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Manifestations of the Multiverse in Human Thought and its Implications to the Philosophical World

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ABSTRACT

The concept of the multiverse has been widely acknowledged within the scientific world. Many of the possible dictates of the multiverse potentially challenge the underpinnings of much Enlightenment era political philosophy, however. This paper firstly explores historic, philosophical, and religious concepts related to time and the multiverse. It then presents the idea that the existence of the multiverse will fundamentally challenge the basic premises of Western political philosophy, particularly "states of nature" and personal autonomy. The paper concludes that a new generation of multiverse laws, new schools of philosophy, new theories about life and meaning, and possibly new religions will inevitably emerge if multiverse is proven to exist.

Introduction

In an interview with German newspaper *Der Spiegel*, renowned English theoretical physicist Stephen Hawking remarked, "We are just an advanced breed of monkeys on a minor planet of a very average star. But we can understand the universe. That makes us something very special" (Franke and Glass, 1988). For tens of thousands of years, human beings have pondered great mysteries about life, space, and the cosmos, hoping to find answers to questions regarding our purpose and place in the universe. According to a study conducted by the University of Edinburgh and the University of Kent, ancient Paleolithic and Neolithic cave paintings suggest that, around 40,000 years ago, humans first began keeping track of time by studying the position and movement of the stars (Imster, 2018). Over time, astronomers gained more knowledge of celestial bodies in the night sky. Around 1000 BCE, Assyro-Babylonians documented the first records of systematic astronomical observations, such as the periodic motions of stars and planets (European Space Agency, 2019). In the 1600s, Polish astronomer Nicolaus Copernicus proposed the first model of the solar system, in which each planet orbited around the sun (University of California, 2002). Each successive discovery created new knowledge about the universe (Jones, 2019). Ideas about life beyond Earth, however, did not stop at the limits of our universe. The term "multiverse" was coined in 1895 by American philosopher William James, who used it to refer to the complex moral meanings of natural phenomena (Aguirre, 2022). However, the concept itself dates back to the ancient Greek philosopher Democritus, who believed that the universe was made of atoms moving in an infinite void, combining and recombining in every possible way. Our world, he speculated, is simply one of these arrangements (Crumey, 2013).

Since then, many philosophers and scientists have proffered their beliefs regarding the multiverse. In the most basic sense, the modern scientific conception of the multiverse entails the idea that, in addition to our universe—in which everything, from the motion of the stars to the flight of a baseball, is subject to a certain set of natural laws and physical constants—other universes also exist, and that these universes are governed by different sets of laws and constants. In some models of the multiverse, all universes exist individually and independently. David Kellogg Lewis, an American philosopher, developed the paradigm of modal realism, which suggests that all of these possible universes coexist with equal reality, and each one is disconnected from the others. According to a similar model by Swedish-American physicist Max Tegmark and German computer scientist Jürgen Schmidhuber, our universe, like others, is composed of one formal mathematical system, and all such systems coexist in separate parallel universes. In contrast,

other models of the multiverse posit that all universes are more interconnected. One model based on the concept of cosmological inflation—the exponential expansion of space and time after the Big Bang—consists of various regions like our universe, which inhabit the same space and interact with each other (Aguirre, 2022).

Given these various notions of the multiverse, questions about their likelihood inevitably arise. How probable is the existence of these multiverses? Are some more likely than others? Some argue that these questions are not empirically testable because the multiverse is impossible to access or even detect from our own universe. However, this seeming impossibility may simply be due to the limitations of our current scientific and technological capabilities. Although there is currently no observable evidence to prove or disprove any multiverse theory, the concept has historically manifested itself in numerous scientific—string theory, quantum mechanics, etc—and Eastern theological contexts—Hinduism, Buddhism, and Chinese cosmology. Thus, this paper will firstly explore historic, philosophical, and religious concepts related to time and the multiverse. Thereafter, this paper will discuss how, if proven to exist, the multiverse would fundamentally challenge the basic premises of Western political philosophy like the Enlightenment conceptions of "states of nature" and personal autonomy.

