

TOPOGRAPHICAL
FINGERPRINT:
HOW GEOGRAPHY HAS
SHAPED CIVILIZATION

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How does geography influence the development of a civilization's culture? I am fascinated by early civilizations and how their challenges, discoveries, and failures continue to impact my life today. My research path made me aware of nature's constant impact on life and its powerful imprint. I am primarily interested in the earliest civilizations—Mesopotamia, Ancient Egypt and the Indus Valley civilization—and how each were located in places with distinct geographical features that, in turn, impacted their city structures, ways of worship, and advancements.

The inspiration for this sculpture came from writing a personal narrative about my relationship with the natural world. This artwork acknowledges how my body continues to struggle with nature. It wants and is trying to accept the natural world and live harmoniously, however, like men before me, it proves to be difficult. I included string to acknowledge nature's power and interconnectivity. The strings are affixed to my hands as a symbol for cultivating a relationship with the natural world, instead of attempting to alter geography to meet my expectations. One message I wanted to convey through this artwork is: although we want to and are conditioned to think differently, we constantly forget that human beings are also a part of the natural world.

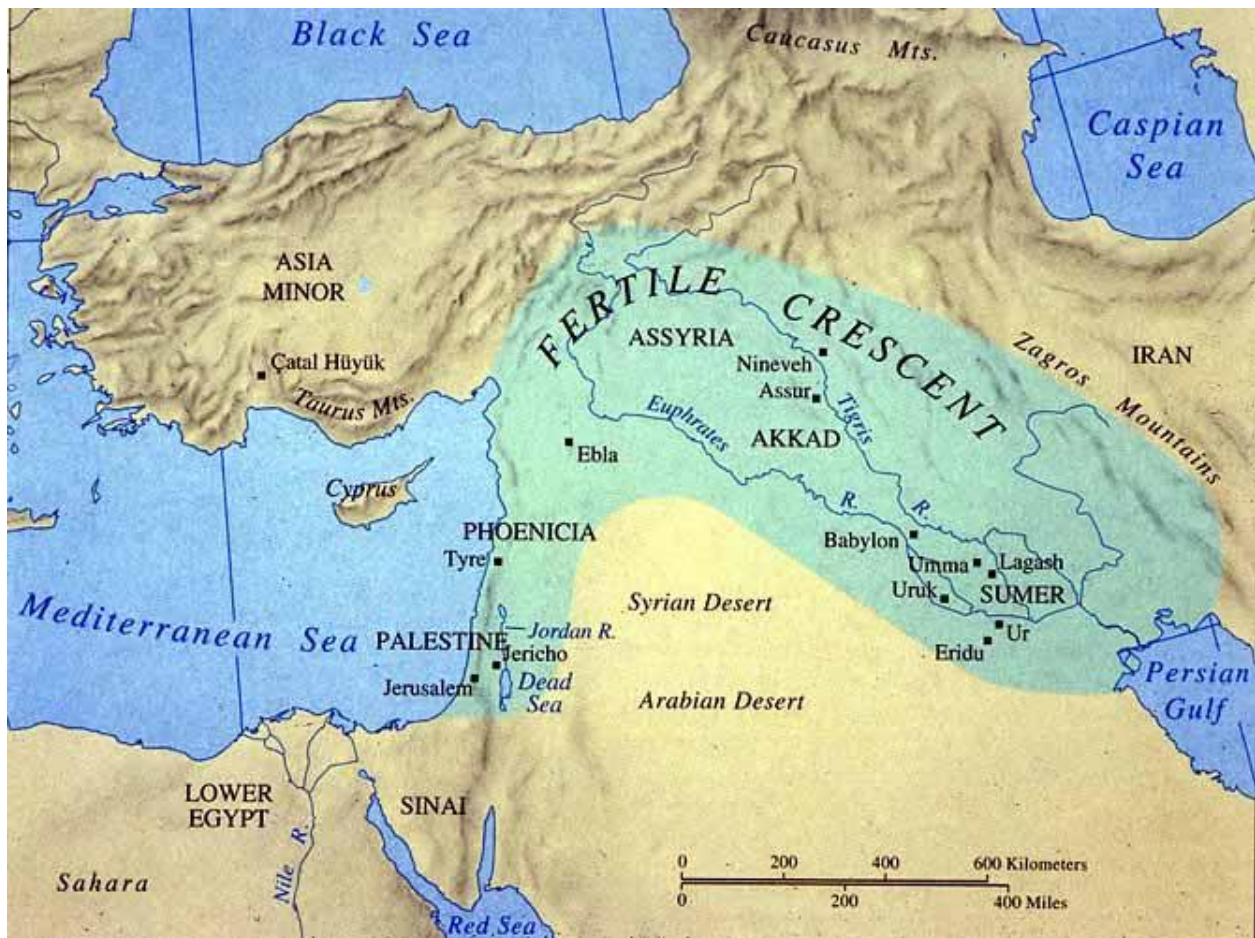
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This research paper will explore how Earth's geography impacts humanity. The link drawn between anthropology and geography is often forgotten or unacknowledged and my mission is to illuminate how they're connected, specifically through the lens of communication (the transfer of information). Whether by trade or language, geography is primarily the principle factor as to how civilizations have formed and evolved. Furthermore, this has influenced humanities lives substantially, from what we wear daily, to how we move or even learn. Even with society's technological advances (i.e. smartphones, cars, planes) that have essentially closed the gap of distance, at least, in terms of communication, there's still these overarching barriers (i.e. oceans, mountains, plateaus, oceans, forests) that nature has formed which would still intrude into our society and force evolution. So, given that geography has impacted almost every aspect of humanity, past and present, it's important to understand how these changes in the past have impacted societies because, it will lead to improving the changes we create for the future.

