

Original Paper

The Evolution of the Concept of Time: From the Cyclical Theory of Ancient Greece to the Ontological Reconstruction of Modern Subjective Rationality

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Received: March 31, 2025

Accepted: April 19, 2025

Online Published: May 7, 2025

doi:10.22158/jrph.v8n1p92

URL: <http://dx.doi.org/10.22158/jrph.v8n1p92>

Abstract

The evolution of the concept of time has undergone three major stages: the cyclical theory of ancient Greece, the linear view of Christianity, and the modern reconstruction based on subjective rationality, revealing a profound transformation in humanity's ontological cognition. Rooted in celestial cycles and natural rhythms, Ancient Greece constructed a model of eternal recurrence that dissolved the directionality of history. Through the redemptive narrative of Creation and Apocalypse Judgment, Medieval Christianity established a unidirectional, linear conception of time, infused the divine purpose into the course of history and internalized it as a perceptual framework for the soul's extension. By the modern era, the Scientific Revolution and the rise of subjective rationality had subverted tradition, pushing the conception of time from cosmic order to subjective construction. This process not only presents a cognitive leap from dependence on nature to the authority of reason, but also reflects human beings' complete ontological awakening from cosmology to existentialism in the co-construction of time and existence.

Keywords

Concept of Time, Ontological Time, Theological Time, Subjective Rational Time

1. Introduction

To a certain extent, the evolution of the concept of time can be regarded as the history of the evolution of Western philosophical thought. Every philosophical reinterpretation of time—from the ancient Greek philosophers' awe, through the medieval theological conception of time, to the modern revival of subjective temporality—has signaled a profound paradigm shift. Undoubtedly, the conception of time from ancient Greece to the modern era has underpinned Western philosophy's ontological foundations.

However, contemporary discussions on the ontology of time often fall into a binary opposition between linear and cyclical views, overlooking reconstructive logic that subjective reason brings to the essence of time. Therefore, this thesis maps the philosophical journey from cyclical theories to the reconstruction of time by subjective rationality, uncovering the ontological revolution underlying the evolution of temporal concepts. Specifically, it examines how time shifted from an external cosmological parameter to a constitutive element of modern subjectivity. This shift not only shaped the cognitive paradigm of Enlightenment rationality and the spatio-temporal colonization logic of technological modernity, thus laying the intellectual foundation for Marxist studies on the concept of time.

2. Ancient Greece: The Construction of Time in Natural Ontology

In ancient Greece, philosophers were most perplexed by the ceaseless flux of all things. The alternation of the seasons and the cycle of day and night fostered their first awareness of time. Their wonder at nature's continual birth and death brought time into philosophical inquiry. Throughout their lives, they pursued the eternal, seeking immutable laws amid flux to overcome their fear of change and ultimately to banish flux itself. This yearning for permanence reached into temporal theory, inspiring the notion of cyclical time. The essence of the cycle lies in the elimination of flux, and the essence of the cyclical conception of time lies in the elimination of time itself. The ontology of the Eleatic school embodies its profound negation of the concept of time. Parmenides took "being" as the object of philosophical inquiry, for it is "complete, unique, immovable, and infinite", excluding "non-being" from the scope of philosophical investigation. He denied the reality of changing things, negated motion, change, birth, death, and evolution, and essentially rejected the continuity of time itself. As a student of Parmenides, Zeno proposed four paradoxes of motion—the Dichotomy Paradox, Achilles and the Tortoise Paradox, the Arrow Paradox, and the Stadium Paradox—in defense of his teacher's views and to refute opposing criticisms. However, Zeno actually analyzed paths of motion rather than motion itself. The trajectory of motion does not possess real-time existence; thus, using a static trajectory to argue for motion itself is logically self-defeating. Building upon the foundations of the Eleatic school, Plato constructed the philosophical framework of the "world of ideas" and the "world of things." However, unlike the Eleatic school, Plato did not completely expel the Eleatic notion of the "world of opinion" from the scope of philosophical inquiry. Instead, he went further to explore the interrelation between the "world of ideas" and the "world of things," asserting that the world of ideas constitutes the perfect paradigm for the world of things. In turn, the world of things is an incomplete reproduction of the world of ideas. The entire phenomenal world becomes the product of the Creator's imitation of various perfect ideas within this philosophical system. Time is manifested through the eternal motion of the celestial spheres, thereby granting the cosmos a certain degree of eternity. This close association between time and motion not only laid the foundation for the later formation of the concept of time in Western physics, but also profoundly influenced Aristotle's philosophical analysis of time.

