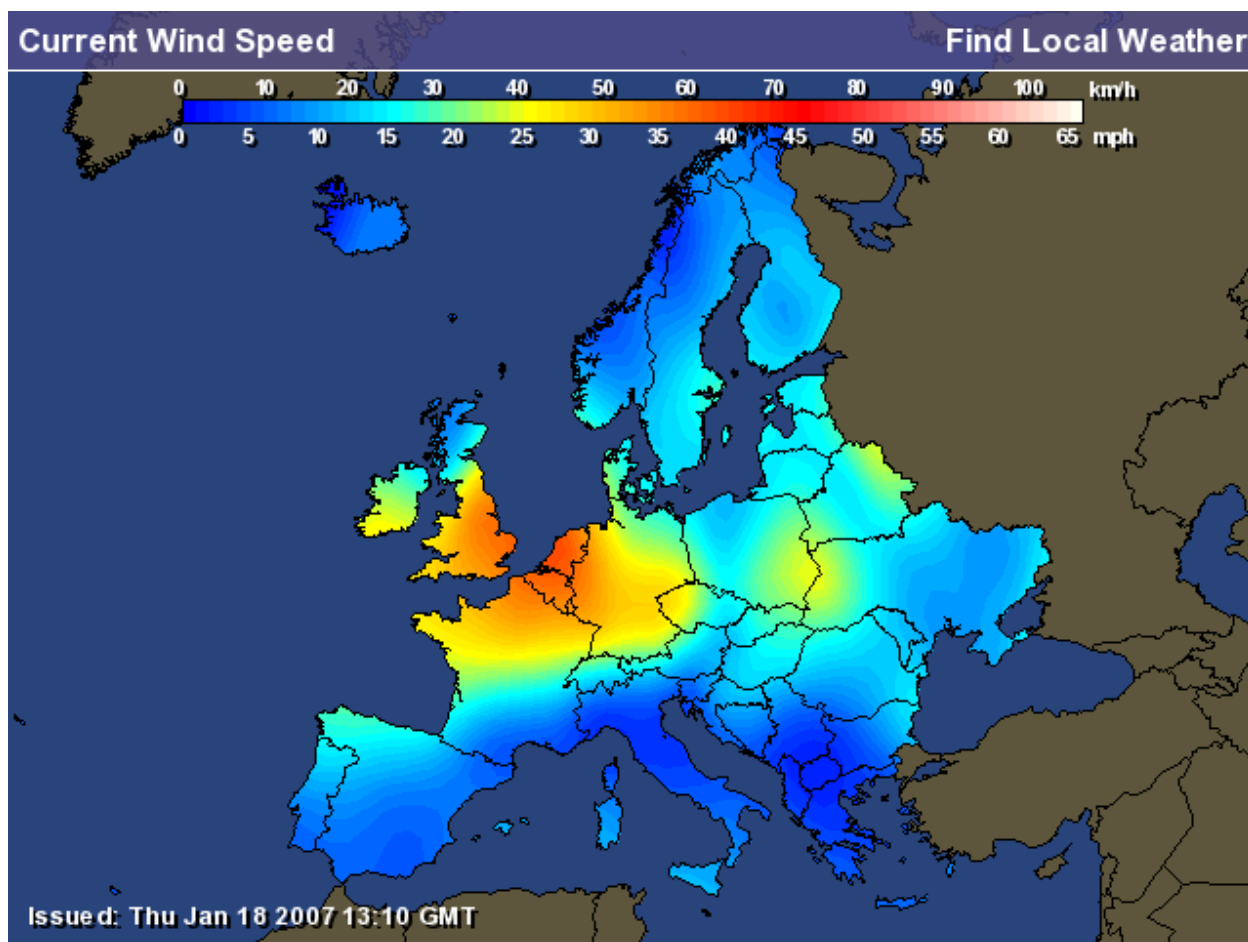
Appendix 4



Anzio Tidal Range

Source: Tide Times and Tide Chart for Anzio. *Tide-forecast* [online]. Dostupné z: <http://www.tide-forecast.com/locations/Anzio/tides/latest>