The geography of my hometown, Missoula, Montana, has influenced how I was raised. Growing up I've been able access such incredible opportunities solely by the location of my family's house, from weekly skiing in the snow-filled rocky mountains to spey fishing on some of the best rivers in America, The Clark Fork, Bitterroot and Blackfoot rivers, it's truly a versatile environment, especially dealing with outdoor activities. Being this close to nature has truly allowed for my attachment to the environment to thrive which, in turn, has also given me a enhanced awareness for how humanity is changing what is essentially, my backyard. One of my earliest recollections of realizing the interconnectivity of our world was 5 years ago.

When I reached the 6th grade, my middle school (Missoula International School) decided to venture to the Teton Science School for a week of intensive learning about the Teton Mountain range and stewardship. During this school trip my small class of sixteen stayed in log cabins less than 5 miles away from the magnificent Grand Teton. On the first day we had the opportunity to venture on small day hikes where we would learn about the vast ecology of The Teton National Park. Through the roaring wind and pouring rain our group marched to the base of the Grand Teton, where we stepped into our snowshoeing gear. Eager to get moving I placed myself at the front of our group, which also meant I had the best spot to listen to our informative guide explain the surrounding ecology, and what we were immersing ourselves in. The guide turned back to our group and told us to set our packs down by a cluster of yellow-leafed trees, when we were grabbing water and recovering she explained why those thin trees we were leaning on are so important. They're part of the aspen tree system: over thousands of trees connected together, forming a gigantic colony however, there's only root system making it technically one tree. Although this is a small seemingly unimportant fact that was underwhelming for my entire class, for me, this news was mind bending. Understanding that the ground I was walking on top of was entirely one unit, however appeared as thousands of individuals, allowed me to draw much richer connections between nature, the environment, and the impacts humanity has on it. From that fact on, I no longer looked at nature the same way, for example, it wasn't just a tree that I saw, it was an entire network of roots that lie under it benefiting and changing its surrounding environment. Learning that small fact, has allowed me to be continuously interested in learning about connections the environment has with human societies and their culture. How does geography influence the development of a civilization's culture? I intend to prove that a civilization's evolutionary track and culture primarily depends on their connection within their environment, which in turn changes a society's structure.