Historical, Philosophical, and Religious Concepts Related to Time and the Multiverse

Firstly, however, we must detail how the idea of the multiverse has been widely acknowledged in the contemporary scientific sphere. Several scientists have contributed theories and findings that support the theory of the multiverse. A theoretical framework called string theory, for instance, posits that our universe consists of six hidden dimensions. Each arrangement of these dimensions corresponds to a different universe with unique properties (Franzblau, 2020). According to string theory, there exist nearly 10^{500} possible arrangements of these dimensions, and all such universes coexist in the multiverse. Another theory supported by experimental evidence that points toward a multiverse is quantum mechanics. Every time a subatomic particle, such as an electron, has the option to follow multiple paths in space, it will simultaneously take all of them in different, newly created universes (Scoles, 2016). In addition, research has shown that the existence of the multiverse would explain the dark matter and dark energy that have been observed in our universe. Moreover, according to the Lorentz-Einstein equation, when elementary particles known as tachyons travel at superluminal speeds—that is, faster than the speed of light—their masses must be measured with imaginary numbers, meaning that they are invisible in our universe and exist in a "tachyon" parallel universe (Antonov, 2015).

The concept of the multiverse, however, is not limited to science; it also has deep roots in, and offers a challenge to, philosophical worlds, specifically regarding time. Time plays a significant role in the structure of the universe. The way time is perceived can be split into three categories: linear, cyclical, or a combination of the two. All three perspectives agree that time is continuous and that it has an intrinsic direction. However, they differ in the way that time is oriented. In Western philosophy, time is looked upon as linear. It has a definite beginning and end, and is able to be conceived as a timeline with three parts: a past, present, and future. Time is also believed to be a resource that is limited and must be managed carefully (Baggini, 2018). Correspondingly, western cultures tend to prioritize the future over the past and present.

The idea of linear time governed the Age of Enlightenment, notably in the idea of progress. By definition, progress was the gathering of knowledge through the scientific method and applying this in social, economic, and other aspects of life to improve life conditions and society (Baggini, 2018). In his book *Lectures on the Philosophy of History* (1857), German philosopher Georg Wilhelm Friedrich Hegel attempted to explain the purpose behind history. He explained that history is an intelligible process moving towards the end realization of human freedom. Hegel and much of the budding academic field of History in the 19th century believed that history progressed from Eastern autocracy to Western democracy and freedom. He states, "The question at issue is therefore the ultimate end of mankind, the end which the spirit sets itself in the world" (Hegel, 1857, p. 63). In the multiverse, however, since time is not linear, there is no end stage nor ultimate goal, including freedom.

In contrast, Eastern philosophers have long believed in the notion of cyclic time. In this regard, time repeats itself over and over. Time also is most strongly influenced by cycles apparent in the natural world (Fernandez, 2020). This view is expressed in the Chinese concept of yin and yang—an abstract representation of nature which can be interpreted in several ways, with emphasis on the coexistence of opposite sides in everything. Yin may mean darkness, softness, cold, passive, femininity whereas yang may portray sunlight, hardness, hot, active and masculinity. The most basic illustration of the yin yang theory can be observed within a day. Yin-yang can represent night time and day time. Both repeat themselves in a cycle to maintain the balance of each other. Similarly, Yin-yang can mean death and birth. There is a joint and balanced energy flowing between yin and yang which is complementary, interconnected and interdependent. This energy does not go away with an individual's death, rather, it creates birth and rebirth, and other cycles of time (Britannica, 2022).

The cyclic view of history has been particularly prevalent among the Hindus and the Chinese. To them, the structure of the multiverse could reconcile with this concept of cyclic time, as each successive universe represents another "cycle" in history. In Hindu cosmology, one of the core beliefs of which is that our universe was born out of the ashes of a previous universe, which was itself born out of the ashes of an even earlier universe. Thus, the universe is constantly being created, destroyed, and reborn (Fernandez, 2020). One of the Hindu Puranas, a religious narrative about the history of the Universe, declares that the multiverse consists of "innumerable universes besides this one, and although they are unlimitedly large, they move about like atoms in You" (Sayeed, 2021, p. 206).