However, when Aristotle posed the question in *Physics* whether “time is something that exists or does not exist”, the philosophical gaze shifted from Plato’s exalted realm of Ideas to the empirical terrain of physical motion. By deconstructing the Platonic conception of sacred numerical structures, Aristotle brought time back into the realm of real motion, reconstructing its ontological foundation through the human consciousness’s measurement of the sequence of material movements. This paradigm shift from psychological speculation to the measurement of motion not only dissolved the transcendental sanctity of time, but also re-situated temporality within the continuous texture of material existence, opening an epistemological pathway for the empirical measurement of time. Aristotle held that the past has vanished and no longer exists, while the future has not yet arrived and thus does not exist either. Therefore, time is an attribute of motion, and its existence is grounded in the continuity of material movement. The continuity of material motion is dialectically manifested as the flow of time through the concept of the “now.” The “now” serves as both the boundary separating past and future and the thread that preserves temporal continuity; it is through this distinction between before and after that motion and change are experienced, and through motion and change that time itself is perceived. Aristotle provided a definition of time as “the number of movement in respect of before and after.” In Aristotle’s view, time encompasses both the objective aspect as the measure of motion and change, and the subjective aspect as it is perceived and experienced by human consciousness. This dual nature renders time a complex and multidimensional concept, closely intertwined with both natural laws and human experience.

3. The Middle Ages: Reconstructing Time from a Theological Perspective

The natural ontological conception of time developed in ancient Greek philosophy underwent a fundamental theological transformation during the Middle Ages. As ancient Greek philosophy gradually declined, human society was confronted with profound crises on both material and spiritual levels. The physical hardships and existential disorientation of the era fostered an urgent need for a new system of belief through which people could seek solace and redemption. Against this historical backdrop, Christian theology gradually rose to dominance, becoming a central force in Western intellectual life. Within the Christian worldview, the doctrine of divine creation occupies a foundational role, and all human actions and activities are perceived as intimately bound to the will of God. Thus, as an essential component of cosmic order, time came to be understood as a creation of God, entirely dependent upon divine will.

Augustine incorporated time into the divine order of creation, explicitly asserting that time is a creation of God. However, this notion inevitably raised questions regarding the eternality of God. If the principles and substance upon which time depends preceded God, would God’s creative act then be subject to these prior conditions? What state was God in before the creation of time? Such questions posed a direct challenge to the doctrine of God’s absolute sovereignty in Christian theology. To resolve this theoretical dilemma, Augustine explicitly stated: “You (God) created time; before You created time,

not even a single moment could have passed.” In other words, time was created *ex nihilo* by God, not copied or derived from any preexisting ideal. Anything that exists beyond God does not exist at all. This statement fundamentally denies the possibility that time depends on any prior conditions or eternal principles, thereby fully affirming God’s absolute sovereignty and eternity.

To dismantle the dominance of cyclical temporality once and for all, Augustine developed a revolutionary theory of inner time in *Confessions*, defining time as ‘the distension of the soul.’ Augustine once exclaimed, “It is in thee, my mind, that I measure times.” In everyday life, people customarily divide time into past, present, and future; however, Augustine rejected this partition, arguing that what we measure is not time itself, but rather “the impressions fixed in memory.” He pointed out: “Time is divided into three kinds: the present of things past, the present of things present, and the present of things future.” For the past has already passed and no longer exists, and the future has not yet arrived and thus does not exist either. The past and the future exist only within the present—as the present of the past and the present of the future. However, the present itself can be divided into countless past and future moments; therefore, not only do the past and future not exist, but the present itself does not truly exist either. How, then, can we deny past, present, and future when seas turn into fields, seasons wheel, and day yields to night? In response, Augustine stated that time does not subsist independently; time is inseparable from human consciousness, and it is through consciousness that we become aware of time. “The present of things past is memory; the present of things present is direct perception; and the present of things future is expectation.” By condensing all temporal being into the living present and aligning time with the human soul, Augustine inaugurates the internalization of temporality.