Since the dawn of human civilizations, societies have developed differentiating cultures, this is primarily due to the geography of that region. Mesopotamia, The Indus Valley, and Ancient Egypt are the first main examples of culture variation from solely the landscape encompassing their environment. Mesopotamia (land between two rivers), derived it's name



from the location amidst The Tigris and Euphrates rivers¹. Their often nicknamed the cradle of civilization because of their progressive inventions such as, domestication of fertile land, animals, the wheel, chariot, writing and the creation of dividing time into increments of 6's-seconds minutes hours. These vast creations all stemmed from the fact that their society had access to a steady crop yield which created food security. This is important because when societies aren't food insecure, then there's a dramatically huge shift towards art, literature, inventions and overall expansion². Out of this pentra of food came improved social structures/hierarchies and region. For example, all of the mesopotamians (Sumerians and Akkadians) had a king, however there was a council of nobles who could potentially overrule the

¹ Society, National Geographic. "National Geography Standard 6." *National Geography Standard 6 - National Geographic Society*. N.p., n.d. Web. 16 Apr. 2017.

² Giovannucci, Daniele. *Food and Agriculture*. Boston: Dept. of Food and Agriculture, 1982. *Food and Agriculture: The Future of Sustainability*. Web.

king on laws, war etc. in order to prevent poor leadership³. The deities that Mesopotamia (Sumer) worshiped are said to be around 3600 (60×60)⁴, the reasoning behind that number is because 6 is extraordinarily important to the mesopotamians because, they used a base 60 number system.⁵ These similarities stretched over their entire civilization however differences amongst the kingdom arose; the entire civilization was located in what is now modern-day Iraq stretching into part Syria, and Turkey, Mesopotamia created separate city-states that were constantly battling each other over the control of fertile land and water because although resource rich, there was still a lack in certain resources i.e. minerals that were valuable that on a finite amount of city-states had access to⁶. Each city-state that was developed in Ancient Mesopotamia, had a centralized temple of worship that directly coincided with their surrounding environment. This is primarily because the cities irrigation systems couldn't continuously hold enough water to create a harvest that had overflow, so they tried to force control of a new area with more rainwater/water and fertile land. This then led to more culture differentiation between city-states due to the increase of war and religious practices. The reason why there was a variation of culture from one city-state to another was because of the landscape that the city-state laid upon. Each city-state was contained one city, and only one temple where the priest lived. The temple was usually the center of the town and the buildings were constructed around this place of worship. Every temple had a different main deity that was worshiped, the deity was chosen due to an important part of the environment that they were encompassed in⁷. This usually was because of faith in the potential of a strong harvest to minimize famine and maximize the growth of their civilization. For example, if they were next to water, the temple would pay worship to Enki, god of water technology, for strong and resilient channels⁸. This was the case for the vast majority of city-states throughout all of Mesopotamia- Sumer and Akkadians. Along with Mesopotamia, close by, another civilization that erected before 3000 BCE was The Indus Valley Civilization.

³ "Ancient Mesopotamia for Government." *The Unusual Government of Ancient Mesopotamia - Mesopotamia*. N.p., n.d. Web. 16 Apr. 2017.

⁴ Karen Rhea Nemet-Nejat, (1998). "Daily Life in Ancient Mesopotamia", 182.

