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The Role of Paradoxes in Philosophy: A Look at Fundamental Contradictions in Ontology and Time

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ABSTRACT

This paper explores the relationships between some basic ontological paradoxes, that is, statements or propositions that seem self-contradictory or absurd but in reality express a possible truth (namely those related with existence and time), and the way we have built different conceptions of reality based upon these. Paradoxes hold an important role in philosophy, but it seems they are not mentioned very often when delving into the subject, only when looking in certain specific directions, which takes away their merit as the possible genesis of the entire discipline. Through an analysis of a few fundamental paradoxes such as Anaximander's riddle of origin and causal temporal loops, this paper questions whether or not human beings would ever have pondered on concepts such as reality, being and God if they had never found these fallacies of logic and reason. The paradoxes themselves are the main actors in this study, but the purpose is not to go very deep into them or try to contribute any new ideas or theories related to them; rather, it is to find relationships, map out a direct path from the molding of these to the way we view and study philosophy in current times. The paper searches for several connections between the origin of paradoxes and beginning of a formalized discipline based on theory and logic, dating back to ancient Greece. Analyzing these connections reveals the main interests and focal points related to these origins when approaching philosophy in general, and the specific paradoxes studied when discussing ontology. While pointing out essential links between different paradoxes, then considering some aspects of these outside of the context of specific areas of study within philosophy, it shines a light on a specific rational space that has yet to be explored in detail outside the mere speculation and occasional appearance in the field of quantum physics.

Key words: Greek riddles, paradox, ontology, metaphysics, temporal paradox, time-space, fallacy, Uroboric

RESUMEN

Este trabajo explora las relaciones entre algunas paradojas ontológicas básicas, es decir, aquellas declaraciones o proposiciones que parecen ser contradictorias o absurdas pero en realidad podrían ser verdaderas (especialmente aquellas que se refieren a la existencia o al tiempo), y la manera en que nos basamos en ellas para construir diversas concepciones de la realidad. Aunque las paradojas mantengan un rol importante en la filosofía, parece que no se mencionan a menudo al abarcar el tema, a no ser al enfocarse en aspectos muy específicos, lo cual le quita algo de su mérito como la probable génesis de toda la disciplina. A través de un análisis de algunas paradojas fundamentales como el acertijo de origen de Anaximandro y paradojas temporales, el trabajo se pregunta si es que el ser humano hubiera alguna vez empezado a reflexionar sobre conceptos como realidad, el ser y Dios si es que nunca se hubieran percatado de estas falacias de la lógica y la razón. Las paradojas mismas son los actores principales del estudio, pero el propósito no es indagar en ellas en un nivel profundo ni llegar a posibles teorías nuevas relacionadas a ellas, más bien es encontrar las relaciones, conceptualizar un mapa que apunte el camino directo entre la formación de éstas hasta el modo en que vemos y estudiamos la filosofía en la actualidad. Así, se buscan varias conexiones entre el origen de las paradojas y las primeras tentativas, llegando incluso hasta la Grecia antigua, de una disciplina formalizada y basada ya en la teoría y lógica. Al analizar estas conexiones se pueden ver los principales intereses y puntos focales relacionados a estos orígenes cuando se entra en la filosofía de manera general, y las paradojas específicas que se estudian al discutir la ontología. El trabajo abre la visión de un espacio racional específico que aún no ha sido explorado en detalle fuera de la mera especulación y la ocasional apariencia en el campo de la física quántica, y lo hace mientras señala los enlaces entre diferentes paradojas y considerando éstas fuera del contexto específico de ciertas áreas del estudio filosófico.

Palabras Clave: acertijos Griegos, paradoja, ontología, metafísica, paradoja temporal, tiempo-espacio, falacia, uróboros

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INTRODUCTION

Logic and common sense assure us there is no existence without an origin, and yet there is no true origin to be found. We cannot speak of that which does not exist, and yet we constantly speak of things no one can ever see. How can it be that the very tool we have for explaining and learning is the same that betrays us and throws obstacles in our way? Are we using it the wrong way, or simply misunderstanding these errors? This back-and-forth game between what the world gives us and the way we understand it is the only comfort we can ever get in terms of our existence and where it fits in the larger scheme. The fact that it is possible for the world to cheat in this game calls for a revision of the game´s rules. This revision is the way we understand philosophy. The traps we fall into are paradoxes. Since the rules are designed to prevent cheating, it is not absurd to say that the game itself is therefore shaped by the new ways of cheating us that the world finds. The way we study philosophy is directly dependent on the paradoxes that form it.

This paper explores the relationships between some basic paradoxes, that is statements or propositions that seem self-contradictory or absurd but in reality express a possible truth (namely those related with existence and time), and the way we have built different conceptions of reality based upon these. Paradoxes hold an important role in philosophy, but it seems they are not mentioned very often when delving into the subject, only when looking in certain very specific directions, which takes away their merit as the likely genesis of the entire discipline. The paradoxes themselves are the main actors in this study, but the purpose is not to go very deep into them or try to contribute any new ideas or theories related to them, rather it is to find

relationships, map out a direct path from the molding of these to the way we view and study philosophy in current times.

It is hard at this point in history to argue the fact that hard questions to answer lead to discussion, which might lead to analysis and investigation in the search for answers, a solid appropriate methodology. This methodology can take many forms, and it seems the deeper and more distant from answers the questions are, the more abstract the method. Philosophy is the method this paper will be centered around, but mainly how it is originated. Why do some questions lead to a biological research, some to mathematical equations, and some to the technological developments of new scientific machinery? The difference lies in the nature of the problem at hand, and paradoxes are a specific kind of problem: the kind that seems unsolvable. Why even try to answer questions with no solution? To question this activity is to question the human inquisitive nature that has led to the development of society into what it is today. We can think that paradoxes are to philosophy what stars are to astronomy (not only the object of study but the reason the discipline exists). One might argue that there are many philosophical fields that are not related to paradoxes, namely ethics. However, this paper will show that even ethical discussions are closely related, since the famous Socratic paradox is the very reason there are two opposing sides on the subject that since ancient Greece have presented a disagreement that is still unsettled.

