Time: A Trick of the Mind or the Fabric of Reality?

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Abstract

Our existence is governed by time, yet its essence remains confusing to us. Time could be one of the most difficult concepts for human beings to understand. In his *Confessions*, St. Augustine asked some very deep questions about the nature of time: What is time if the past no longer exists, the future never arrives, and the present is too fleeting to comprehend? His arguments go contrary to our common sense and scientific knowledge. In this article, we are going to re-examine Augustine's puzzle and see what it tells about time in light of modern philosophical reflection and research in physics. We introduce competing solutions to the puzzle by considering theories in phenomenology, relativity, quantum mechanics, and emergent time models. We suggest that instead of time being intrinsic, it is perhaps more revealing to consider time as emergent, co-temporal with the other, or co-present mentally. The essay ranges from eternally contemporary philosophical concerns and the latest scientific knowledge, exposing new revelations into the nature of time.
Key words: Philosophy of Time, St. Augustine, Phenomenology, Relativity, Quantum Mechanics

Introduction

While sitting in a park, an old man watched the children play there. He could not help but smile as he watched his grandson, who was chasing a butterfly, running on the grass with his small feet. Suddenly there came a sudden nostalgia; was it not yesterday that he himself was a boy, playing in the fields in the same manner? Despite everything, here he was, his wrinkled white hands, and it appeared as if years had passed in a fraction of a second. He sat and asked himself, "Where has all of the time gone?" In the same way, sometime during our existence, we shall also find ourselves sitting wondering about the time we passed through. Although time is moving by in a way which is irresistible and unchanging, we do not really know what time is. Although it is running our life, we are not able to see it, we are not able to stop it, we are not even able to slow it down. This takes us to the questions of the following kind. Is time an entity that really exists in the physical world or just a work of the mind as an illusion?

St. Augustine, a theologian and philosopher who lived in the fourth century, discussed this question in his work. He famously wrote in his *Confessions*: *"*What then is time? If no one asks me, I know; if I wish to explain it to one who asks, I do not know." Augustine's puzzle puts us in a paradox: If the past is gone, the future never occurred, and the present is fleeting, then what is time, anyway? How do we really know anything exists if everything is constantly moving away from us? These are not arbitrary questions; these in fact put us in the position of questioning the foundations of physics and what we do know about the universe. Nowadays, we have physicists talking about time using concepts like relativity, quantum mechanics, and thermodynamics, and philosophers debating whether time exists or not or if it's simply a thought construct. None of these frameworks accounted for Augustine's paradox properly.

This essay is looking at Augustine's definition of time and how modern scientific and philosophical knowledge comes into this same question. Is time an illusion? Is it something we put on our mind, as Augustine's example may perhaps suggest? There are three central concerns which underlie St. Augustine's deeply paradoxical conception of time as he puts it. “The past no longer is; the future is not yet; and the present, if it were always present and did not pass into the past, would not be time but eternity.” (Confessions, XI.14.17). We shall identify them as the Past problem, the Future Problem and the Present Problem respectively to examine each of them in somewhat detail in the next section.

The Past Problem

Augustine's first problem stems from the fact that the past does not exist anymore in any physical form, but we remember it quite vividly. When we think about a childhood memory, we do not have direct access to the past but only to an impression or image in our mind. Augustine says that "the past" exists only insofar as it is within our minds as a memory. Yet, memory has a major role in shaping up one’s consciousness overall. This leads to the following problem; why should something that no longer exists continue to shape our consciousness?

For example, think about the way one remembers a song, a lullaby that we heard a long time ago, during one’s childhood. The actual performance of the song is past, but we can relive it in our minds, often even feeling the same way as we did the first time that we heard it. But this reproduction in the mind is not to say that the earlier performance of the song continues in the present—it is only a shadow, a replica of what it was. Thus, the past seems to have a peculiar partial-existence within human memory, but outside of it, it vanishes into nonexistence.