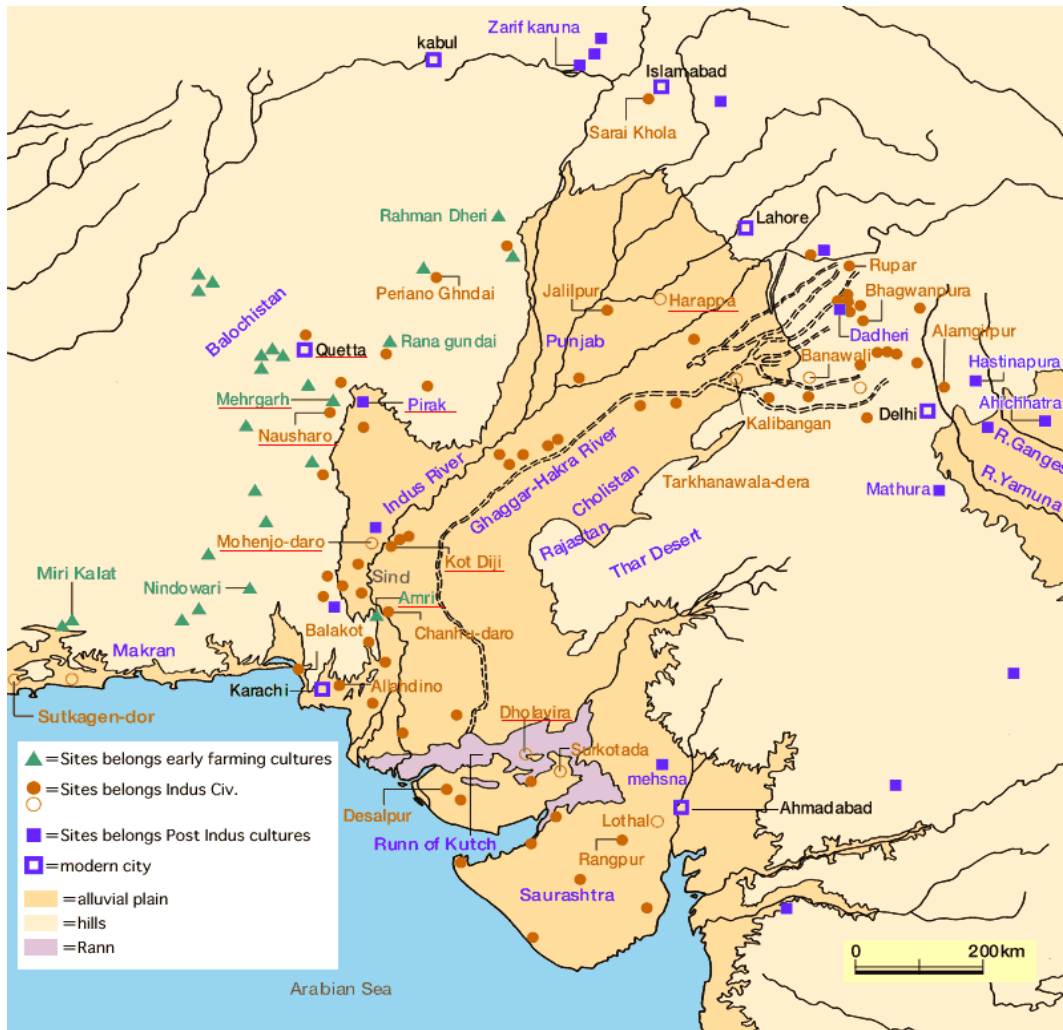
⁵ Melville, Duncan J. "Mesopotamian Mathematics." *Mesopotamian Mathematics*. N.p., n.d. Web. 16 Apr. 2017.

⁶ "The Sumerians of Mesopotamia." *Ancient History Encyclopedia*. N.p., n.d. Web. 16 Apr. 2017.

⁷ "Inside a Sumerian Temple". The Neal A. Maxwell Institute for Religious Scholarship at Brigham Young University. Retrieved 2017-04-16.

⁸ Jeremy A. Black, Jeremy Black, Anthony Green, Tessa Rickards, *Gods, demons, and symbols of ancient Mesopotamia* (1992), University of Texas Press

The Indus Valley Civilization, also known as the Harappan Civilization, coined after the first city discovered, swept through India, Pakistan, Afghanistan, and parts of Central Asia⁹. Again, similarly to Mesopotamia, this enormous civilization settled primarily next to flowing water, in this case, the basins of The Indus River, which stretches over 2,000 miles¹⁰. At its peak the Indus Valley Civilization had enough resources to sustain over five million citizens¹¹. This civilization differed from the Mesopotamian civilization because it had access to multiple rivers, and a delta,



however, it was blockaded by a mountain range which created an immense amount of isolation. Another important geographic feature that impacted the Indus Valley civilization was the Karakoram Mountain range in India-Pakistan, this is what the Indus river flowed into, which also created more access to new resources for the people of the Indus Valley. This civilization relied on monsoons for their agriculture, this is because they were located in one of the driest

⁹ "TimeMaps." *TimeMaps Atlas of World History*. N.p., n.d. Web. 17 Apr. 2017.

¹⁰ "Indus River." *Indus River - New World Encyclopedia*. N.p., n.d. Web. 17 Apr. 2017.