The scope of paradoxes within the philosophical discipline is enormous, with distinct paradoxes present and studied in various different fields and focuses. The literature surrounding this presence is abundant, ranging from the specific case studies to the broader and encompassing view of antinomies, paralogisms and sophisms. The latter is much more absent and begs our questioning why we tend to ignore the bigger picture. The focus here is definitely

the wide spectrum of paradoxes; however some specific ones are analyzed to determine a structure or method of approaching them in general. Like Roy Sorensen writes in his book on the history of paradoxes: "The deepest paradoxes are extroverts, naturally good at introducing themselves. These challenges to compulsory, universal beliefs are self-illuminating; they stimulate us to draw distinctions and formulate hypotheses that bear on the issue of how we ought to react to paradoxes" (2003, xiv). These deep paradoxes have several iterations, some of which will be looked at with a universalizing scope of view.

It seems that much of the philosophical sphere is either influenced or directly defined by paradoxes found and analyzed throughout history. Sorensen (2003) traces the history of the most significant paradoxes with one main paradox serving as the focal point for each chapter. He establishes from the very beginning that his goal is not to formulate a theory of paradoxes of his own, rather explore the way important paradoxes have influenced the way we view them, and how this interconnected series of fallacies constitutes some of the major issues not only in philosophy but across several fields of study. This is without a doubt the main source for the paper, since its objective as a narrative exposition of history´s paradoxes is the closest to my intention. While I aim to find a connection between the "discovery" and formulation of paradoxes, with the drive and purpose of philosophy as a whole, these punctual analyses will help to establish the theoretical basis for any connection I may or may not find.

Before delving head on into the search for relations between paradoxes and philosophical methods, it is important to introduce the very concept of a paradox, albeit in a fairly brief manner. To define a paradox in its entirety requires a preliminary study of the context it finds itself in, since an adequate portrayal situates them in their natural intellectual environment. This is an exhaustive process for any particular paradox, which is why we tend to refer to these as

single individual phenomenon; it is simpler to fall into this isolating view. While it might be more appropriate to study a paradox in all its background and relevant information, their analysis in isolation has led to many breakthroughs due to the analytics methods that focus on the object ignoring the larger picture. Since the focus here is not to achieve breakthroughs or theories regarding any particular paradox, the approach is a more general one, descriptive mostly, and the definitions to be discussed will be based on the discussion of paradoxes as a whole.

A term as unclear as paradox naturally generates many differing points of view as to what exactly is its definition, but through the disagreements and variations we can arrive at some intuitive conception of what a paradox truly is. One of the many definitions, adopted by Sorensen for one, describes paradoxes as questions that offer too many good answers. When a problem faces several possible solutions, it could be taken as a good sign, since there are more chances of proving one of these correct. But when these solutions cannot be proven in any way, and they all seem as plausible as the next, in that moment the abundance of possibilities becomes a problem rather than an advantage. The more solutions we can think of for the unsolvable problem, the more complex it is in its nature and the more theories and discussions it will generate in turn. For example, we have the case of the amoeba that divides itself in two. Usually an organism cannot survive losing half its body as dead tissue; however an amoeba is successful in creating a second individual. Does it go out of existence? We cannot just assume the "mother" amoeba is one of the two, and we cannot consider the pair as one since this goes against the established idea of unified individuals as organisms. Is it a form of suicide? This particular problem touches on topics such as consciousness, individuality and subjectivity.

The oldest and most classical way to view paradoxes is to consider them as they were in the beginning of recorded history, riddles. In ancient Greece, a riddle served the function of getting

one to ponder about life and the world in new, thought-provoking creative ways. These verbal games of thought were a considerable part of the creation of folklore, and many of the oldest philosophical inquiries evolved from this folklore. We tend to associate riddles with a fun pastime, that although encourages thinking and problem solving, is not a fundamental part of any serious method, be it philosophical or scientific. This might be what riddles have become in today's everyday life, but there are actually many kinds of riddles, and they are very closely related to the way paradoxes have been introduced in one's perceptions. Seduction riddles are the kind that are meant to lead someone towards a wrong conclusion, they make bad answers look like good answers. For example:

How much dirt is in a hole two meters wide, two meters long, and two meters deep? One is compelled to do the math and answer confidently: eight cubic meters of dirt. However the correct answer is *there is no dirt in a hole.*

On the other hand, mystery riddles are the ones that appear to have no answer at all, leaving one confused and at a loss. With these riddles, there is almost no chance of guessing the right answer until it has been revealed. Mystery riddles can be found largely in literature, especially the afore-mentioned folklore literature, with ties to mythology and eventually religion. This connection is important to take note of in the analysis of the role of paradoxes in philosophy. A simple example of a mystery riddle:

What has a mouth but never eats, a bed but never sleeps? The answer is *a river*.

Other perspectives on how to define a paradox include Gareth Mathews' idea that a paradox is a statement that conflicts with a conceptual truth, like we see in Stoicism: "those are free who know that they are not free". R.M. Sainsbury defines them as unacceptable conclusions to

acceptable arguments; on the other hand J.L. Mackie calls them the entire arguments themselves. The vast majority of philosophers will say a paradox is a set of individually plausible but jointly inconsistent propositions.

