

CHAPTER ONE

THE ORIGIN AND COMPOSITION OF THE UNIVERSE

In this chapter

- We will examine the concepts of time and logic
- Consider how the universe began
- Explore the notion of empty space
- Reason logically how the universe came into existence
- Be introduced to an energy called origo



Time Is Only a Comparison

Time seems to be a mysterious thing that moves in a forward direction. We are thrust into the future constantly, whether we welcome it or not, and we attribute this to time as if it were some tangible thing pushing us along.

Some people speak about time's curious property that allows us to divide it into infinitesimally small periods. The fact is, however, that we do not divide time.

Time is the name used to describe the system of measuring either how long events take to occur or the length of a period between particular events. The length of these periods will not change, no matter what we call them.

The names that we give to certain periods, such as seconds, minutes, and hours, etc., enable people to communicate with one another about how long the intervals between events are and how long events take to happen. If we did not use these universally understood terms, one person could not say to another, "Meet me in an hour," and expect to meet the other person at the expected time. Under these conditions the world would be a very confused place.

Some people say that time is unidirectional, always flowing relentlessly toward the future. The fact is time does not flow in any direction. We typically have a distorted view of what time really is. It is often thought of and portrayed as some entity that exists independent of everything else in the universe.

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Our perception of time is a direct result of the logical way that our universe works. We see time as flowing forward because that is how events seem to occur. When a ball falls through the air and strikes the ground, we see the ball fall through the air and then strike the ground. For us, this is the way it is supposed to happen.

We know from previous experience that the ball cannot strike the ground before falling through the air. In this universe, when events happen, they happen in the logical manner that we have come to expect from previous experience.

Events always happen in an order which, from our perspective, seems like a forward motion as each event always precedes the next logical event in a sequence. The entire event or sequence of events happens within a certain time period. In our minds we couple that time period, or what we perceive to be that time period, with what we perceive as forward-moving events, giving us the illusion that time is some independent entity in motion. This same type of illusion gives us the feeling that “time is standing still” or that “time is flying by.”

Occasionally we perceive the period in which events happen as being shorter or longer than it actually is. When time seems to stand still, we perceive an event or sequence of events happening within a longer period than it actually does. Likewise, when time seems to fly by, we perceive an event or sequence of events happening within a shorter period than it actually does.

When we refer to the measurement of time, what are we actually saying?

If someone were to say, “I will use my stopwatch to record how much time it takes for this event to happen,” what he would actually mean is, “I will use my stopwatch to record how

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long this event takes to happen, in comparison to the period my stopwatch is calibrated to measure," which is the Earth rotating on its axis. In this example, which is representative of all "time measurements," some independent entity called time is not measured. What transpires is simply a comparison of the periods of two separate events; the event being observed, and the rotation of the Earth.

Time is nothing more than the measurement and comparison of the periods of separate events.

The period in which events are happening we call the present. From our perspective, the present is the here and now; it is a fleeting moment that was in the future and will soon be in the past. In the present and only in the present are events actually occurring.

Events do not occur in the future, and events do not occur in the past.

Events that have already occurred did so within a certain period; when the event is finished, the period in which it occurred is also finished. This period is not something that continues to exist; it was merely the reality of how long the event took to occur. This period was a certain length, and if we compare it with another event or sequence of events, and record the results of this comparison, we would have knowledge of the length of the period. If we then proceed to continually compare the period from when the event occurred to the present and record it, we would have knowledge of when the event occurred relative to any event or period of which we also have knowledge. This knowledge gives us the illusion that the event and the physical objects associated with it somehow exist in the past; this is only an illusion.

Events occur only in the present; therefore, physical objects and reality exist only within the present. The past is nothing more than events that occurred before the events that are occurring right now in the present.

The future is something we see as a time yet to come. The future, however, is not a “time” at all.

We know from previous experience that events happening in the present will cause other events to happen. We are accustomed to mentally connecting these anticipated events with the periods within which they will occur. We do this out of habit and necessity, because if we did not, we would not survive for long, either as individuals or as a species. In order for people to survive, we must be able to predict the future. If we could not predict that walking in front of a fast moving vehicle will result in serious injury or death, there would be no reason for us to refrain from doing so. In this world of fast moving vehicles, we would be extremely lucky to survive for even one day.

Every action that we consciously perform is an exercise in predicting the future. The more variables that we are able to rapidly factor in, the better we become at predicting the immediate future, which increases our chances for short-term survival. In addition, the longer the sequence of events that we are able to accurately predict, the greater are our chances for long-term survival.

When events happen in the present, their effects in the future are inevitable.

There will be a certain period between particular present and future events. We can predict the length of this period, and therefore we imagine it as being a certain fixed length of time in the future, as if time is something that somehow

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extends from the present into the future. Time, as was stated earlier, is nothing more than the measurement and comparison of the periods of separate events. We can compare the periods within which events happen, and the periods between events, but events occur only in the present. If we accept these statements as correct, it becomes clear that time is not some tangible thing that extends into the future; we only imagine that it is.

The future is nothing more than the inevitable events that will occur after the events that are occurring right now, in the present.

We all have probably read books or seen movies that deal with the subject of time travel. The classic idea of time travel involves people and/or other physical objects somehow “traveling through time” to a period in which the events taking place either had already occurred or had not yet occurred before the “time travel” took place. This idea assumes that time is some tangible thing that can be navigated within.

The idea that physical objects can travel into the past or future is illogical. It is illogical because there are no physical past or future realities into which to travel.

Logic Is Simply a Reflection

Human reasoning is the reflection of the nature of the universe. We tend to think logically because that is what we learn from observing the universe around us.

We know that a ball that is dropped from a height must fall through the air before it strikes the ground. We know this