¹¹ "The Indus River Valley Civilizations." *Khan Academy*. N.p., n.d. Web. 17 Apr. 2017.

places on earth, the Indus Valley desert¹². All of these geographic features influence the Indus Valley civilization to the extent where their society and culture was completely different than that of the Mesopotamians. For example, the Mesopotamian city-state layout was a big building/temple then small houses built around, however the Indus Valley Civilization had no large buildings, temples or palaces just a standard size house. Each house had a well and a toilet that connected to a major sewage system which was embedded through the entirety of the city. This form of such advanced technology is still unmatched in many areas of Pakistan and India today. In terms of religion, we know that the Mesopotamians had a culturally-rich deep faith in the gods and demons, which would give them an explanation as to how their lives would be impacted by the “unexplainable”¹³. But, the Indus Valley appears to have no known signs of a religion of belief system, this is mainly because nobody has yet to be able to decipher their language so, there is still multiple theories as to what their social structure/hierarchy looked like. One of the few religious symbols that archeologists have found was soapstones of seals, some are part elephant, part or part unicorn however they do have some sort of religious meaning that the Indus Valley Civilization had with animals. Another interpretation on what the significance

of these seals are, is that since none were found in burial sites or places of great importance that they were used in trade or for accounting. No matter the purpose, this is an example of a direct impact that the environment had on a society that’s unlike no other because it’s specific to that region¹⁴. The main reason why the Indus Valley Civilization collapsed was because of climate change. The Saraswati River (a neighboring river) dried up which disrupted their entire society. Or, it’s said that a great flood came and washed out all of the civilization’s agriculture which would’ve destroyed their vast cities causing them to migrate¹⁵. Another civilization that was in parallel with the same time period as Mesopotamia and The Indus Valley Civilization, was The Ancient Egyptian Civilization.



The Ancient Egyptian Civilization was located along the Nile River and branched out at the Northern tip of Africa due to the formation of the Nile Delta. Ancient Egypt was located in an environment that was extraordinarily difficult to live in, almost impossible without maintaining close proximity with the Nile, this resulted with the nickname of Ancient Egypt being, “The Gift of The Nile”¹⁶. So, with immense isolation and very little are to control, it was extraordinarily easy to maintain power and develop the civilization's culture

¹² "Southern Asia Eastern Central Pakistan." *WWF*. World Wildlife Fund, n.d. Web. 17 Apr. 2017.
¹³ Morris, Peter (1994). *History of Urban Form: Before the Industrial Revolutions* (Third ed.). New York, NY: Routledge. p. 31. ISBN 978-0-582-30154-2. Retrieved 17 April 2017.
¹⁴ "Indus Valley Seal." *Indus Valley Seal*. Dead Media Archive. N.p., n.d. Web. 17 Apr. 2017.
¹⁵ Violatti, Cristian. "Indus Valley Civilization." *Ancient History Encyclopedia*. N.p., n.d. Web. 17 Apr. 2017.
¹⁶ "The Nile and Ancient Egypt." *The Nile*. N.p., n.d. Web. 19 Apr. 2017.

through one person's perspective and leadership. The Ancient Egyptian Civilization's geography can be divided into 4 sections, Lower, Upper, Black lands, and Red lands. The Lower section can be found where the gigantic 300 mile wide delta is, also where the civilizations majority of growth and expansion happened. The Upper section is the southern part of the Nile, this is extraordinarily small compared to the Lower section, because at times the width of the Nile spans only one mile across and eight in the valley. The Red lands are the east and western deserts that surround Egypt, this acted as a shield of protection from invasion, and resource robbery, however it's an extraordinarily hostile environment that's virtually impossible to sustain life. The Black lands are located along the banks of the Nile, the color is mainly silt deposits brought by the annual Inundation, this created for a fertile land for agriculture which allowed life to flourish along the banks. Ancient Egypt's culture was significantly different than that of the other ancient civilizations due to the fact that they had only one source of water throughout the entire civilization. This allowed for the Pharaoh at the time to have an immense amount of isolated power because of the isolation of the Nile. Because of this, the Pharaoh influenced the Egyptians to believe more in the fact that their life and environment was a blessing, or a "gift from the gods", this caused their philosophy on life to become entirely different. Instead of fearing death, Egyptians celebrated life and believed that death was actually, in fact, a continuation of eternal life, this is why such magnificent architectural tombs were created such as The Pyramids of Giza or The Valley of Kings. Another important influence on culture and society was the natural materials surrounding Egypt, this allowed for the economic classes to become more separated due to what type/amount of material was made to construct their house i.e: wood, mud, clay, stone¹⁷. If you were a slave, most likely you would be forced to go into the redlands and mine for resources that were extraordinarily dangerous, a 1 in 10 mortality rate to be more precise. From the uncomfortably hot climate of Egypt came a style that suits this trend. For example, the Egyptian culture was extraordinarily attached to the concept of hygiene. The change of appearance was mainly the cause what Pharaoh was leading Egypt¹⁸. As you can see, I've

established a trend in the fact that geography impacts a society's culture using the first civilizations as example, and I would like to fast-forward to the present-day to explain how this trend has continued in the modern era.