What can be learned from all these different points of view is the essence of what makes a logical problem a paradox. What is always present is a sort of symmetry in its arguments. The possible solutions are all either very likely or equally as unlikely. They counteract each other in equal ways creating a balance that doesn't tilt one or another way. Sorensen's comparison to earth's surface helps understand this: common sense as we know it is much like the fragmented surface of the earth, separated in giant puzzle pieces which are the tectonic plates. These are always in constant friction and reconfiguration, and they remain stable as a structure because of the opposing forces that pull and push the plates in relation to each other, a series of forces and counterforces. Paradoxes here "mark fault lines in our common-sense world" (Sorensen, 2003).

CHAPTER 1

Having seen some of the different views on what a paradox implies and how it can be defined, in the task of observing how paradoxes influence and steer philosophy, some particular ones can be analyzed in the context of various separate fields within philosophical study. Thinkers tend to focus on special areas of interest, and usually weave their thoughts together to form a consistent and coherent doctrine or perspective that has a varying reach as to the extent of its topics. Much in the same way, a paradox challenges our common sense and calls for debate within an area of thought, and pulls in other subjects as its complexity affects aspects of the topic at hand, always varying depending on the case. A paradox is like an extremely controversial philosopher with an evil amount of insight into truths we cannot perceive ourselves, who appears in different areas of philosophical thought wreaking havoc with his smug knowledge. As this rippling effect topples standards within various subjects, much like a domino effect, the true extent of a paradox's consequences can be devised by tracing its trail of influence. This paper will explore some of the main areas where paradoxes have made their mark and by highlighting these in the greater scope of philosophy, relations between these areas will show how deeply and intricately involved paradoxes are in this over-arching discipline.

Undoubtedly one of the most important preoccupations within philosophy is the study and theorizing concerning reality itself and its elusive nature. Taking various different approaches such as the metaphysical path of ontology, or the more scientific path of phenomenology among others, humans have always been keen on uncovering the veil behind being and existence. It represents some of the most basic existential curiosity that came in the form of the first concerns with life, and eventually the first paradoxes to begin shaping our

collective knowledge. From this instinctive curiosity regarding our very existence stems the search for divinity and the answers it could provide, and when no answers are found it serves as a comfort, a noise cancelling mechanism to silence our burning existential questions. Beliefs are formed, customs are inherited, religions institutionalized, and before long there is an entire doctrine of belief not only providing a spiritual respite (which in its most developed form signifies the personal inquisitive deathbed as well) but also influencing and shaping the way society thinks and views the world.

The particular perspective thus created, ruled by particular values, only gets more solidified through time, eventually establishing a discourse that operates invisibly behind everyone's mind, we are molded to fit this standard throughout our life. It ultimately defines what we perceive as wrong, just, and necessary. It plays a hand in our every interaction, and in a very scary way is present in almost every thought we have, whether we think these to be original or not. Taking one step further, this established discourse determines the way we will organize our interactions and the way we set up measures to control and regulate society as one (mostly) homogenous identity. In other words, it determines how we do politics. With one quick look at our initial human existential curiosity, a line can be traced through ontology, religion, ethics, and politics. It is this kind of constituting thread that shares characteristics with paradoxes, as the fissures that spread through our common-sense landscape. But before skipping too far ahead, let there be an observation of one paradox relative to the initial study of reality, one that initiated debates and theories and can even be considered the first ever recorded paradox: Anaximander's riddle of origin.

One question dominated Anaximander's curiosity throughout his life around the 6th century B.C.: does each thing have an origin? The first Greek thinkers to ponder on such a

question reach the conclusion that there must be, since everything can be traced back to something that originated it in the first place. Animals owe their life to their parents, and this heritage continues backwards through time indefinitely in our point of view. Infant humans cannot survive by themselves; they must be nurtured and reared by their parents before they can live independently. This is why these ancient thinkers believed the first humans were raised by other animals, some thought of wolves and others thought of aquatic creatures. Others still, such as Aristotle, didn't feel the need for this explanation and offer an alternative account on origins; these can be explained by the simple tracing backwards. In this view, each species is infinitely old since they never had a true origin, and can be visualized by thinking of the present as zero, and each member of the sequence a negative integer that owes its existence to its predecessor. What is infinite is the relationship each member holds with the previous and next instance.

Anaximander did not agree with this idea since he believed there is no true origin to be found except due to an external factor. If everything exists due to another thing that existed before it, there must be something, as far past as it may be, that lacks an origin. His explanation is a deeply metaphysical one: there exists an infinite being, or infinite *something*, that maintains the structure of everything else but is not grounded in anything. This serves as "an escape from an infinite regress", and as such nothing is infinitely old except this one infinite thing holding it all together (Sorensen, 2003, 10). This idea is compatible with the notion that the first humans were reared by animals, and Anaximander agrees with it. In the famous riddle of the chicken and the egg, the egg came first since the first chickens were raised by a non-chicken.

The paradox in question is then the nature of what we conceive as being an "origin" when looking at the larger context of all instances through time. If everything can be traced to a predecessor, how far can this go? How can we think of existence without a beginning? If the

world and reality have always existed, we are pitifully under-prepared to try and explain this structure with our current knowledge, in other words with today's scientific advance. If there is an originating point, or being, that brought it all into existence then the focus no longer gravitates around discussions of infinity rather around finding this one answer that holds the key to understanding the world.