The Future Problem

Augustine makes things more complex by highlighting that the future isn't here yet, but we still look forward to it. He is writing: “The future is not yet; and if it were always to remain future, it would never be. But if it is to be, it is because it will pass from the future to the present and from the present to the past.” (Confessions, XI.14.17)

We create plans, hold expectations, and feel emotions like hope and fear regarding things that have not happened yet. But if the future is not yet real, how can it have such an influence on us? In other words, how can something non-existent can causally effect something else. An easy way to show this paradox is by thinking about waiting for something, like a big examination. The stress and planning for the event indicate that the future might have some impact, but really, it doesn't exist until it turns into the present. Augustine argues that what we think of as "the future" isn't really the future, but just a reflection of our thoughts and expectations that are happening right now.

The Present Problem

Of the three temporal dimensions, the present seems the most concrete since it is the only moment in which we truly live. Yet Augustine finds even this notion unstable: “If the present were always present and did not pass into the past, it would not be time but eternity.”

(*Confessions*, XI.14.17) At first sight, the moment seems to be the sole reality, but the moment we attempt to measure or define it, it disappears. Let us assume that we begin the task of defining one indivisible moment in time—the precise now we are living. The moment we attempt this; it immediately becomes the past. Any measurement of the present involves a lapse of time, but time broken down into ever-smaller bits eventually dissolves into thin air.

The following thought experiment illustrates this problem vividly. Assume that you are blinking your eyes. As soon as you make an effort to concentrate on the blink-ing activity itself, it is already over. Even when you make an effort to retain the present in your grasp, it continues to disappear into the past. This contradiction led Augustine to argue that time itself is not absolute, its being more of a result of human experience than of external reality.

Contemporary Perspectives on Augustine's Concept of Time

St. Augustine's conceptions regarding time are an issue relevant in contemporary philosophy, specifically for phenomenology and metaphysics. Thinkers are still grappling with his paradoxes in connection with the overarching question regarding consciousness and subjective experience. The two substantial contributions are the phenomenological understanding of the time paradoxes by Augustine and the taking of the position of *distentio animi* (distension of the soul) as a key approach for understanding temporality

Phenomenology and the Subjective Experience of Time

In his comparative analysis of Augustine and Edmund Husserl, philosopher Nicolas de Warren states that Augustine's views on time anticipates phenomenological accounts of temporality. De Warren contends that Augustine's thesis that time exists only in the mind as a distension of the soul prefigures Husserl's internal time-consciousness, in which past, present, and future are constituted in a continuum of retention (memory), primal impression (the present moment), and protention (anticipation). De Warren states: "Augustine's inquiry into time lays the groundwork for understanding time as an essential structure of human consciousness, rather than an independent entity in the external world." (de Warren, Husserl and the Promise of Time, 2009)

This view is contrary to Newton's and Aristotle's traditional conceptions of time as not being just an objective flowing entity. Rather, it is congruent with modern phenomenological accounts emphasizing time as something closely associated with how we experience, recall, and anticipate experience. Augustine's paradoxes—that the present, past and future do not exist objectively, but are felt to exist—is in line with debate on how time is constituted in existential philosophy and cognitive science.

Distentio Animi: The Tension of Time in Consciousness

Augustine's concept of *distentio animi*, according to which the soul is stretched out across past, present, and future is a relevant addition to the discussion. It is a complete existential and psychological theory of temporality that distinguishes between human experience as existing in distinct temporal dimensions. Jean-Louis Chrétien, in discussing Augustinian temporality, suggests that *distentio animi* is the reason why there is the fragmented character of

human life. We are never entirely in the present because we are constantly pulled away by the past memories and longing for the future. So, time becomes subject to a tug-of-war kind of tension within, hence time appears to be stretched and not naturally flowing. Chrétien writes: *“For Augustine, time is not a thing in the world; it is the soul’s struggle with finitude, its attempt to reconcile memory, expectation, and perception into a coherent self.”* (Chrétien, *The Call and the Response*, 2004)

