



The Atheist's Bible

How Science Eliminates Theism

Author's Note

Throughout our colorfully written history, we humans have questioned the contents of our environment and the factors underlying its existence. Religions of all kinds have been created in attempt to extinguish our conflicts with the unknown, from the psychological tendency to personify nature, which led to polytheism, to the evolutionary jump into monotheism. As a consequence of the many differences in religious opinion that have been created over time, horrible religious wars have emerged, such as the Christian Crusades, the Muslim Jihad, the Catholic Inquisition against heresy, and the supposedly religious-based war on terrorism that currently looms over the people of today.

What can be done to end these feuds, which are senselessly killing the innocent people of the world and crippling nature in their wake? There is only one true solution to this problem: to create a belief system in which everyone will agree, and the only way to do so is for us to believe solely in what we can observe. Such a philosophy is maintained in the quest of science. As Karl Popper, the dean of the modern philosophers of science, said: "It is only too obvious that it is irrationalism and not rationalism that has the responsibility for all national hostility and aggression, both before and after the crusades, but I do not know of any war waged for a scientific aim, and inspired by scientists." (Weinberg p.259)

We scientists do not yet understand the entire nature of the universe, but we have had significant and amazing amounts of progress, especially in the previous century. We've seen progress that is so significant towards our efforts that we may very well be seeing the framework of such a unified, scientific theory of how the entire universe functions. The Atheist's Bible explains this framework, along with many of my own suggestions, which I hope will aid in furthering our understanding and overcoming the unknown. *Only with your participation will we begin to erase the pestilent ideas that currently plague the societies of our world.*

When I was a child, I would lie on the grass on summer nights, staring at the clear, starlit sky, and wonder how all of this beauty that is existence came about. After much deliberation, I decided that I could only know the events that took place after the beginning of our universe, because there is no way of knowing what once lied before the big bang (if this is in fact the correct theory of universal evolution.) This is the conclusion that most people, scientists and theologians alike, seem to agree with. The inevitability of our ignorance seemed to me to be the dead end to the road traveled by philosophic thinkers. That is until one day when I had an epiphany. Years have now passed since this epiphany, and it alone has driven me to write this voluminous collection. As I discovered, and have written for everyone else to discover, man *can* know what lied before the universe, and, consequently, *can* prove or disprove the existence of a Creator. There *is* an end to philosophy and science, and, as we shall see, this end is with atheism.

Dedication

I am most in-debt to the scientists and great thinkers of the world, for if it weren't for them building and placing the groundwork for this book, I couldn't have written it. I simply used the quickly-forming foundation that they have laid, created by their amazing hard work and dedication, and pushed it a bit further. Of these scientists and thinkers, I would especially like to thank the M-theory revolutionists for helping me to take this book much further than I had initially dreamed. Thank you all!

For personal support of all kinds, I would like to thank my mother and father, Kathleen and James (who held no reservations in helping make this dream of mine a reality), my brother, Ronald Jones, the rest of my family, Alex Pesch, Beth Stimac, and Will Rhoutsong.

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And finally, I would like to dedicate this book to everyone who has ever had the courage to separate themselves from the masses and ask the forbidden question, "*Why?*"

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Prelude

We humans have always strived to understand reality in terms of what we know and encounter in order to help us conquer our own fates. We have seen examples of this all throughout the history of our species, from the cave art of the first members, to ancient civilizations, and even today. This knowledge is an ancestral heirloom of guidance that helps us to ease the struggles of life. Our understanding of reality is ever progressing, but we may never understand its entirety. We may not be smart enough. It is inevitable, however, that our quest won't end until we're fully satisfied, and we won't be satisfied until we believe we know it all.

In this quest, there are two methods of finding answers, which we choose to believe can help us to understand the nature of reality: religion and science. Religion is an attempt to answer our questions about existence itself by utilizing explanations that require both natural and supernatural forces. It offers a romantically pleasing perception of reality and provides its own explanations for our self-worth. Science is humanity's attempt to solve the same questions but utilizing only observable, natural explanations. It leaves out romantically pleasing, supernatural, good to hear answers, replacing them with cold, hard evidence of the true nature of reality, and ignores the personal need for feelings of self-worth. Furthermore, scientific methods are based on *theory*: a clump of *hypotheses* (educated guesses) that are yet to be proven incorrect. Religion is solely a social construct and doesn't attempt to use evidence to back its claims (as we shall discuss later.) Science does use philosophy, but just as an orienting tool, which may help us to uncover new scientific facts about our universe. Until a philosophic idea is observed in nature and is proven to describe reality, there is a division maintained between the two.