Nowadays the idea of humans being raised by aquatic animals seems quite absurd, but it was a great guess for its time and the egg coming before the chicken is actually congruent with contemporary evolutionary theory, especially when taking in account Gregor Mendel's 1866 theory of inheritance. In essence, an organism cannot change its species or its traits during its lifetime, but it can reproduce and the offspring can be different (mutations, adaptation, etc.) (Iltis, 1943). The new kind of offspring will then go on to become a species in itself, now distinctly separated from its predecessor, and yet undeniably connected through a relation of biological genetic succession. Therefore the first chicken must have come from the first chicken egg, a variation of its predecessor. Here we can see how an ancient paradox already penetrates various fields such as science and biology.

Of course this theory of Anaximander's has certain implications, most of which do not exactly appease our initial confusions but rather amplify them in uncomfortable ways. Humans have always been restless at the notion of infinity, and for that matter all kinds of indeterminate notions such as vagueness, randomness as pure chaos, and words like "never". This is a huge part of the reason we search for answers for these problems, which tend to turn into paradoxes fairly easily when dealing with these abstract ideas of infinity. One implication of Anaximander's infinite being is that if there is an infinite past, there must be also an infinite future. In the same way one can trace a lineage backwards, one can always ask: what's next?

This implication remains within his own doctrine and those related to it, since it is not necessarily present in other perspectives such as Heidegger's death or Merleau-Ponty's incarnate present.

Thus we find ourselves surrounded by infinity, and there hardly is a more anxiety inducing situation in philosophy. There is just so much mystery and distance in this idea that people feel forced to look for comfort in theories that try to dissipate the infinity with limits such as death of your human body, palpable consequences for each action, and a God that judges and ultimately seals your fate. However it would be wrong to consider Anaximander's infinite being a God, since he was in fact going against the mythology of the time, utilizing nothing but logical reason to de-mystify some of the established beliefs of his time.

The emphasis on logic and reason initiated in this way by Anaximander was essential to the development of another method in the search for worldly answers, the importance of *proof*. The concept of having to prove your ideas and theories in order for them to be widely accepted is something that seems obvious to us. But back in the first days of philosophical and scientific thought there was no dominant emphasis, and certainly no requirement, for proving one's process and steps taken to reach the conclusion. If one could argue the idea well enough it would be taken just as seriously as any other; in fact this is even how the citizens of ancient Athens established themselves as members of the *polites*: they had to stand in front of a crowd when coming of age to demonstrate through ethical and political discourse their ability and right to be considered a true citizen (Blackwell, 2003). The emphasis with empirical proof is something that didn't appear until the mathematical "doctrine" of the Pythagoreans, who attempted to describe and define the universe (or material world) within the structure of numbers and geometric relations.

Pythagoras doesn't just owe the basic structure of answering a paradoxical problem to Anaximander, his entire proposal is a direct evolution of the ideas that came out of the whole origins discussion. As stated before, humans are simply not content with ambiguous and indefinite answers such as "infinity". After Anaximander's breakthrough of the infinite, he proceeded in an attempt to make it more palpable for people to understand. He described this infinity as a mixture of the elements of the planet: earth, air, fire and water. He conceived the world as initially having a very watery beginning, which through a lengthy process of sedimentation led to the elements being separated with the coarsest particles sinking to the bottom and finer elements remaining on top. It was like a chunky soup settling after being all mixed up together. Again Anaximander was ahead of his time since the current scientific explanation for how the planet was formed, the famous "primordial soup", does not stray too far off from this first theory. He even conceived the first ever world map, later on drawn out based on descriptions (it resembles a cylinder, circular on top, its height being a third of its diameter) (Couprie, 2011). It should be clarified however, that since Anaximander believed in an infinitely old universe, this "beginning" is not the beginning of time, only of our planet as we know it today.

From this basis, Anaximander's successor, Anaximenes, attempted to solidify the explanation even further. Instead of the infinite being a mixture of the elements, he saw it as one essential element in more or less quantity. Air was for him the constituting essence that determines the material outcome in the empirical world. The different elements we find are just different constitutions of more or less compressed air (fire is dilated air, clouds and liquid water are compressed air, and earth or stone are even more compressed). The main importance in this alteration is the focus on *quantitative* changes that determine the *qualitative* form of the world. If

the structure of the world depends on quantitative information, that means it can be measured, calculated and studied with more precision. Anaximenes' view of the world based on more or less air compression opened up a whole new range of possible theoretical interactions with the structure of reality (Heidel, 1906).

Although this new field of possibilities opened up, geometry and arithmetic had been present since Egyptians and even Babylonians. The reason for mathematical practices to arise was always practical, but recreational mathematics soon follow in these civilizations, which shows the informal and passing nature of this hobby. It was not until the Pythagoreans that mathematics gained a much more applied use in terms of its importance in our scientific perspective of the world. Parting from Anaximenes' quantitative structure of reality, Pythagoras and his followers dedicated themselves to uncover nature through means of the "purest form of inquiry": that is mathematics, freed from reliance on the senses and abstract speculation. Pythagoras in fact was the first to call himself a philosopher, which means "lover of wisdom", which shows how he really believed in the ancient tendency to live according to the highest passion in us, always following one's true desires. The highest form of desire for purity is the search for wisdom.

One of the most fascinating features of Pythagoras and his doctrine is the amount of relations and comparisons he was able to find in the world. Once his vision of a reality constructed on numbers settled in his point of view, the similarities and connections started popping up all around. He discovered musical intervals when he invented the monochord, and realized that these ratios that make different sounds are repeated in nature by the position of different heavenly bodies. Distances, ratios, functions, fractions, all were present in one way or another in the natural world and he made it his life's work to find and study them all. He even

believed in the mathematical nature of ethics, his practices gaining "a foothold in morality through notions of reciprocity, equality, and balance" (Sorensen, 2003, 22). This initial look at the field of ethics in relation to paradox-induced discussions will lead to other paradoxes being formulated.