Appendix 5



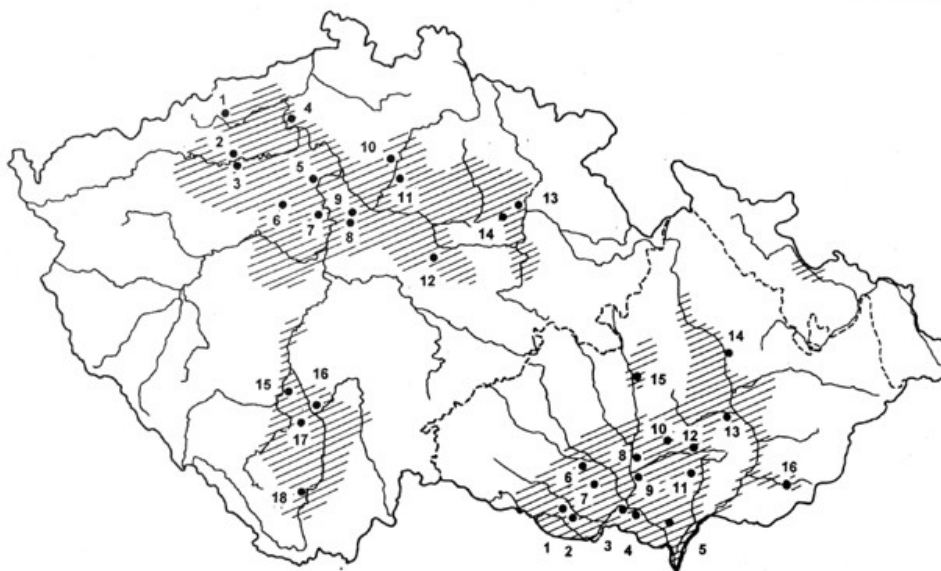
Europe Wind Speed

Source: *I write therefore I am* [online]. Dostupné z:

