The History of Ancient Mesopotamia

Isaac Newton once said “The only reason I have seen further is by standing on shoulders of giants.” He implied that our technological improvements and advancements did not happen overnight, but started from the ancient times and were improved by us. Mesopotamia was the place that had a plethora of natural resources and that allowed to people to concentrate more on inventing new technologies, rather that hustling all day to grow food. The ancient Mesopotamian inventions contributed to the modern world by providing the foundation for many technologies we consider necessities. Sumerians were not the first people to live in Mesopotamia, but also Assyrians, Babylonians and Chaldeans however, they were the first to use their ‘free time’ and make something that would benefit them in the long run. In our modern world, technology is evolving at an unprecedented rate. Today’s modern and state of the art technology will end up being the antique of tomorrow(dhwty).

In order find out what have we have inherit from the Sumerians we have to take a brief look around us and ask ‘what is something that is an inseparable piece from my life?’ One could argue a cellphone, others may claim their cars as something they cannot live without. If we take a deep look at those two separate items we see they have something in common, wheels. The hard drive of the cell phone has disks inside and the car uses an engine with pistons and car tires. The wheel is so basic in our everyday lives that many people don't realize that someone had to come and invent it. The wheel has also impacted the literate world by the symbolic meanings of the circle of life and death which was is a basic principle in the religions of the Sumerians and Egyptians (Dawkins 50). The wheel was not like any of the other primitive technologies like writing and cultivating animals even though they occured at relatively the same time everywhere in the world. Sumerians were the first ones to implement the wheel in their everyday lives so that they can benefit from it. Archaeologists have found ancient Incan toys with wheels on them, but the question is why did the Incas not use the wheels correctly (Dawkins 67)?

The first wheel ever found in history was in an archaeological excavation in Mesopotamia around the bronze age in 3500 BC (dhwty). The driving force for the Sumerians to invent the wheel was to make more effective tools out of bronze to help them hunt and fight (dhwty). Some historians argue that the need for wheels was not because of the the upsurge of the bronze age but because of their need to produce more pottery. The structure, that included the wheel, was an axle that allowed it to spin (dhwty). This complex combination verifies the two scenarios of pottery and of axing the tools. Some historians argue that the wheel was first invented in Mesopotamia and then spread to the rest of the world (dhwty). On the contrary, other historians argue that the wheel was invented in multiple places and at the same time because of

archaeological excavations in Slovenia that found a wheel around the same time when Sumerians had the wheel (dhwty).

Eventually the wheel was a new pioneering way of transporting humans, but the absence of roads made the wheel less likely to be used compared to animals, which could withstand more time of travel and less maintenance (dhwty). The applications of the wheel in the Sumerian life were in irrigation systems, farming, mining and pottery. Its ability to participate in any application made the wheel unique to mankind and gave the title of the best achievement that humanity has (dhwty). Homo sapiens noticed that you can move a heavy object easier if it has a circle form. Sumerians placed huge objects on circular wood logs in order to transport them (Snowden). After the Sumerians, Egyptians made chariots with spoked wheels, to reduce the friction and make them stand longer, just like modern bikes (Snowden). Egyptians passed their blueprints to the Celtic aereas, British Isles, and they added iron layers on the wheels, like horseshoes, to make them last longer. The first chariot with iron wheels was found in Edinburgh, Scotland (Snowden Jackie).The Celtic wheels remained the same for centuries that even the first Ford cars released were designed with iron spiked wheels. In the 19th century, there was a need for more durable wheels and the American scientist Robert William Thomson invented the pneumatic tire (Snowden). Thompson's wheel had the centar wheel surrounded by plastic and his model became the new universal car tire (Snowden).Wheels are something found everywhere in our lives and the progress we have made from the first wheel to this day is remarkable.

Mesopotamia comes from the Greek 'meso' in the middle, and 'potamia' rivers; orthe country between the two rivers, tigris and Euphrates (Bhugra). The land next to those rivers was fertile and Sumerians considered it a gift from the Gods. However, the rivers used to flood every spring; resulting in crops being washed into the Mediterranean sea. Sumerian engineering saw the problem and decided to build irrigation channels, not only to let the water flow into their cities and farms, but also to provide a safety mechanism for the city: an alternative path for the water that used to destroy their crops. The water supply was not ordinary, but rarely high temperatures made the land incapable of farming for an eight-month period every year (Bhugra).

The irrigation channels made those risky places safe spots for farmers to cultivate the land. The Sumerian canals were not made by labor force, but with the use of machinery. The most important machine Sumerians used to dig the canals was called swape: a machine composed of gears and a big shovel that was used to dig canals from a distance (Bhugra). The canals were framed by laws requiring farmers to keep clean and enforce the canals next to them with mud. In case of a flood, most of the time farmers were ordered to dig new canals barricading the city and their farms from the excess water (Bhugra). In 714 BC, Armenia invaded the Sumerian empire and saw the canals and how natives took care of them and they decided to take

Sumerian engineers to Armenia so that they could construct their canals (Bhugra).The crops that Sumerians could produce in abundance were onions, garlic, grapes, wheat, and pomegranates. The canals mentioned above allowed farmers to trade more effectively with other cities, so the demand for more crops at the same time arose. In 2000 BC, a farmer had the idea to hitch his ox with a stick and let the ox walk in a straight line while he would throw seeds in the diches formed; this was the creation of polwing (Bhugra).