Pythagoras also had a curious way of representing his calculations by using pebbles to signify numbers and relations between them. Not only was it a visual aid, it was the first physical forms of evidence, used both to sustain the theory and to show fellow colleagues the entire process. This helped them all reach several important discoveries (among others the famous Pythagorean Theorem) but mainly it demonstrated a visual way to imagine reality being subjugated under the control of numbers. This unique metaphysical mathematics showed how arguments can be aesthetically appreciated, might even be where the term beautiful argument originated.

History takes the reins at this point and the evolution of mathematics continues in a sort of parallel as philosophy, and ultimately the main difference between them will be due to the Pythagorean's habit of demanding proof, either to convince comrades or show the process. The scientific basic pillar of evidence started at this point in ancient Greece and would determine the academic, intellectual practices of centuries to come. Before continuing to different areas of philosophy and how they are shaped by paradoxes, the story of the Pythagorean metaphysical mathematics ironically runs into a phenomenon of the same kind that started the whole fiasco: a paradox. Hiappasus of Metapontum presented a game-changing paradox that would make Pythagoras lose a significant portion of his followers and admirers, one that disproves the Pythagorean Theorem.

What he did was apply the theorem (which states: in a right triangle the square on the hypotenuse is equal to the sum of the squares on the sides containing the right triangle. $a^2 + b^2 = c^2$) to a 1-1 right triangle. Following the theorem, the hypotenuse equals $\overline{2}$, which would be equal to some fraction lying between 1 and 2. But this fraction is impossible to find in order to make the parameters work for the theorem. The momentous suggestion not only implies a fallacy for the 1-1 right triangle, it throws to the ground the entire idea that things are commensurate with the natural numbers. This is why Hiappasus was drowned at sea by the Pythagoreans, who simply could not tolerate this kind of treachery and betrayal (by revealing his findings he broke the oath of secrecy within the doctrine and humiliated the entire effort).

Of course the theorem has a surplus of practical uses to this day, and is taught to elementary student across the globe. But this historical outcome goes to show the power of paradoxes. One paradox to ignite the discussion, construct theories of the world, inspire genius perception of nature, and one paradox to tear it all apart with one simple anomaly. Our vision of reality is as fickle as the theories that support it, and a paradox may well be the cement that holds it together, or the gust of wind that will bring it all down.

CHAPTER 2

It has been mentioned how indeterminate notions such as infinity are not only a fundamentally complicated and distressing aspect of thought in the limited perspective of human reason, but also especially prone to paradoxes that will define and shape the philosophical discussions around them. To ignore such a huge aspect of paradoxes, their relation to those undefined ideas that cause an inevitable existential "nausea", would be to focus only on the direct consequences of these foggy origins, therefore it is appropriate to at least dip the toes in these murky waters. Analyzing the paradoxical nature of such abstract metaphysical subjects could plunge one into years of study and countless tomes of written works on the matters, so for the purposes of merely glimpsing at the importance and relations they will be boarded very superficially. Two very basic aspects of human life and consciousness, which are in many ways interconnected and present in the minds of everyone, consciously or not, are the notion of *time* and our diverse conceptions of *God*.

When discussing time in a philosophical manner, paradoxes are native inhabitants of this sphere, more so than perhaps any other subject. They loom over every thought, threatening to tear apart any sense of understanding one may think to be grasping. Time is both passing and already passed by the time this sentence has been read. A future point in time will be reached eventually, but the future itself will always remain unattainable and indifferent. Paradoxes that refer to and delve into the subject of time are called temporal paradoxes and these usually fall in either of two categories: that which is derived from the "grandfather paradox", and causal loops.

The grandfather paradox owes its name to the example used to describe it. If one manages to travel to the past and meet one's own grandfather, this alone would present a change

in events already materialized in the past, and would affect the outcome in the time traveller's present time. This consequence refers to the butterfly effect, a phenomenon which reflects the sensitive behavior of dynamical systems present in the mathematical Chaos Theory. This theory demonstrates, among other conclusions of importance to the field of physics, that no matter how deterministic and causal the relationship between initial conditions and future outcome is, it is always chaotic and unpredictable (Werndl, 2009). The butterfly effect has become widely popularized in modern times due to its presence in successful fiction outlets such as novels and movies. The role of temporal paradoxes in fiction, and especially in literature, will be mentioned further on.

Despite the consequential aspect of the butterfly effect, the grandfather paradox is usually known for its full formulation, in which the hypothetical time traveller ends up killing the grandfather. This alters time in an even more complicated way, since the traveller's father was consequently never born, and this person's very existence ceases to be possible. But for this impossibility to come to place, he needs to exist and travel back, thus presenting us with a highly contradicting situation (Lobo, Crawford, 2003). The paradox here is plainly visible, and the attempts to engage in any sort of solution have led only to considerations of not being able to change the past in the first place.

This would be because of a self-consistency principle (the Novikov principle) that essentially states if any changes could be made to the past, they already would have been made by time travellers from the future. The knowledge of the possibility of time travel would have always been present. Since we have no such confirmation, it would be futile to even attempt to build a time machine; we are assured by logic it will never come to fruition. In Novikov's words:

> "…the only solutions to the laws of physics that can occur locally in the real Universe are those which are globally self-consistent. The PSC [Principle of Self-Consistency] by flat forbids changing the past. All events happen only once, and cannot be changed." (Lossev, Novikov, 1992).

This showed how the system prone to the grandfather paradox could be rid of that complication; however it does create what would fall in the second main category of temporal paradoxes, a causal loop.

