

History of Time by Cansu Gülbahar

Time is money. As humanity, the invention of planes, ships, cars is related to gaining time. A long time ago people realized that we can't go back in time, at least till the time we reach the speed of light, so they wanted to handle their work fast or minimize the hours we spend on the way. In such cases, we decided to explore the history of time which is something that we live our lives according to.

Clocks based on Sun's movements

Humans first interpreted the places of the Sun in the sky for the purpose of dividing time. If it was close to the horizon; it meant the first part of a day which is sunrise, and they explained the rest of the day like this.

Sundial is a clock that is based on the sun's rapid moves, and it was seen as a way of dividing the days into parts like hours. There is no evidence to explain which civilization invented but definitely, in Ancient Egypt and Ancient Iraq, the Sundials occupied a big place. Also, the Old Testament mentioned sundials. Again, other ancient civilizations such as Ancient Greeks and Ancient Romans used sundials too. Sundials remained a common way of telling the time until the early 19th century. Roman writer, engineer, and architect Vitruvius said that there are thirteen various styles of sundials across Greece, Asia Minor, and Italy.

Water Clocks

The basic principle of the water clocks is based on the frequent flow of water from a container to a container. It is considered to have been used by Egyptians or Babylonians after sundial, possibly in 1400 BC. It is claimed that it was used in China in much earlier times. 'Water clocks' were the earliest timekeeping devices that didn't use the measurement of the sky to calculate the time. Most of these clocks were used to determine the hours of the night, because on sunny days, water evaporates.

The Greeks separated the year into twelve parts that are called months and each month is divided into thirty parts that are called days. Thus, their year had 360 days. Also, Egyptians and Babylonians divided a day to 24 hours; 12 hours for a night and 12 hours for a day. So, time could be calculated more accurately. To make timing more reliable they divided every hour to 60 minutes.

These numbers are special for many cultures. People realized they can observe events in the long term around the world by following the star's movements. They formed constellations by grouping the sky. Now we call it the Zodiac cross. It explains that the sun's passing through 12 constellations. It also remarks 12 months, the equinox and solstices. In many ancient cultures, based on that star's effect on the world's situation, religious beliefs were developed. The Sumerian sexagesimal system gave the idea of dividing hours to 60 minutes to Egyptians. It was also developed 4000 years ago by Sumerians.

Hourglass

It is known that it started to be used in Europe in the 8th century. Furthermore, it is a controversial issue as to who and when the first hourglass was used. Historians think it might be used in Europe in the 8th century first.

Mechanical Clocks

The mechanical clock was invented in the Middle Ages. The First inventor is not known but the oldest working clock in the world is in Salisbury Cathedral, and it was built in the 13th century. The first pendulum was invented in 1656 by Christian Huygens. Actually, he invented the first pendulum clock with the mechanism. His clock had an error which was caused showing the time one-minute late every day. Later then developments in mechanical clocks accelerated. In the 1700s, pendulum clocks were losing only 1 second a day. It was a miracle for that year. Developments continued and now everyone can access their place's time, besides they can access other city's hours even if they are in different continents.

Ancient civilization's time expressions

When we think about who thought about time firstly, Ancient Egypt comes to our mind. They had realized some nature events rapidly happening through time. Nile Floods were the primary disaster. It was a natural cycle, and they could notice it while looking at movements in the sky. So, they started observing the sky and created the first calendars to be able to measure nature events in the long term. "Furthermore, they changed the calendar, which they initially calculated as 365 days, to 365 days and 6 hours, considering the position of the dog star Sothis (Sirius) at the time of the overflow of the Nile." (Winlock, H.E., The Origin of the Ancient Egyptian Calendar, Proc. Amer. Phil.Soc., 1940, Sa. 83, s. 447.)

"In Ancient Egypt, time was considered as not a line which consists of past-now-future, but as a circle. They believed after death people will be judged by God but a soul which was sent to heaven will return to the world after 3000years." (Çamuroğlu, Reha, Dönüyordu: Bektaşilikte Zaman Kavrayışı, Dogan,2000, p.14.) For a society who has realized that natural events happen regularly, Likewise, they might think about their lives in a circle. Also, they were considering these natural events as a plot that was written by God. So, with the solutions they developed, we can say that they were a very pragmatic society.

"The Chinese were masters of producing many instruments to measure time. Incense clocks are an example: Burning incense or candle shows the expiration time, moreover, it emits pleasant scents. By making different incense sticks from different flavors, the smell tells where the time is." (Whitrow, G. Time in History: Views of Time From Prehistory to the Present Day, p. 91) While we are considering this eccentric culture of China, we should not be surprised that they come up with such solutions.

The last civilization we will talk about is the Mayans. They occurred in Mexico. They were also using a calendar because they depended on natural events. So, they made a calendar which has 13 months and 20 days for every month. Also, they had a sun-based calendar. It included 365 days. By combining these two calendars, they formed a special day circle which consisted of 18,890 days, they were believing that history would repeat itself every 18,890 days.

"Ancient Civilization's Time Expression" part was written by referring to the knowledge of Ayşe Yıldız's article which is The Social Origins of the Time Conception and A Sociological Time Use Survey Analysis: The Case Of Bursa

Today, we may communicate with someone from other continents. To call them, the first thing to do is to find the best time. Or when we wake up, our first job is learning what time it is. Time is something that we set up our lives on. So getting to know the history of time makes us understand its own value.

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The Social Origins of the Time Conception and A Sociological Time Use Survey Analysis:

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