Scientific Conceptualizations of Time

Newtonian Conception

The nature of time has been one of the most perplexing questions not only in philosophy but also in science. While Augustine approached time as a deeply subjective phenomenon which exists only within the mind across past, present, and future, initial scientific inquiries attempted to define time as an objective feature of the physical universe. In classical physics, time was considered as an absolute and independent dimension that moved at a uniform rate regardless of our observation of it. This is as put forward by Isaac Newton, who thought time was universal and constant—a sort of background on which things occurred, irrespective of space. Newton wrote in his *Principia Mathematica*: *"Absolute, true, and mathematical time, of itself, and from its own nature, flows equably without relation to anything external."* (1999, p.408) Imagine a vast river flowing smoothly from an unknown source to an unseen destination. This river represents Newton’s absolute time—steady, uniform, and independent of everything around it. Regardless of whether someone is standing on the riverbank, sailing downstream, or swimming against the current, the flow of the river remains the same for everyone. Events such as boats drifting on the water occur within this river, but they do not affect its movement. In Newton’s view time is just like this: a separate, ever-moving backdrop against which all physical events occur. It exists independent of our perception or position in the universe as observers or participants.

This view stands in contrast to Augustine’s assertion that time has no independent reality apart from human consciousness. Augustine questioned how time could truly exist if the past no longer is, the future is not yet, and the present is too fleeting to grasp. If Newton’s absolute time were real, it would provide a fixed temporal framework against which all events unfold. Yet Augustine’s introspective analysis suggests that time is not an external entity but something deeply tied to the human experience of memory and anticipation. The fundamental distinction between subjective time, a mental construct, and objective time, a physical reality, is quite important in contemporary debate on time.

Einstein’s view

Newton's conception of absolute time was actually challenged by Albert Einstein's Theory of Relativity in the beginning of the 20th century. Einstein's theory actually transformed our knowledge regarding time. He established that time is not constant; rather, it can be different depending on with whom we are speaking and in which frame of reference. This concept totally revolutionized the Newtonian conception of time as an independent universal parameter with the addition of a more dynamic framework within which time is tied with space.

Einstein's Special Theory of Relativity, published in 1905, introduced the notion that time does indeed stretch out, or go slower, for those moving at relative speeds. This implies that two individuals traveling at different speeds can both be experiencing time differently. This finding goes against the ideas of Newton and even that of Augustine's whereby time constitutes a single and ongoing experience of the soul. General Theory of Relativity which Einstein developed in 1915, shows space-time actually curves under gravity. Depending on the strength of the field of gravity, this curvature allows time to elapse at different rates.

These relativistic effects have been verified by physicists in experiments, particularly in the operation of GPS satellites. These satellites must compensate for time dilation due to their velocity and the lower gravity at their altitude. If Newton's absolute time were true, GPS clocks would not have needed all those corrections. (Ashby, N. 2003). If Augustine's interpretation that the question of time is just a question of how we subjectively perceive it was absolutely true, then there would never be any way of coordinating time among observers. Relativity tells us that time isn't some lifeless object or something we just think up. It's a physical attribute of the universe that varies depending on how quickly things are moving and the influence of gravity.

Relativity considers time on the large scale. Once we go into detail, quantum mechanics complicates things. As in classical physics, time is considered to be a smooth and continuous dimension within relativity framework. But in quantum theory, the nature of time is not identified as that straightforward. Some theories propose that time actually doesn't exist at very small scales, and only comes into being when we actually measure it (Rovelli, C. (2018). This is a concept which roughly goes along the lines of Augustine's concept that time is a psychological construct, but this comes from an entirely different school of thought.

So, while Augustine was struggling with the intricacies of time from a phenomenological perspective, modern physics has met with its own paradoxes. Scientific theory has also gone on to say that time might not be a uniform flow experienced by everyone but rather an emergent phenomenon, susceptible to manipulation by physical factors, the observers' own motions, and even quantum interactions. The evolution of time from Newtonian absolute time to Einstein's relative time is very much a defining moment in our experience of time. However, the chapter of time in modern science does not end there. In the following section, we shall see two more conceptions of time in contemporary science.

Quantum Mechanics and the Problem of Time

While relativity treats time as a flexible coordinate woven into the fabric of space-time, quantum mechanics introduces an even stranger perspective. In the microscopic world of particles and waves, time does not behave as smoothly as it does in the scheme of relativity. The fundamental laws governing particles at this level do not inherently distinguish between past and future. This time-reversible quality of quantum equations suggests that, at a fundamental level, time may not "flow" in the way we experience it.