4. The Modern Era: The Temporal Revolution of Subjective Rationality

Medieval theology’s reconstruction of time, while undermining the eternity of ancient Greek cyclical theories, nevertheless anchored temporality in the linear narrative of divine creation and redemption. Since the Renaissance, the Newtonian mechanical model of the cosmos has sparked a profound paradigm shift from a theologically dependent framework of salvation to a legislative reconstruction of the essence of time by subjective rationality. Newton’s view of time is defined by its absoluteness and independence. In *The Mathematical Principles of Natural Philosophy*, Newton treated time as a fundamental parameter for describing motion and explicitly introduced the dual distinction between absolute time and relative time. Absolute time is “duration of existence,” flowing independently of physical processes like an eternal river. Newton held that absolute time cannot be directly measured by experiment, yet it exists objectively, providing a unified framework for measuring the universe. Relative time, by contrast, is the approximate standard established by humans through perceptible measures such as celestial motions, pendulum swings, and the like, including units such as hours, days, and years. However, this measurement is prone to error because it depends on specific material motions. Additionally, Newtonian mechanical equations are symmetric in time. When the time parameter t is

replaced with -t, the solutions to the equations remain unchanged, indicating that under this theoretical framework, time is reversible and there is no essential distinction between the future and the past. This mechanistic conception of nature—grounded in that view of time—casts the universe as a disassemblable, eternal machine, entirely devoid of any dimension of historical development.

Kant proposed the notion of “time as a pure form of transcendental intuition.” To overcome the dissolution of subjectivity within the modern physical conception of time and to liberate the human being from the constraints of physical time. Regarding Newton’s conception of absolute time, Kant acknowledged the existence of absolute time and stated: “If we remove from the empirical intuition of objects, and from their changes (motion), all that belongs to sensation, there still remains space and time.” Additionally, Kant denied that absolute time exists independently of external experience. Kant argued that absolute time is a form of sensible intuition innately possessed by the human subject, rather than an absolutely existing entity. This is because “space and time are pure intuitions; they serve as a priori foundations for experience, and therefore they can never be eliminated.” Although Kant’s conception of time freed human beings from the mechanistic temporality of physics, his decision to freeze time into an a priori form of sensibility ultimately reduced it to a fragmented framework separating spirit from existence. This dualistic division reduced time to a tool for the subject’s unilateral projection, obscuring the dynamic nature of time and trapping the subject in an epistemological dilemma—where time, as a form of intuition, cannot access the real movement of things-in-themselves.

The revolutionary character of Hegel’s conception of time lies in his transformation of time from a Kantian transcendental framework into a historical category, emphasizing its social constructedness and the active agency of the subject. Time, in Hegel’s view, is not an objective container standing apart from Spirit, but rather a mediating form of the self-externalization of Absolute Spirit, the manifestation of the movement of the Concept within reality. In *The Phenomenology of Spirit*, Hegel explicitly stated that “time is the Concept itself that actually exists.” The Concept refers to the movement of consciousness, self-consciousness, and spirit, which originates from itself and returns to itself; this conceptual movement is manifested within time. However, “time does not govern the Concept... on the contrary, the Concept governs time, and time is only the negativity of this externalization.” This means that time is not, as Kant claimed, a mere form of sensible intuition, but rather the logical medium through which spirit realizes its development through self-negation. When Absolute Spirit externalizes itself from its state of “being-in-itself” into nature, space emerges as the initial form of “external existence,” manifesting as undifferentiated extension. As the “truth of space,” time negates the static nature of space, causing phenomena to emerge and vanish in the instant of the “now.” He pointed out, “Time itself is the process of becoming and passing away; it is the abstraction that actually exists, the Chronos who produces everything and then destroys them.” In the evolution of social forms, the accumulation of time drives the shift from quantitative to qualitative change, while time’s double negation of both space and itself propels a spiraling upward development.

5. Conclusion

The philosophical evolution of the concept of time unfolds a profound transformation in human's understanding of the essence of existence. From the cyclical natural ontology of ancient Greece to the teleological linear narrative of medieval theology, and finally to the metaphysical reconstruction by modern subjective rationality, time has consistently remained confined within the abstraction of ontological frameworks. The fundamental defect of these traditional conceptions of time lies in their abstraction of time as a metaphysical category external to practice, either reducing it to an accessory of natural motion or attributing it to the unilateral projection of divine will or rational subjectivity. They neither account for time's social construction nor shed light on how human practice dynamically reshapes the fabric of space-time.

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