A question that you may have asked is "Does this still happen today?" this is why I will be explaining how a two-layered conflict over land has continued the trend as to how geography and culture relate. The Israeli-Palestinian conflict is an important current event in which geography plays an astronomical role. Since the initial conflict began with the end of WWII, the fighting between the Palestinians and Israelis over whose land it truly is has escalated astronomically. This is an example of Europe drawing country borders by themselves. One of the ways Israel has tried to go about fighting the Palestinians is with using their geography against them. For example, Israelis control a majority of land compared to the Palestinians, and in the land that Israel has, all of the northern territory is farmable which is a contrast for Palestine because they lack in fertile, farming-accessible land in the entire country. Another important part of this conflict is that

¹⁷ "Personal Hygiene and Cosmetics." *Ancient Egypt: Personal Hygiene and Cosmetics*. N.p., n.d. Web. 20 Apr. 2017.

¹⁸ Mark, Joshua J. "Ancient Egyptian Culture." *Ancient History Encyclopedia*. N.p., n.d. Web. 20 Apr. 2017.

Israel controls almost all of the water that pumps into Palestine which they rely on heavily due to the climate and agriculture. This has created an even more messy conflict over the land; it's made the land switch from not only holy land but land that also is tremendously valuable in order to sustain their entire economy and civilization¹⁹. In addition, Hamas (a terrorist organization) has also incorporated geographical tactics into fighting the Israelis. As of right now, they control The Gaza Strip, which is a very valuable/dangerous piece of land in this conflict. However, in order to maintain an advantage in they warfare they have built an elaborate tunnel system that travels all under the entire strip and into Israel, spanning over dozens of kilometer in length. This has allowed Hamas to store ammunition and missiles secretly without the possible leak of information from aerial photos. Also, from these tunnels they can smuggle people in and out of the limits of The Gaza Strip²⁰.

"The settlement of the Land of Israel is the essence of Zionism. Without settlement, we will not fulfill Zionism. It's that simple" (Shamir). "We only aim to de-legitimize the settlement activities and the occupation and apartheid and the logic of ruthless force" (Abbas). These are two sides of an the argument about the establishment of Israeli settlements beyond the green line. Israel has been establishing settlements past the green line (Armistice agreement), which has, in turn, been pushing out the Palestinians from their land. The Israeli-Palestinian conflict is extraordinarily complex and the fighting over whose land is who has created ripples throughout the entire world. There is no simple solution that can be drawn up (possibly a-two-state-solution), without tremendous repercussions. This is an extraordinarily sad example as to how Earth's geography has impacted civilizations culture.

Conclusion

A common trend that has stayed consistent throughout the past 10,000 years is, a civilization's evolutionary track and culture primarily depends on their connection within their environment. The reason why I choose the ancient civilizations was because they were all (with the exception of trade) isolated from one another severely. That way, homogenization and globalization would not affect these result, so the only fact or that is influencing the way the societies formed was their environment, which is in parallel with my thesis. Circling back to the aspen tree, nothing is as simple as it appears, without background information. Our specific home molds an individual's outlook/morals/values/socio-political views. This is tremendously important because if the gap between our restricted subjective outlook can be bridged with a global perspective on a healthy environment, human life and resources, this will virtually eliminate unnecessary conflict and tragedy in the modern world. I would like to use my final words to pose a question: How can humanity look beyond their backyard?

¹⁹ "Anthology of Ideas." *How Geography Contributes to the Israeli-Palestinian Conflict*. N.p., n.d. Web. 22 Apr. 2017.

²⁰ "Gaza's Underground: A Vast Tunnel Network That Empowers Hamas." *Al Jazeera America*. N.p., n.d. Web. 22 Apr. 2017.

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