Likewise, in Buddhism, the flower garland, which represents all of reality, consists of many universes that all reflect one another. According to Buddhist sensei Tony Stultz, "all reality is represented by a cosmic matrix from which all eternity flows … with a common life source of energy flowing through all reality. The universe is understood as an interpenetrating web of wonder" (Fernandez, 2020). The concept of universes within universes is also visualized in Buddhist architecture. For example, on the base of the Chaoyang North Pagoda, built during the Liao Dynasty and located in the city of Chaoyang in China's Liaoning Province, are two reliefs that depict the pagoda in miniature. On these reliefs are even smaller reliefs representing the pagoda on an even smaller scale, thus forming a recurring pattern that seems to extend forever (Fernandez, 2020). Zhuang Zhou, a famous Chinese philosopher who lived around the fourth century B.C., left us Zhuang zhou's Butterfly Dream, a famous riddle about the multiverse:

> Once Zhuang Zhou dreamt, he was a butterfly, a butterfly flitting and fluttering around, happy with himself and doing as he pleased. He didn't know he was Zhuang Zhou. Suddenly, he woke up and there he was, solid and unmistakable Zhuang Zhou. But he didn't know if he was Zhuang Zhou who had dreamt, he was a butterfly, or a butterfly dreaming he was Zhuang Zhou. Between Zhuang Zhou and a butterfly there must be some distinction! This is called the Transformation of Things (Watson, 2003, pp. 1-4).

Zhuang Zhou used the story of this dream to remind people that there must be a difference between oneself and others, between dreaming and wakefulness, and between all other things. Everything lives within its own boundary. These boundaries, however, are not absolute and could conceivably be broken. In the same way, it may be possible to break the boundaries between the regions of the multiverse.

In recent years, more Western scholars have come to accept and explore the idea of cyclical time. In 2001, physicists Paul J. Steinhardt of Princeton University and Neil Turok of Cambridge University adopted a similar concept of a "cyclic multiverse," in which universes experience cycles of birth, death, and rebirth. In such a situation, there would be no beginning and no end, as time would not be linear but circular (Fernandez, 2020).

It is worth noting that some contemporary historians look at the time with a view that is neither strictly linear nor cyclical. In her book *Before European Hegemony: The World System A.D. 1250-1350* (1989), world-system theorist Janet Abu-Lughod argued that "there had existed, prior to the West's rise to preeminence in the sixteenth century, a complex and prosperous predecessor—a system of world trade and even "cultural" exchange that, at its peak toward the end of the thirteenth century, was integrating (if only at high points of an archipelago of towns) a very

large number of advanced societies stretching between the extremes of northwestern Europe and China" (Abu-Lughod, 1989, p. 76). This system, however, collapsed, due to the black plague in Europe, which significantly decreased the population, and because of China's withdrawal from financing its global exploration ships. Abu-Lughod believed that the modern world system rooted way before the sixteenth century, explaining, "Restructuring, rather than substitution, is what happens when world systems succeed one another, albeit after intervening periods of disorganization" (Abu-Lughod, 1989, p. 366). She emphasized both continuity within a world system and discontinuity between distinct configurations and successive world systems. Her view of history was not progressively linear, as there are breaks in between major historical development, nor strictly cyclical, as new world system evolves, "successive systems reorganize in a somewhat cumulative fashion, the lines and connections laid down in prior epochs tending to persist even though their significance and roles in the new system may be altered" (Abu-Lughod, 1989, p. 368).

