

From Deficient to Dominant:

Technological Development and Humans' Relationships with their Environments

Historians frequently interpret early legends, origin stories, and religious texts as symbolic accounts of early human history. In particular, mythological figures often stand in for elements of humans' environments, and represent the abiotic factors with which humans interacted early in the development of civilization. In looking at these texts, a pattern emerges. The first humans are frequently depicted as deficient in some way, being dominated by the abiotic—and, sometimes, biotic—elements of their environments. As humans learn to control fire and tools, however, they make up for this deficiency. Finally, as their use of technology progresses to the development of agriculture and settled societies, these texts depict humans' dominance over their environments. In this way, the texts illustrate to varying degrees that, although humans did not have the physical prowess of many animals, their ingenuity allowed them to turn a shortcoming into a superiority.

Humans as Deficient

One of the clearest illustrations of early humans being dominated by their environments comes from the story of Prometheus. In Plato's *Protagoras*, Epimetheus distributes strategies for survival among the animals, but forgets to give man any beneficial qualities. Prometheus, upon inspecting, finds that "man alone was naked and shoeless, and had neither bed nor arms of defense." For this reason, Prometheus steals fire from Hephaestus and Athena, and gives it to man. Plato recounts that "in this way man was supplied with the means of life" (*Protagoras* 1).

In Plato's illustration, humans would have been lost if not for the pity of the gods. In A.W. Reed's account of Australian *Aboriginal Legends*, humans are similarly depicted as pitiable prior to the discovery of fire—however, the *Aboriginal Legends* give humans somewhat more agency in the discovery. In the story of “Water-rat and Fire,” Reed recounts that before the discovery of fire, “men lived a miserable existence, eating food of every kind raw and shivering in their makeshift shelters on winter nights” (Aboriginal 60). The text describes Water-rat working with his teeth, and coming home soaked and cold to find wind whipping through his home. In short, his existence is characterized by hardship and by a lack of technology.

Water-rat himself makes the discovery of fire, however, and applies his ingenuity to capture fire and bring it to use. He notices that his teeth, striking against the rocks, sometimes produce sparks, and that those sparks are hot. He experiments every night until he discovers that he can produce sparks by twirling a stick against a wooden baseplate, and capture them in dry grass. In this way, *Aboriginal Legends* suggests that, while humans were still deficient prior to the discovery of fire, they can be credited for the discovery through their industriousness.

In the Quiché *Popol Vuh*, humans are still given credit for ingenuity, but through their connection to the gods. Just after receiving their gods, the *Popol Vuh* describes early humans as follows: “There were no clothes of the better kinds. They were in patches, they were adorned in mere animal hides. They were poor. They had nothing of their own. But they were people of genius in their very being” (Popol 152). The *Popol Vuh* clearly illustrates that, although the first humans were not well-equipped materially, their success came from their mental faculties and, as we will see in the next section, from their connection to the gods.

Humans Draw Level: The Use of Fire and Tools

In the *Popol Vuh*, the Quiché are given fire by their god, Tohil. However, the other tribes of people did not have fire, and are still described as being dominated by their environment. The text

recounts “they were being finished off...they could bear the cold and hail no longer. By now they were chattering and shivering. There was no life left in them” (Popol 154). The other tribes come to the Quiché to ask for fire, and the Quiché agree to give it to them if they agree to be “suckled” by Tohil. The other tribes consent, but then discover that to be “suckled” means to be offered as a sacrifice. The text thus shows the Quiché, who have fire, using their advantage to defeat the people who do not have fire. As this text is written by the Quiché people—in particular, the Quiché upper class—this defeat is celebrated as a triumph of superior gods and superior technology.

While the story of the Quiché shows the use of fire to defeat other, less advanced people, not all of its uses are so violent. Returning to the story of Prometheus, we see that Prometheus does not just deliver fire to humans, but also provides them with the crafts which fire enables—namely, the creation of metal tools. Plato recounts that Prometheus “carried off Hephaestus’ art of working by fire, and also the art of Athene.” (Protagoras 1). This illustrates that, although the material gift given to humans was fire, the effect of the gift would be to allow humans to develop its associated crafts. Aeschylus illustrates this in *Prometheus Bound*, where Prometheus, responding to the accusation that he gave fire to “frail mortals,” declares “Yea, and [they] shall master many arts thereby” (Prometheus Bound 12). This demonstrates that the development of fire and the development of tools were intimately connected, and, in the context of the story, shows humans using them to make up for their physical deficiencies.

A further expression of technological dominance is found in the *Bible*’s story of Cain and Abel. In this story, Cain rises up and kills his brother, Abel, when God is more pleased with Abel’s offering than with his own. Cain is a farmer, and Abel a pastoralist. Now, agriculture and pastoralism are often viewed as parallel innovations, but in this context, agriculture can be viewed as more technology-intensive, requiring tools to till the land, and also as more sedentary. Furthermore, Cain, who survives to produce a lineage, is the ancestor of Tubal-Cain, who is described as “the forger of all instruments of bronze and iron” (Genesis 4:22). By describing Abel’s death at the hands of Cain, the *Bible* shows how

well-equipped agriculturalists with metal tools may have been able to defeat those without these advancements.