<http://www.iwriteiam.nl/0701181510windspeed.png>

Appendix 6

ÚNĚTICKÁ KULTURA



Protoúnětická, únětická a věteřovská kultura

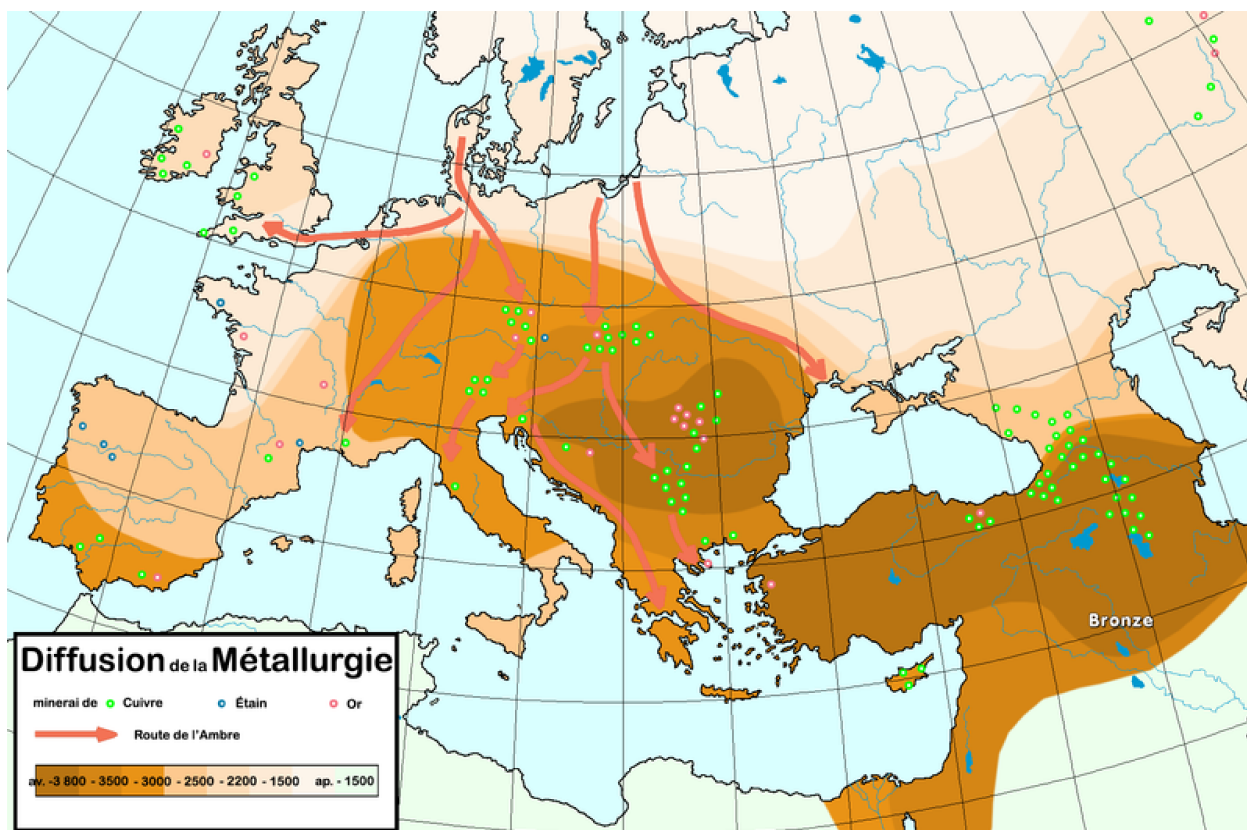
Čechy: 1 Konobřez, 2 Postoloprty, 3 Březno, 4 Velké Žernoseky, 5 Vepřek, 6 Slaný, 7 Praha-Suchdol, Tursko, Únětice, 8 Praha-Dolní Počernice, 9 Praha-Miškovice, Praha-Vinoř, 10 Čejetice, 11 Brodce, Horky n. J., 12 Polepy, 13 Plotiště n. L., 14 Libčany, 15 Vrcovice, 16 Hosty, 17 Těšínov, 18 Křemže/Dívčí Kámen; Morava: 1 Těšetice-Kyjovice, 2 Borotice, 3 Mušov, 4 Dolní Věstonice, Pavlov, 5 Hrušky, 6 Budkovice, 7 Olbramovice, 8 Rebešovice, 9 Blučina, 10 Holubice, 11 Věteřov, 12 Šardičky, 13 Hradisko u Kroměříže, 14 Olomouc-Slavonín, 15 Svitávka, 16 Bánov, Šumice

Únětice Culture Excavation Sites

Source: Palba.cz [online]. Dostupné z:

http://www.palba.cz/forumfoto/albums/userpics/12045/4__Mapa_roz%C5%A1%C3%AD%C5%99en%C3%AD_%C3%BA%C4%9Btick%C3%A9_kultury.jpg

Appendix 7



The Way of Metallurgy

Source: *Diffusion métallurgie* [online]. Dostupné z:

http://commons.wikimedia.org/wiki/File:Diffusion_m%C3%A9tallurgie.png

Cuivre ... copper

Étain ... tin

Or ... gold

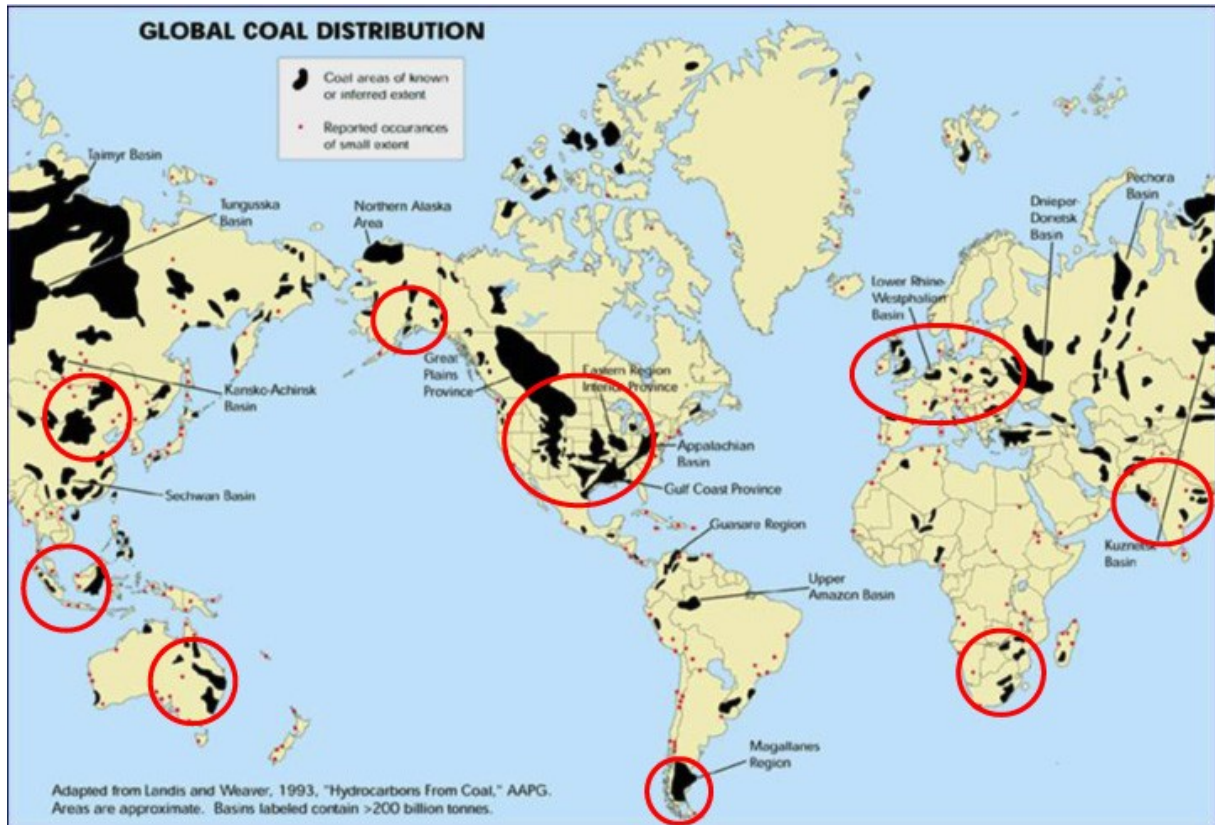
Appendix 8



Africa's Impressive Growth

Source: *Africa's impressive growth* [online]. 2011 Dostupné z:
http://www.economist.com/blogs/dailychart/2011/01/daily_chart