Therefore, although the multiverse is a more modern conception, ideas about multiple and cyclical forms of time have existed throughout human civilization and thought for millenia in different fields – from theology to history to physics. Thus, although no man had called the multiverse, or alternative conceptions of time,by the term we use today until the 19th century, both scientists and philosophers have gathered information that may support the existence of the multiverse. In other words, if, one day, the multiverse was proven to exist, it would not be a completely new revelation. Proving its existence would undoubtedly lead to exciting debates and discussions on the limitations of our "universal" laws, or the most widely accepted principles governing human activity. Curiosity would motivate us to establish new rules and boundaries, extending our "universal laws" into "multiverse laws."

The Existence of the Multiverse Poses Challenges to Western Philosophies, Personal Autonomy, and Individuality

However, this task would not come easily. Unlike Eastern philosophy, the traditions of which are amenable to the concept of the multiverse because of their lack of overemphasis on the individual, the concept of the multiverse would fundamentally challenge Western philosophy, in particular, political philosophy. Many of these philosophies were developed primarily based on idealizations about human states of nature. However, the existence of infinite universes and infinite variations of human nature would fundamentally question its validity. Do we base our political systems and theories on how humans act solely in our universe, or one of its limitless alternatives in the multiverse?

Fundamentally, the multiverse would bring into question the validity of the "state of nature" of humanity as represented in the works of Rousseau, Locke, Hobbes, and Smith, for example. Like many Enlightenment philosophers, Genevan philosopher Jean-Jacques Rousseau believed that before the institution of governments, man lived in a state of nature. For Rousseau, in this state of nature man had innately "good" tendencies and characteristics. He believed that humans were motivated by an "amour de soi," or a love of self (Bertram,). In *The Social Contract* (1762), Rousseau argued that "man is naturally peaceful and timid" and solitary and independent (Rousseau, 1762, pp. 116-417). However, this "natural state" was tarnished by the development of society, in particular, competition and division. As groups expanded beyond family and into greater communities, people began to desire attention, prestige, and other forms of comparative worth. Rousseau believed that in order for people to adjust, people should reform the relationship between the people and the state. Specifically, the government should serve a "general will," or the collective interest of the society's constituents.

Similar to Rousseau's *The Social Contract*, English philosophers also wrote extensively on human states of nature. John Locke's *The Second Treatise of Government (1689)* places sovereignty into the hands of the people. His fundamental argument is that people are equal and invested with natural rights in a state of nature free from outside rule. Thomas Hobbes, one of the founders of modern political philosophy, however, held a very different view. In *The Leviathan* (1651), Thomas Hobbes argued that since the natural inequalities between humans are not significant enough to give anyone superiority, all must live in constant fear of loss or violence. He described the state of nature as follows, "men live without a common power to keep them all in awe, they are in that condition which is called war;

and such a war as is of every man against every man" (Hobbes, 1998, pp. 74-101). In this state, every man has a natural right to do anything necessary to preserve their life, which Hobbes describes as "solitary, poor, nasty, brutish, and short" (Hobbes, 1998, pp. 74-101). There exists neither personal property nor injustice, because there are no societal laws. However, Hobbes suggests a number of "laws of nature." The first is "that every man ought to endeavour peace, as far as he has hope of obtaining it"; the second is "that a man be willing, when others are so too, as far forth as for peace and defence of himself he shall think it necessary, to lay down this right to all things; and be contented with so much liberty against other men as he would allow other men against himself" (Hobbes, 1998, pp. 74-101). Hobbes stated that political reasoning was based on the desire to avoid the state of nature—he argued for rule by an absolute sovereign, believing civil war could only be avoided by establishing a strong undivided government. Adam Smith, however, believed that morality was built into men. He believed that as social creatures, men have a natural tendency to look after themselves and others, as he explains in *The Theory of Moral Sentiments (1759)*. In *The Wealth of Nations (1776)*, he contended that men's individual need to fulfill self-interest results in societal benefit.