In this text, however, Cain's victory over Abel is not celebrated, but rather punished. When god sees what Cain has done, he curses him to be unable to grow food, and to become a "fugitive and a wanderer on the earth" (Genesis 4:13). In effect, Cain, the agriculturalist, is punished for killing his brother, the pastoralist, by returning to a nomadic hunter-gatherer lifestyle. One possible interpretation of these events is to show that the Hebrew people valued the coexistence of pastoralism and agriculture. Animal husbandry would be the primary source of animal protein for years to come, and was an important aspect even of settled societies.

Human Dominance over the Landscape

The *Bible* goes on to illustrate the co-dominance of agriculture and pastoralism in the story of Esau and Jacob. Esau is Jacob's older brother, but sells his birthright to Jacob in exchange for bread and lentils—products of Jacob's farming. Later, Isaac, as he lies dying, sends Esau to hunt meat for him so that Esau can receive his blessing. His wife Rebekah, however, wanting Jacob to receive the blessing instead, sends Jacob out to slaughter goats from their herd and prepares their meat for Isaac, so that Jacob deceives Isaac into giving him his blessing. Isaac then blesses Jacob to prosper in agriculture, giving him "the fatness of the earth, and plenty of grain and wine" (Genesis 27:28). Jacob and his sons go on to found the twelve tribes of Israel.

The *Bible* in this way illustrates the dominance of both agricultural and pastoral practices over hunter-gatherers. And, in contrast to the story of Cain and Abel, Jacob is celebrated for his dominance, earning the favor of God, and lordship over his brother. His lineage of twelve sons is considered the founding people of Israel, a civilization reliant both on agriculture and on animal husbandry.

Many of these same themes are present in the Mesopotamian classic, *The Epic of Gilgamesh*. In this story, Enkidu is a wild man, who runs with animals and symbolizes humans as hunter-gatherers. A

hunter lures Enkidu away from the wilderness with a prostitute, and brings him into society. There, Endiku's "taming" is presented as a loss of innocence, as the childlike Endiku matures into the customs of civilization. Enkidu first weeps when he is told he will be unable to return to the wilderness and run with his friends the wild beasts. Eventually, though, he is overcome by the satisfaction of the products of an agricultural civilization—bread and ale. The following passage is illustrative:

“Enkidu ate the the bread until he was sated,
he drank the ale, a full seven goblets.
His mood became free, he started to sing,
his heart grew merry, his face lit up.

The barber groomed his body so hairy,
anointed with oil he turned into a man.” (Gilgamesh Proo-IIo)

By depicting the hunter-gatherer Endiku as juvenile, and showing his “maturation” into a member of society who takes his pleasure in the products of agriculture, *The Epic of Gilgamesh* celebrates the triumph of society's influence over so-called animal instincts. The taming of Endiku thus illustrates the dominance of agricultural society over its wild environment.

The *Epic of Gilgamesh* goes still further, however. Once Enkidu is brought into society, he and Gilgamesh—the King of Uruk and the *Epic's* bastion of civilization—set off on an expedition to defeat Humbaba, the guardian of the Forest of Cedar. This completes Enkidu's transformation, beginning as an element of wilderness and now setting out to subdue it. This also parallels the symbolic transformation of human society, going from an element within its environment to a dominant force over its environment. The *Epic* looks upon the quest of Gilgamesh and Enkidu as a great feat, and celebrates their bravery in attempting to defeat Humbaba.

Many centuries later, one final text shows how the landscape is not used only for agricultural dominance, but for aesthetic pleasure. Ji Cheng's *The Craft of Gardens* is a Song-Dynasty Chinese text that illustrates complete human manipulation of the landscape. Ji Cheng uses what he sees as natural elements of the landscape as a reflection of the garden's creator. In doing so, Ji Cheng suggests that a

man expresses himself in the way he manipulates the landscape around him. He instructs that “the depths of your imagination should be full of pictures, and your feelings should overflow into hills and valleys” (Craft 106). As can be seen in Portland, OR’s Lan Su Garden, Chinese gardens were careful to balance elements of masculinity and femininity, dark and light, rough and smooth, and many other dualities characteristic of buddhist and daoist philosophy, both of which were prominent in this period.

In incorporating layers of meaning into the landscape around him, Ji Cheng celebrates proper garden-craft as a high form of aesthetic taste and sensibility. It reflects that the notion of human dominance of one’s environment is so progressed that one can use his environment to reflect his values back on him. Indeed, in the context of a society which has progressed so far that dominance over the landscape has become the norm—China was the most deforested area in the world at this point—Ji Cheng suggests that one reflects their taste and judgement in *how* he dominates the landscape, and when he chooses to leave some areas untouched.

Contrast this last example with the early origin story texts depicting human deficiency in the face of their environments, and it should be clear that the progression of texts illustrates the viewpoints of societies observing the human-abiotic interaction progressing from deficiency to dominance. These viewpoints vary in their value judgements on how dominance is carried out—some are more violent, some express a sensibility that values something more nuanced than all-dominance-all-the-time, but the clear trend is one which celebrates human ingenuity in moving from a position of disadvantage to one of dominance. These latter values especially are still relevant today, as societies continue to carve out space for abiotic factors in a world which predominantly and increasingly reflects human influence.