

Time Realm in Physics

The most fundamental astronomical unit of time is the day, measured in terms of the rotation of Earth.

An analogy

Especially in computer technology some are hardware (material/touchable) and some software programs. In Old Testament there was physical sacrifices (*viz.* Leviticus chaps 1-7...) and in New Testament changed into spiritual sacrifices. (Hebrews 13:15-16; Romans 12:1)

So one is physical clock and then theoretical clock linked with soul/spirit/dreams/thoughts/imaginations. Our body has 5 senses (sight, smell, hearing, taste, and touch) and soul carries 6th sense and Parapsychology deals that.

Just like measuring – solid with kg/m...; liquid with liters/gallons...; gas with cubic meters,... But measuring time is not tangible (material) just like solid, liquid, or gas, but we say time span. Measuring time span for present, past and future depends the type of Realm!

Physical Realm – Earthly clock – linked with body; physical measurement – hours/minutes/... (we can say linked with time span of present)

For we were born yesterday and know nothing; our days on earth are but a shadow. (Job 8:9)

My days are like a lengthened shadow; And I wither away like grass. (Psalms 102:11)

Intellectual Realm – dreams – linked with soul; intellectual span – thoughts/imaginations/....

e.g. thinking is independent of space and time; time in dream is different of actual physical waking time. We can say dreaming time linked with past and present and may not with future.

For my days pass away like smoke. (Psalms 102:3)

What is your life? It is just a vapor, appearing for a little while, and then vanishing. (James 4:14)

You have made my days a mere handbreadth; span of my years is as nothing before you. (Psalms 39:5)

Spiritual Realm – linked with Holy Spirit; unlimited boundaries, such as, God is everywhere/...

(we can say linked with time span of past, present and future)- Spiritual experience.

e.g. When Jesus on the Cross said to one of the robbers “*today you will be with me in paradise.*” (Luke 23:43), he was talking about, not today of Earth but of Heaven- Spiritual Realm.

In Paradise with resurrected bodies we will be independent of space and time just like Jesus - *the doors locked, Jesus came and stood among them.* (John 20:19) In our present mortal bodies we cannot enter inside with doors locked, as we are under confinement of space and time. Here we are dependent of space and time- means cannot be in two places at the same time (unlike God is everywhere) and needs earthly time to travel (unlike angels) *Gabriel, being caused to fly swiftly.* (Daniel 9:21)

God's time

i) God's time is linked with Spiritual Realm.

ii) God's frame of time reference covers our past, present and future timings.

As in Fig.C we see big man [symbolizes God] can look past, present and future path of a tiny ant but a toddler [symbolizes human being] can't look its future path.

iii) Time as a symbol - sometimes in the Bible, God uses the time as a symbol, like –

At that time Tyre will be forgotten for seventy years, the span of a king's life. (Isaiah 23:15)

History of time/day durations

* 2 parts- day and night (Genesis 1:14; Psalm 121:6)

Day to day pours out speech, and night to night reveals knowledge. (Psalm 19:2)

* 8 parts (each part = 3 hours) - Indo-Aryan era - (1800-500 BC)/In Punjabi - 8 Pahars (every Pahar equals to 3 hours)- Biblical term – watches (every watch = 3 hours)

My eyes are awake before the watches of the night (Psalm 119:148)

Peter and John were going up into the temple at the hour of prayer, at three in the afternoon. [in Urdu Bible – 3rd Pahar] (Acts 3:1)

* 12 parts of day - *Jesus answered, are there not twelve hours in the day? If any man walks in the day, he stumbles not, because he sees the light of this world.* (John 11:9)

* 24 parts -*Sundial of Ahaz* (Isaiah 38:8)- that device measuring time by Sun's shadow- falling/increasing.

It is known as the Dial of Ahaz, after the king of Judah who supposedly invented the sundial in the eighth century BC. Using the Sundial the Babylonians divided the day into twenty-four hours. They

observed the periodic movement of the Sun and at night time movement of stars from east to west, for measuring discrete units of time, they used water clocks. (These were vessels that either had holes for water to flow out of at a constant rate or were filled from another vessel and had markings on the inside to indicate increments of time.)

* Invention of Clock

Humans tend to view time as a continuous flow, moving forward in a straight line. – past, present & future. The most fundamental astronomical unit of time is the day, measured in terms of the rotation of Earth. There is, however, more than one way to define the day. Usually, we think of it as the rotation period of Earth with respect to the Sun, called the solar day.

The first clockmaker to add a seconds hand to a clock was the Swiss mathematician and horologist Jost Bürgi (1552-1632). And alarm clock with mechanical movement and adjustable time was patented in 1847 by the French inventor Antoine Redier.

Since the early 2010s, smartphones and smartwatches have become the most common timekeeping devices. The most accurate timekeeping devices in practical use today are atomic clocks, accurate to a few billionths of a second per year.

Clock difference-Einstein's perspective:

Fig. A: Einstein's time dilation equation:

$$t' = t \sqrt{1 - v^2/c^2}$$

where t' = dilated time
 t = stationary time
 v = velocity
 c = speed of light

From the above equation, in certain frame of reference, if a body is moving with relativistic speed, we can get; 1 second = 1000 years

e.g. let's put in this equation,
 $v = \frac{9}{10} c$

After some calculations we get

$$t' \approx 2 t$$

that means if something is moving with $9/10^{th}$ of velocity of light, its time becomes nearly twice, such as: 10 sec \approx 20 sec

Fig. B: Our mechanical arm clock on Earth



e.g. let's compare some timings:
 One day on moon = 29.5 earth days,
 and 8pm on earth = 8:37 pm on Mars,
 or one day on Mars \approx 24 hours & 40 minutes on Earth
 Then just imagine, how about in Spiritual Realm,
 e.g. times in Paradise as compared to times on Earth!

Now science and religion are in coordination,

With the Lord a day is like a thousand years, and a thousand years are like a day. (2 Peter 3:8)

Human time

i) Our planet Earth's year –

As Earth orbits the Sun, it completes one rotation every 23.9 hours. It takes 365.25 days to complete one trip around the Sun.

So Our Earth's time/clock \rightarrow watch, clock – seconds/minutes/hours/days/months/years.

ii) Our Moon's year

A lunar year is the time it takes for the moon to complete 12 cycles of its phases, which is about 354 days. So moon's time/clock has some difference by using Einstein's theory of general relativity, physicists found that clocks on the Moon would run 56 microseconds faster than clocks on Earth.

iii) Planet Mars's year

Mars is further from the Sun compared to the Earth, it's year is 687 days, i.e. < 2 Earth years.

That means our Earth's clock is not comparable/equal to other planets' clock.

But God's time which is linked with Spiritual Realm covers all our human beings times.

Personal feeling

When we are happy, time flies. During periods of sadness and grief, time passing very slowly.

Long and weary nights of misery. I pray for night to end, but it stretches out. (Job 7:3-4)

Yet I will rejoice in the LORD; I will take joy in the God of my salvation. (Habakkuk 3:18)

For God so loved the world that he gave his one and only Son, that whoever believes in him shall not perish but have eternal life. (John 3:16).

Prayer - Jesus give me grace to accept you as my personal Saviour and Lord. AMEN

Concluding - time is relative it depends from where or how we are looking it whether with physical or spiritual perspective.