What allowed plowing to be the main method for farming was both its effectiveness and its blueprint that was easy to duplicate. After the Sumerians, the next civilization in mesopotamia that has contributed a lot to our modern world is Ancient Egypt. In order to see how Egyptians have affected our lives, we have to take a look at the mirror and ask, why are we still alive? One of the greatest contributions to our modern world is medicine. Egyptian medical practice is considered so advanced that only modern practitioners could debunk it, and it took them centuries. The philosophy behind their practice was that they understood that diseases can be treated with pharmaceuticals, the healing potential of massage and explicit value on the importance of cleanliness (Joshua EM). Egyptians were most effective when dealing with injuries because they knew exactly what caused them and what the best treatment could be (Joshua EM). However, diseases were a lot harder to get a proper diagnosis on. The ideology behind someone getting sick is that they had committed a sin, being haunted by a ghost, or if a spirit/God wanted to teach a lesson to someone (Joshua EM). “The earliest doctor was a magician, for the egyptians believed that disease and sickness were caused by an evil force entering the body”(Joshua EM).

The way Egyptians tried to cure diseases was different for each occasion. If the disease was because of a spirit/God entering the body, aromatherapy and massage were used to please the Gods and grant the person protection. If the disease was diagnosed as t an evils spirit that was inside the body, spells and potions were used to drive away the demon (Joshua EM). All those techniques were wholly described into the medical texts found written in papyrus. Very few medical texts from Ancient Egypt survived the destruction from floods and fires. More specifically, the Chester Beatty Papyrus describes the treatment of cancer using the cannabis plant, as it is said to be the earliest drug according to Herodotus,- and diseases dealing with the anorectal(anus and rectum)(Joshua EM).The Perhin Medical Papyrus describes instruction to cure fertility problems, pregnancy tests, and birth control techniques (Joshua EM).

The Ebers Papyrus toggles cancer cases and uses new treatment that it mentions is not effective, diabetes, depression, and contraception methods (Joshua EM). The Edwin Smith Papyrus is the oldest papyrus describing surgical techniques on patients and dates back to 1600 BC (Joshua EM). The Demotic Magical Papyrus is nicknamed as ‘the bible’ of magical spells and magical potions (Joshua EM). Papyruses were devoted to one topic and tried to fit all the treatments available to them. The Heart Medical Papyrus unitarily deals with tract infections

and digestive problems while the London Medical Papyrus toggles healing treatments for injuries in the eyes, skin and burnings (Joshua EM).The name of the Papyruses was given by the organization that discovered it. Due to the close connection between medicine and religion, doctors were considered to be priests of Per-Ankh. The place where they did most of their practice was a the ‘House of life’. Every temple in Egypt had a building attached to it so that people, after going to the temple, could worship the Gods and then they would go see the doctor. Imhotep (2600 BC) was one of the chief officials of the Pharaoh Djoser and a medical practitioner that was crowned the God of Medicine, even though he was a human. He became known as the creator of secular medicine due to his arguments about diseases not being punishments by Gods, but occurring naturally (Joshua EM).

The first known female doctor was also Egyptian. Merit-Ptah was the chief doctor in the palace in 2700 BC. Egyptians saw doctors and priests and it was not difficult for them to have a female in that profession. This Situation attracted many females to migrate to Egypt and become practitioners. The famous example of Agnodice of Athens (400 BC) who moved to Egypt to become a physician because women in Athens were not respected in the medical field (Joshua EM). Dentistry was first practiced in Egypt, but the way archaeologists found out was by the teeth of the mummies and very few medical papyruses. It is unknown why such an everyday activity would receive so little attention from the historians of that time. The first ever recorded dentist was Hesyre (2600 BC) while people used to do it before 4000 BC (Joshua EM). The first priority of all the practitioners was to ease the pain from their patients, and their used stimulants to relax them. The ingredients documented were honey, herbs, cannabis, and opium; the latter was used before a surgical procedure.

Egyptians were engaging in surgical procedures regularly; the tools used in their tables were so effective that doctors still use them to this day (Joshua EM). After every procedure or any medical treatment the doctor always changed the patient's diet because the Egyptians recognized that one’s diet had an impact on their health. Most of what we know about the Egyptian technology is by reading their papyruses and while we looked at them we never asked how did they made papyrusses and how did they set the basis for our paper. Papyrus ‘Cyperus Papyrus’ is a plant found in abundance in the delta of the Nile river and for years it was part of the natural vegetation, until people found another use for it and cultivated it (6500 BC) (Joshua EP). When we are asked to name the applications of papyrus, most would say paper, but Egyptians thought differently. Their first application of papyrus was in their diets as a crop that was in abundance. After processing the papyrus, they had the idea to take the plant’s fibers and turn them into ropes, baskets shoes, and even boats. Papyrus as a flower, was offered in temples as gift to a God. And it was also the political symbol for the northern part of Egypt. When craftsmen found out that you can turn the plant tino papyrus paper, the value of the papyrus skyrocketed (Joshua EP). Papyrus gets its name from the Egyptian ‘papuro’ meaning royal , because the land next to the river that was abundant, it belonged to the Pharaoh.