While other philosophers in the Age of Enlightenment attempted to map human nature under the assumption that men acted based on logic and reason, Scottish philosopher David Hume took his work in the opposite direction. To him, men were more influenced by feelings than by reason, insisting, "Reason is, and ought only to be the slave of the passions" (Hume, 2003, pp. 284-319). Hume took an empirical approach to psychology. He believed that all science was related to human nature and that it was necessary to create a "science of man." Indeed, in *A Treatise of Human Nature* (1739), Hume introduced the scientific method into the study of human psychology, aiming to discover the "extent and force of human understanding" (Hume, 2003, pp. 284-319). Hume's research most heavily focused on the morality of men to determine patterns in human nature. Morality, as most philosophers including Hume believed, is taught and engrained through repetition and examples. In our own universe, the task of studying human behavior as a science is already very challenging because of human error. Human behavior is heavily dependent on environmental factors, such as upbringing, social life, stress, health conditions, and more. In the multiverse, these challenges magnify beyond imagination and simply make Hume's proposal impossible to accomplish.

The existence of the multiverse would pose a challenge to all the above theories. One would not be able to determine which state should be considered "natural" for humans, which rights humans should "naturally" own, nor what the human's natural tendency truly is. Without knowing the human state of nature, the theories of government and human order that Rousseau, Locke, Hobbes, and Smith forward crumble. If the goal of government is to end a deplorable state of nature, or to fulfill the human urge to work collaboratively as social animals, is undermined by an unlimited number of possibilities, then these Enlightenment theories of government are extremely limited. Our universe is simply one of infinite possibilities - what is characteristic of a human being in a multiverse of limitless possibilities? Any of these hypothetical "states of nature" could be true, or be false, yet definitely incomplete. It is also too simple to assume that society is the sole influencer and tamer of these "states of nature."

Likewise, setting aside the state of nature, if the multiverse exists, two of the most valued aspects of our lives would be questioned: personal autonomy, which is the capacity to make and act on decisions freely, and individuality, which serves to assure each person a particular place and worth in society. With regards to personal autonomy, the existence of the multiverse would lead people to question whether they are truly in control of their lives—that is, if our decisions are made by us, who live in this universe, or if they are influenced by knowledge that we somehow glean from universes other than our own. If our existence in this universe is simply one of infinite possibilities within the multiverse, and every possible reality exists within the multiverse, then our lives must be, in some ways, fated. In other words, is one truly responsible for their actions if they inevitably do that action within this universe? If not, then there shall be significant implications to our society's laws, which are based on the premise that humans have free will, and their actions are based upon their own decisions.

Our individuality is defined by our personality traits, motivation, beliefs, morals, our likes and dislikes. It dictates who we are and what we are. We are unique because of our preferences in those values. The existence of the multiverse would entail an infinite number of us, which leads to profound questions about our individuality: If there are an infinite number of each person in the infinite number of universes that comprise the multiverse, we cannot say

we are all unique. This is because there would not be a single set of values that defines us. We have the possibility of becoming the best at everything or the worst. Thus, we would lose our uniqueness. If we're not unique, are we truly ourselves?

With a lack of personal autonomy and individuality, we lose a sense of self-determination and self-governance. We lose our path to freedom and liberty, the two main goals of western human civilization.

Conclusion

The concept of the multiverse has long been supported by both the theoretical and philosophical spheres. As shown, the idea of the multiverse would not fundamentally challenge Eastern theological and philosophical thought. If we one day came to know that the theory was true, however, it would bring into question many of the Western philosophies that guide much of human civilization today, and would usher in a new generation of "multiverse" laws. New schools of philosophy, new theories about life and meaning, even new religions will inevitably emerge. These new ideas and beliefs would undoubtedly change the way we live our lives. Just as Enlightenment philosophies influenced the shaping of American democracy, the new philosophies that blossom because of the discovery of the multiverse would ultimately affect the politics of nations around our world (Bailyn, 1962, pp. 339-351). Perhaps the realization that there is so much more to existence than we had previously thought would help put our petty differences in perspective. Perhaps the knowledge that the multiverse is, indeed, infinitely vast, would make our disagreements, whether between individuals or among nations, seem so small as to be inconsequential, thus ushering in a new era of peace. After all, in the multiverse, there is always room for hope.

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