A causal loop refers to an inconsistency caused by an event which is the cause for another event, and this second event is also a cause for the first one. For example, if a man travels back in time to hand his younger self instructions on how to build a time machine, and when he is older and the machine completed, he goes back and does the same, this presents us with a closed loop which makes one wonder where it all began, and at what point this instruction manual was even written. "Both parts considered by themselves are consistent, and the paradox appears when considered as a whole" (Lobo, Crawford, 2003). In this scenario there is an existing manual in space-time that was never created, and yet nothing in the example is really violating laws of causality.

The subject of time was also slightly brushed upon in the previous chapter when discussing the idea of origins and the complications it represents in philosophical and metaphysical themes. Anaximander's infinity presented us with a basis for the structure of reality in which there is no beginning and no end. A term which can be viewed as a parallel, but likely shouldn't due to its different implications and relationships with other aspects of philosophy, is eternity. This is something much more tied together with visions of a divinity, for most consider

God to be eternal, and more importantly, immutable. The property of immutability takes God away from the scheme we are accustomed to of a natural succession of events based on passing time. 5th and 6th century philosopher Boethius explains this as eternity, and in his own view defines it in some interesting terms. He writes of a state of being, which is set apart from the world of time as we know it but can only be understood by making a comparison to it.

What resides in time is subject to the here and the now, and experiences the "passing" of past to future through the inescapable filter of the present. The present however is only just that, a brief instant moment that is constantly passing and renewing itself. I like to picture this nature of the present as Alfred North Whitehead does in his highly metaphysical "ontology of becoming", better known as process philosophy. The present in his process-relational scheme of reality is much like the crest of a perpetually crashing wave. We are always at the very peak of all past materialized successions and always headed in the direction of a future comprised of mere possible forms of materialization. This central role of the present as sandwiched between influences both from experience (past) and possibility (future) is a fundamental aspect of the "becoming", instead of "being", that is associated with this philosophical and metaphysical perspective.

The eternity Boethius speaks of, and which is taken in great consideration by religious scholars to this day, is situated outside of this view of time. We cannot, bound as we are to the transition of past to future, grasp at any one moment the entirety of our temporal existence, for the past has been relinquished, and the future is not yet apprehended. God's eternal aspect allows for the conscience of the whole extent of life. This is the only way we can account for an immutable God, for immutability implies not being affected in any new way at any given point. By always being in the present, and this present existing as an instantaneous whole, God no

longer lives in a succession of events (Sorensen, 2003). This solution both presents an escape from a famous paradox related to God, the problem of evil, and simultaneously introduces a new problem, the question that wonders if God could be alive or not.

The problem of evil was first introduced as a consequence to some of the defenses of Christian dogmas made by Augustine, 4th and 5th century philosopher and theologian. The defenses were made in opposition of his earlier mentors, the Manichees, which considered the world to be an arena for two opposing cosmic forces: good and evil, or light and dark. He sustained that God was not locked in an eternal battle of forces, he is all-powerful. This is where the paradox surfaces, since he cannot be all-powerful, all-knowing, and all-good in a world where there is so much evil. If God knows there is evil, has the power to stop it and yet doesn't, he is no longer all-good. If he wants to end evil but can't, he is not all-powerful. This is a fundamental contradiction that has presented several problems for the omniscient and powerful vision of God. Augustine presents two different answers to solve this dilemma (Sorensen, 2003).

His first solution is Neoplatonic, a tendency with great influence in Augustine's life due to his extensive study of the likes of Plotinus. It essentially proposes that there is no such thing as evil, good is the only real thing. All forms of evil we see in the world are merely a lack of good, instead of inherently something called evil. We are then compelled by the Christian dogma to pursue good, and anything falling short of that is one degree or another of evil. The second solution, more in line with traditional Christianity, is that men practice evil out of their own accord. We were given freedom by God, and it was our own decision to corrupt our actions with depravity and misbehavior. However, God cannot have been surprised, since as was mentioned, residing in eternity, all the course human history and activity was at any given moment acknowledged and grasped by the supreme divinity. As per usual, once an argument starts to

gain momentum in the field of reason, a sneaky little paradox knocks on the door to complicate matters even further.

If God created the world out of nothing, it means he was idly wasting time doing absolutely nothing until he, arbitrarily and for no apparent reason, decided to create the universe at that one moment. Augustine is against this notion and retorts that God created time along with everything else, but warns against the problem that arises, the paradox of measurement. If we consider time as independent from the mind, and the present as having duration, then the present moment could be divided into an earlier stage and a later stage. But this cannot be, since the earlier would represent what once was, and the later what will be. This surely cannot stand as a definition of the present; it would be a very inconsistent one. The objective present is therefore an instant without duration. But as Sorensen (2003) puts:

> "To measure the length of a spoken sentence, one must hear the beginning of the sentence and its end. All utterances take longer than an instant. Therefore, it is impossible to measure the length of an utterance – or of anything else!"

Augustine reproaches this as absurd, and explains that human perception of the present is relative, different in every individual. The present is simply what we perceive in an instant, with the past serving as remembrance and the future as anticipation. Delving further into this argument leads to another massive discussion that would stray off our course and stretch on for centuries of philosophical consideration and development. This is the topic of subjectivity, which Augustine mentions in his own manner in his *Cogito*, and presents doubts such as: how can we be sure others have minds like our own? Alarmingly, we find more theoretical evidence against the existence of other people's minds than evidence supporting it.