Suppose you were to watch a film of two billiard balls colliding. If you played it in reverse, you would not be able to tell whether it was running forwards or backward. Both would appear

perfectly normal. That is the way that time works in quantum mechanics. Compare that with everyday instances: if you break a glass, it breaks, but you never observe shattered pieces reform back into a glass. That is because, in our macro world, time has a definite direction. Quantum mechanics does not require this direction, though. It handles time as a coordinate, just like space, where traveling in either direction is a mathematical possibility. We perceive time to travel in one direction due to other reasons, such as thermodynamics and the rise of entropy, rather than quantum laws themselves.

Physicist Carlo Rovelli, in his work on quantum gravity, proposes that time may not exist as a fundamental entity but rather as an emergent phenomenon that arises from interactions between systems. In his relational interpretation of quantum mechanics, time is not an absolute variable but something that depends on the observer's interaction with other systems. Rovelli writes, “Time is not a line, but a complex, ever-changing web of relationships between events” (Rovelli, *The Order of Time*, 2018). This aligns with Augustine’s suggestion that time exists only in the mind, except that in Rovelli’s interpretation, it may exist only as a byproduct of relationships between quantum systems rather than being intrinsic to the universe.

Emergent Time: A Recent Synthesis

One of the really interesting and newer concepts in time research is the notion that time could be pulled from an even more fundamental reality that has no time at all. Various quantum gravity theories, such as loop quantum gravity suggest that on the very most basic level, there simply is not any kind of "time" to be found at all. The time we perceive is rather a statistical or macro effect produced out of even more basic timeless equations. As theoretical physicist Edward Witten puts it, “Space-time is doomed.” (Witten, 2018)

Suppose there is a lake that is absolutely still. At the instant that it is never to be disturbed, the lake's surface is level and even—no movement, no direction, no "before" or "after." This stillness is the starting point of reality, the instant at which time cannot begin. You throw a piece of rock into the lake. The collision creates waves of movement in every direction. As the waves continue, we can see a chain of events. First, the rock strikes the water, then the ripples begin to form, and then they spread outward. In our eyes, there is now a "before" and an "after", giving us an illusion of forward progression of time.

Physicists who are interested in quantum gravity propose that time could be just as much so. At the deepest level of reality, i.e., prior to any "disturbance" there may not have been such a phenomenon as time. The underlying equations that rule the universe do not incorporate any direction of past or future within them, just as the quiet lake does not have any movement. But when processes of very large scales are involved, like when there are interactions between an uncountable number of particles or the creation of complex structures, patterns develop, such as the waves in the lake. These patterns make up what we experience as time, even though time might not exist in its most fundamental form. As John Wheeler famously stated, "Time is what prevents everything from happening at once." (Misner, Thorne, & Wheeler, 1973). In this perspective, our perception of time is not an essential feature of the universe but an *emergent* one, brought about by more primitive, time-less laws.

This is analogous to Augustine's paradox. If time isn't there in a fundamental sense but merely as a way through which human life would structure experience, then his argument that time is merely the distension of the mind takes an unexpected support from contemporary physics. The nature of experience of time may be akin to how temperature arises within an ensemble of particles. Just as there is no single atom of "heat," there may be no ultimate thing of "time. Stephen Hawking also alluded to this when he said, “The laws of science do not distinguish between the past and the future.” (Hawking, 1988).

Conclusion

The time paradox of St. Augustine is actually one of the most compelling problems we have. The concepts he outlines in Confessions—that the past is behind us, the future is ahead, and the present is whizzing by so fast we can't even grab hold of it—are still puzzling philosophical and scientific debate about what time is. We can summarize how different explanations, ranging from phenomenology to contemporary physics, attempt to make sense of this mystery. Relativity accounts for time as a dimension of spacetime, and quantum mechanics adds to it the element of probability, but none of them sufficiently account for the way each one of us subjectively experiences the passage of time. Emergent theories propose that time emerges out of more primitive processes, which are cognitive, physical, or relational.

Instead of an integral part of life itself, time is perhaps something that exists independently of our minds and is dependent on how we view and interact with the world. The paradox of Augustine illustrates that we do not know enough about time yet and must think carefully about its nature. His puzzle continues to stimulate debate today, reminding us that time is not only quantifiable but a difficult, unresolved enigma at the centre of our lives.

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