The difficulty with making papyrus paper was not only due to the rarity of the material but also the process of manufacturing it. The process by which the Egyptians made papyrus is almost the same process we use today in our factories to manufacture paper. The stem was cut in thin strips so that layers would form, then they were pressed and water would come out as the layers would dry and stick together (Joshua EP). Making papyrus paper was a very exclusive job that only people with background experience were allowed to process the plant to make paper. Anyone who was willing to make papyrus paper had to practice first the technique on wood and ostraca (Joshua EP). However, the craftsmen had another problem to deal with and that was the length of each papyrus. The Egyptian papyruses were found to be 20 meters long or one hundred and ten pages of modern A4 paper (Joshua EP).

In case something went wrong in the making process, the papyrus paper would have to be cut and a new paper had to be made from scratch. They were not for everyday use but only for government records,spells , and medicals texts(Joshua EP). Excavating the Egyptian ruins, archaeologists came across a material known the the old world, glass, but their glass had something different. Researchers proved that egyptians were not the first to try making glass, but they get credit for incorporating glass in art and culture (Sohn). Traces of glass as a material go back to the Sumerians, but Egyptians found out the formula to make the glass clear and suitable to use in art; The formula is composed by sand-silica (a type of quarts),lime,soda and powders to make it cleanser(Sohn). The first glass vessels were introduced by Tuthmosis I after his military expansion to the middle east. Before Tuthmosis I, lass was used in making beads for necklaces and other decorative (Egyptian glass). Due to the easily accessible materials required to make glass , Tuthmosis II, the descendant of Tuthmosis I, increased the scale of glass manufacture and allowed more people to bring their ideas into the glass making process. Around that time, Faiencing was the process invented by those craftsmen and their process is still used today(Egyptian glass). Egyptians looked at the glass and saw something other than vessels and beads. They saw some new properties and found application in engineering, the most known is cold cutting. Cold cutting is a technique that Egyptians invented to cut stones and wood logs with high accuracy and it used to this day to cut pipes(Egyptian glass). Had it been for the cleanse glass Egyptians knew how to produce, they increased their wealth by trading in the mediterranean sea. Egyptian glassmakers most likely sold and sent their glass to workshops all through the Mediterranean(Sohn).

Glass had the property no other material had at the time,it could change its shape just by melting it. If something went wrong in the transportation , it could just be re-melted and the product would be ok, unlikely clay products that would be thrown away(Sohn). Glass trade was favored because Artisans receiving the chunk of glass, had the full discretion on how to handle the material and no limits by the manufacturer, contrary clay products could no physical change but only painted(Sohn). Nonetheless, we have not even touch the most important contribution of the glass in our modern world. The material that allowed us to use our three-pound ‘jelly’ inside

our heads to figure out what is happening in the macroworld and microworld (Dartnell 11). Glass was the material that allowed for Aristotle to prove that the earth was round, Hippocrates to become the father of medicine, Hipparchus to make the antikythera mechanism (Dartnell 11). Glass was implied in science by scientists who wanted to observe something not-visible by naked eye. They found out that if a lens had inside curve, it would be easier to look object that are further away and if the lens had a outside curve, it would be easier to see smaller objects(Dartnell 12). The new invented technique of using glass lead to the scientific revolution and allowed Newton and Galileo to become the fathers of physics, Copernicus to prove that the geocentric model of the galaxy of the church was wrong and Kepler to further expand the world of biology.(Dartnell l9).

The scientists used the old blueprints left by their predecessors and managed to lift the dark blanket of the middle ages. Before the industrial revolution , scientific discovery was a privilege of the rich and all the projects were done so that the rich could impress their peers in house parties(Dartnell 30). Benjamin Franklin is considered to be the one liberating science of the mansions and giving it to the people, after his well-known experiment proved that the lighting is not the power of God but just electricity. Alessandro Volta was able to produce that fearsome event of electricity by inventing the battery and proves once and for all that science is for everyone.(Dartnell 36). The miracle of science is how something small like a piece of glass from Egypt affected the world. In conclusion, no matter where we look in our society either the future of the past, we can see our activities having connections with the work done by our predecessors. I could never be able to write on this computer if the Sumerians did not invent the wheel. I would be on starvation if it weren't for the Sumerians to invent the plowing method that made food production faster. We wouldn't have bathrooms if it wasn't for the Mesopotamian to create irrigation systems. More than the half of the population would be dead if it wasn't for the Egyptians to create the science of medicine. Writing on stones could be a reality if the Egyptians hadn’t come up with the idea to make paper. Without glass, the Zhangjiajie Glass Bridge in China, built entirely by glass, it would be just a normal bridge. The ancient mesopotamian civilizations had pioneering spirits and their technologies have made our world a better place.