Returning to the second consequence derived from the conclusion that if there is a God, he is immutable, we find ourselves wondering if this God could even be considered alive. Nietzsche is known for his famous adage, "God is dead", but it does not quite apply to the discussion at hand, since he meant it in a very nihilistic existential manner. The problem here refers to change. How does something that never changes and is always static or constant be seen as alive? Is he like gravity, a force? Thomas Aquinas believes God is not only alive, but supremely alive: since he created life, he is the highest form and degree of it. This could be seen as a fallacy, by assuming an origin has the same properties as the outcome. The sun is the cause for all life on earth, but we cannot grant life upon the sun, at least not as far as we can know.

Aquinas' ideas are consistently contradicting, and it is hard to find any constituting thread to his approaches. For example, since he believes God is timeless, it means God possesses all his properties essentially (much like a number). But if he is like a number, asking "where" he is would be wrong. And yet Aquinas believes there is an answer: everywhere. Since God is not bound by time as we know it, dictated by past and future, he is also in all locations at all times. He uses this to solve problems of divinity, such as the problem of foreknowledge against freewill, by saying God cannot be restricted by dynamic time. And yet again, when solving issues such as potentiality, he resorts to the idea that God *does* get affected by time: "God can help a woman retain her virginity but cannot restore her virginity. Thus, God's power is conditioned by time" (Sorensen, 2003).

To conclude a spacious and winding chapter, let a few things be noted. Whether one realizes or not, when speaking of time, one inadvertently speaks of divinity as well. The two notions are so intertwined that it is impossible to separate one from the other in philosophical terms. This can be seen by observing the underlying theories and considerations taken over the

years, and how these are ultimately defined by the paradoxes that have constructed them. As mentioned earlier, the sheer scope of paradoxes within the discipline is beyond any one individual's perception, and attempting to cover even most of them in one go is an ambitious feat at the very least. The hope here is to demonstrate the relations some of the basic ones hold with each other, just to show the interconnectedness, and consequently the central importance they represent for us all.

CHAPTER 3

So far the part played by paradoxes has been explored in the context of some specific areas of study within the philosophical discipline, namely ontology, time and divinity. Needless to say, their influence and impact spans many more areas such as ethics, politics, linguistics and so on. But just as one can, aside from ascertaining the role of an ingredient in a delicious meal, look at the ingredient by itself and study its aspects, so one can analyze paradoxes outside of their role within philosophical discussions. This chapter is dedicated to a brief look at some aspects of paradoxes that do not fall within an argument or a theory, but rather can help understand *what* they are in and of themselves.

First, an important distinction is made between two terms that could lead to interchangeable confusion. Paradoxes and fallacies share many characteristics, but to consider them the same thing would be (ironically) a fallacy.

Second, it has been mentioned that paradoxes are not only the source of problems that lead to discussions but also the tool utilized to solve some of these problems. One example of the methodological use of paradoxes with specific disciplinary objectives in mind is the Uroboric paradox.

And finally, it would be foolish to ignore the presence of the paradox in other disciplines outside of philosophy, and entertainment or artistic media is definitely a wide canvas for them to paint their unique colors for all to see. Temporal paradoxes in literature have an interesting functionality that is worth mentioning.

Fallacies

It is common to mistake a paradox with a fallacy, given their similarities when it comes to theoretical complications. In mathematical terms, a paradox is a statement that seems to be false but is true (there are just as many integers as there are integers); a fallacy is one that seems to be true but is false (every infinite set has the same number of elements). In philosophical and logical terms it is not always so simple.

Let us use an example that was previously explained in Chapter 1. Anaximander viewed the world as ruled by opposing forces: light and dark, heat and cold, good and evil. In his perspective, everything always naturally balances out in order to maintain the equilibrium of the universe. Nowadays, we know this assumption is a fallacy. We even have a name for it: the gambler's fallacy. This refers to the "mistake of assuming the law of averages works by compensation rather than by swamping" (Sorensen, 2003). When there is too much of one thing, it is wrong to assume compensation for it is incoming. For example, when a coin is tossed and it lands on heads several times in a row, we cannot just assume the probability of landing on tails is increasing, it always remains fifty percent. Chance has no memory. The longer the coin is tossed, this percentage will become more apparent because what does work with the law of averages is swamping. In the long run, the results even out.

Whereas a paradox is a contradictory or irreconcilable set of ideas or statements, a fallacy is a diagnosed error. This error may be clear to most experts, but not necessarily to everyone (gamblers in casinos still make the amateur mistake of committing the gambler's fallacy). In Anaximander's case we know it now to be a fallacy and refer to it as such, but when referring to his time and his historical context, it is known as the "compensation paradox". Through his eyes,

there was no error being committed and the observable phenomenon occurring between the notions of swamping and compensation was more a paradox than anything else.

Uroboric paradox

If the only goal of philosophy is to dismantle problems, would it still exist once there are no more problems? Are its methods just nameless "Kamikaze" soldiers to go destroy their targets and cease to be useful in the future? As far-fetched as this may sound, John Visvader makes an excellent argument for this specific type of tool.

In the article *The use of paradox in Uroboric Philosophies* (1978), Visvader presents a particular type of philosophy, the Uroboric. This is defined by its own self-defeating nature; its very objective is destroying itself (reminiscent of Wittgenstein's ladder that is thrown away once used, or Buddhism's raft that is disposed of once used to cross the river). The interesting symbology associated with it is a serpent eating its own tail, but there is another depiction, that of the snake also transforming into a salamander. This second image represents the birth of a new point of view, for Uroboric philosophies are also characterized by leaving the student in a new place afterwards; it raises individuals to a new state of mind (also seen as a cure, an exorcism, a therapy).