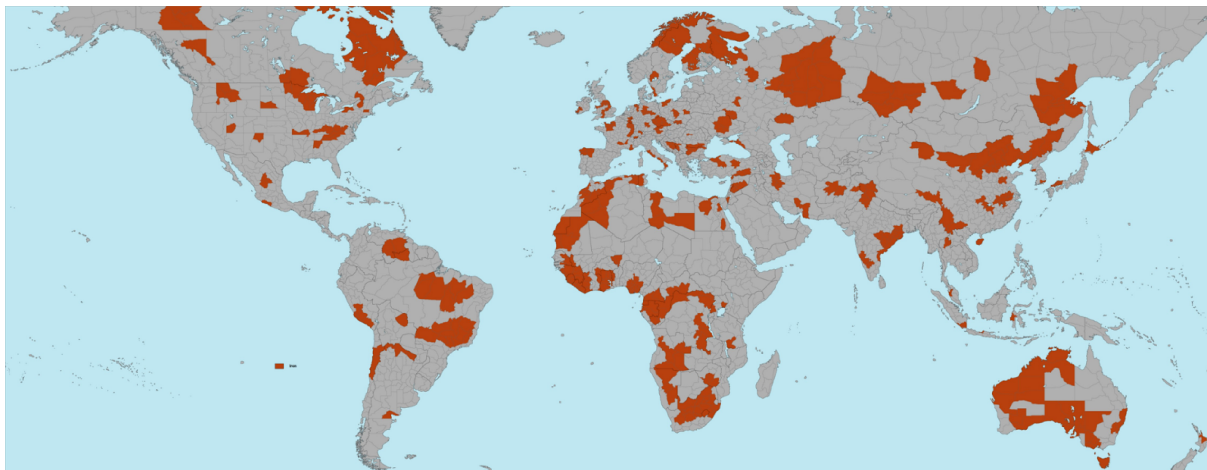
Appendix 9



Global Coal Distribution

Source: CBM ASIA. CBM Around the World. *CBM ASIA* [online]. c2012 Dostupné z: <http://www.cbmasia.ca/CBM-Around-The-World>

Appendix 10



Global Iron Ore Distribution

Source: KEVIN. Iron Ore Deposits Map. *Map by Artofanderson.com* [online]. 2015 Dostupné z: <http://www.artofanderson.com/no/iron-ore-deposits-map/>

Resumé

Bakalářská práce pojednává o vlivu geografické polohy Česka a Velké Británie na historický vývoj národů zde žijících. Jedná se o čistě teoretickou práci, která využívá mnoha zdrojů k tomu, aby poukázala na podobnosti a rozdíly mezi Českem, Velkou Británií a jinými zeměmi světa ve světle historické geografie. Tyto podobnosti jsou nacházeny v několika společných významných historických událostech.

Anotace

Jméno a příjmení:	Pavel Tihlařík
Katedra:	Katedra anglického jazyka
Vedoucí práce:	PhDr. Světlana Obenausová, MLitt, Ph.D.
Rok obhajoby:	2015

Název práce:	Vliv zeměpisné polohy České republiky a Velké Británie na historie těchto dvou národů ilustrovaný vybranými historickými okamžiky
Název v angličtině:	Contribution of Geographical Positions of the Czech Republic and Great Britain to the Histories of the Two Nations Illustrated on Selected Historical Moments
Anotace práce:	Bakalářská práce pojednává o vlivu geografické polohy Česka a Velké Británie na historický vývoj národů zde žijících. Jedná se o čistě teoretickou práci, která využívá mnoha zdrojů k tomu, aby poukázala na podobnosti a rozdíly mezi Českem, Velkou Británií a jinými zeměmi světa ve světle historické geografie.
Klíčová slova:	Česká republika, Velká Británie, historie, geografie, historická geografie, vliv geografie na historii, osadníci, nerostné bohatství, metalurgie, průmyslová revoluce
Anotace v angličtině:	The bachelor thesis describes the contribution of geographical position of the Czech Republic and Great Britain to the historical development of the two nations. The thesis is theoretical. It uses various sources to show the similarities and differences between the Czech Republic, Great Britain and other countries using historical geographical approach.
Klíčová slova v angličtině:	The Czech Republic, Great Britain, history, geography, historical geography, contribution of geography to history, settlers, mineral resources, metallurgy, industrial revolution
Přílohy vázané v práci:	Appendix 1: Seashore Bratislava Appendix 2: Strait of Dover – Wave Heights Appendix 3: Dover Tidal Range Appendix 4: Anzio Tidal Range Appendix 5: Europe Wind Speed Appendix 6: Únětice Culture Excavation Sites Appendix 7: The Way of Metallurgy Appendix 8: Africa's Impressive Growth Appendix 9: Global Coal Distribution Appendix 10: Global Iron Ore Distribution
Rozsah práce:	38, 10 stran příloh
Jazyk práce:	angličtina