It seems this second point takes away the disposable aspect of philosophy, which degrades it to a mere wrench to screw problems out of the way. There is an individual value to be found in its practice, a redeeming quality to an otherwise lifeless tool. Visvader also ventures into the descriptions and parameters of paradoxes. He asserts that "a statement is paradoxical if its assertion leads to the consequence that, if it is true, then it is false, and, if it is false, then it is

true" (Visvader, 1978). This is most easily viewed in the famous liar paradox ("Everything I say is false").

However this is not what he calls a full paradox, since it does not comply with the second part of his description: its falsity does not imply its truth. It is similar to saying "all generalizations are false". Its falsity implies "there is at least one generalization which is true". This would be a limited paradox, or a self-refuting one. The liar paradox has therefore adapted its full form by stating: "This sentence is false." The more one delves into the subject, the more one realizes philosophy of language is intricately involved and an essential branch to understanding the *formulation* of paradoxes. This is why Visvader continues to analyze certain aspects of significant authors in the area such as Wittgenstein, Russell, and Austin.

Temporal paradoxes in literature

To provide yet another linguistic view of paradoxes, Marie-Laure Ryan (2009) explores their presence and role within the fictional narrative. It goes without saying that time-travel is an abundant topic of choice in the fictional world, and the fact that they all present, one way or another, temporal paradoxes goes to show the extensive reach these philosophical quandaries have attained throughout the years. So interesting, so intriguing, so inevitably appealing is the notion of not understanding one of the basic aspects of our reality, that we literally create dozens of stories based on the absurdity of going against the unstoppable stubborn flow of time.

The author makes a distinction of four fundamental beliefs in our intuitive notion of time: time flows in a fixed direction; one cannot fight this flow; causes always precede their effects; and the past is written and cannot be changed. Literature has played around with these beliefs creating worlds where contradictions are center-piece in an irrational context, and an entire new

way of formulating space-time relationships opens enormous possibility in the fictional narrative. It would be fitting to mention a paradox that questions our very drive to create and admire such fantastical realities. The paradox of fiction wonders how people can get emotionally attached, and they usually do, to fictional characters and events. But in order to get an emotional response, one must believe in the veracity of the events, and no sane person truly believes the occurrences of an established work of fiction. Clearly the answer to this is empathy, but it does raise questions about the extent of human empathy, if it is able to attach itself to make-believe figments of imagination.

Ryan arrives at a sort of conclusion, more pertinent to her field in narratology, which shows how the imagination is in fact more flexible, and with a longer grasp, than logic. Why there is a focus in narrative towards the reversed time flow is still unknown, although likely to be similar to the alpinist's motivation of climbing mountains simply because they are there. In this case, the mere *possibility* of narrating a nonsensical reality, where time paradoxes function in fundamentally different ways creating space-time continuums and physical functions so absurd to us, is *motivation enough* for challenging what we know and the problems we seek answers to.

CONCLUSION

Just as one learns of a country by travelling through it personally, so this paper shines a light on areas of the understanding of philosophy by taking a stroll through a small few of its protagonists' minds. If the imagination is more flexible than knowledge, as stated by Ryan, should it also be involved in the complex methodology that is solving paradoxes through philosophy? Should we make room for new attitudes that would accompany logic in this seemingly futile pursuit of truth? After centuries of persisting problems, one might be inclined to accept any effective methods, even if they are self-defeating, self-refuting or merely created for diversion and entertainment. Where one finds comfort in science, another might find truth and eternity in art.

The one certainty we can know is a paradox in itself, and was first uttered by Socrates: "All I know is I know nothing". What we perceive is all we have, but we are born with the desire to go beyond this. We feel compelled to push all boundaries of knowledge, ready to face whatever truths we uncover. Unlike popular belief would have us think, the imagination is not limitless. But it is all we have to give us a buffer zone between our reason and the vast mystery we incessantly aim for with every human activity. Even the most apathetic man on earth would look behind the veil of reality given the chance. Yet we cannot even be sure to know what it is we are constantly looking for!

Meno's paradox tells us we can't search for either what we know or don't know. "[Man] cannot search for what he knows--since he knows it, there is no need to search--nor for what he does not know, for he does not know what to look for" (Plato, Meno, 80e). One must seriously wonder at this point, what on earth is the purpose then. Every attempt to pursue wisdom is but a

whimpering lack of ability, every original thought but a pebble in the same pond of inadvertent mystery.

It seems the more we study the less we know, the more we inquire the less we learn. One looks at paradoxes long enough and everything starts to seem paradoxical. When forever-opposing dualities become the means for solid bases, when the nonsense becomes foundation for the science, then you see the true meaning of a paradox. We are made by them, defined, described, inspired by them; these shackles are beautiful in incomprehensive ways. And ultimately the urge to lose one's sanity, throw it all to hell and curse the heavens and gods for both existing and not existing in our ignorant yet brilliant minds, this will also be the purest fuel to keep us going. For in the end it is glorious, it is synonym of beauty, art, wisdom, and love. The world out of nothing, and perfection out of chaos.

All in all, this is undoubtedly a subject that shouts an invitation for error and theoretic or historical distortions, and it is a risk well noted. As Sorensen (2003) adequately puts it: "…I risk misstep myself. […] Sooner or later, I must share the fate of those I chronicle. I apologize for these errors but am grateful to those who led me up to a position to make them." Researching any given one of the topics here presented will lead to a myriad of different interpretations and accounts of the same. However the purpose of this paper was not to educate, discover, or even consider. It was simply to *realize*. Realize that while we walk this earth pondering on all matters both trivial and crucial, what is underlying is not truth, but doubt. Our intuition is as good as our reason, they will build our cities and destroy our worlds; and this may well be the biggest paradox of them all.

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