Both the scientist and the religious man do depend on faith. A true scientist, however, has faith not in the science of men, which is subject to fraud and human error. A true scientist has faith in reality – the nature of existence – and the relevance of our humanistic understanding of it. Without such faith, we wouldn't believe in anything beyond what we directly observe; and furthermore, we can't even rightly have the faith that what we directly observe is cohesive with reality because of human error. Luckily for us, science's accurate predictions of the mechanics of our universe and the technology that we utilize, driven by these predictions, *strongly* suggest that believing that we are incapable of understanding our universe is both naïve and ultimately counterproductive.

A true scientific theory is one of – if not the only – possible explanation(s) for a certain previously mysterious aspect of reality. These theories are ever changing as the result of new facts gathered or the uncovering of theoretical error, indicating that it wasn't ever a truly scientific theory (as true science is, by principle, utterly factual.)

Although there are many causes of theoretical error, human egotism appears to be the most flagrant throughout history. Like all other organisms, we humans always put ourselves before everything else in our environment. Even self-suicides to save another are actually for ourselves: our emotions dictate both our desires and our actions. This is the nature of life. In fact, scientists are now beginning to question the separation between humans and other life forms, asking themselves if this separation only exists within our minds! Of course, this philosophic brand of egotism of ours is understandable. Besides the biological end of it, we

appear to be the smartest, the most civilized, and the only beings that have the ability to question their selfishness, anyway. Our deeply complex social structure makes us the current world dominating macroorganisms. If one doesn't know any better, it appears that the Earth is still and all astral objects revolve around us. To our ancestors, this kind of egocentric observation led to the belief that everything existent is either for us or because of us. This natural and romantically pleasing conclusion led us to create complex religious beliefs which propagate the idea that nature is composed of seemingly arbitrary, divinely controlled events. Millennia passed before this conception was widely questioned.

During the European Renaissance of the Sixteenth Century, science exploded throughout our culture, spreading new ideas regarding humanity's ability to comprehend nature. What was once held as divine and arbitrary was now newly found to be natural and orderly. The science of this time started a chain reaction of scientific discovery, leading to all of the modern technology and new viewpoints about the capabilities of nature that are readily utilized today. In this search to find the true mechanics of reality, we have come to the gradual realization that no worldly events occur in an arbitrary, unorganized manner. They reflect a certain underlying order, and this directly conflicts with the previous theological ideas that were once cherished. Throughout just the last two millennia, our culture has developed from the geocentric ideas of Ptolemy, through the heliocentric revolution of Copernicus and Galileo, to the modern view of our place in the world, in which the Earth is a medium-sized planet, which orbits around one of many average stars in the outer suburbs of one of at least a few hundred billion spiral galaxies in our universe. Yet, the *strong anthropic principle* – the Creationistic idea that everything is the way it is just so we can exist – would claim that this vast assembly of galaxies exists simply for our sake. (Hawking p.130) Where has the room for our egocentricity gone?

In our current view of reality there is a single, complete skeleton of theory emerging which is capable of explaining the entire universe's existence. Although it is currently only a partial skeleton, every indication that we have observed leads us to believe that we are on the right track, stringing together the most elementary principles of nature's workings into a readily verifiable theory. In this skeleton, the subjects of pure science, biological evolution, and those pertaining to the human brain constitute the explanation of our own existence. Due to the complexity of each broad genre of sciences, I refer to each of these divisions as books of their own. Just as the Christian Bible is a collection of several books with individual purposes, which form a collective understanding, so is the Atheist's Bible. Also included is an extra section created to help us understand the truths of popular religion, where we will come to understand how both the mind creates thought and how thought controls the mind. These sections collectively create what I refer to as our Orientation to Existence. To further back the ideas presented in this Orientation, I next consider the things that are, as of yet, classified as having unknown causes – also popularly referred to as “supernatural” -- and show them to be otherwise by applying to them the framework of theory derived from the previous two books. This telling test of the fortitude of our theory of everything is contained within the Book of the Unknown. Finally, after uprooting the basis of theism with these books, I attempt to replace some of the positive aspects that religion does distribute to its followers with new positive aspects, which, I believe, will not only sufficiently replace the old, they will be much more beneficial and fruitful to the individual. This replacement is held in the final two subsections of the collection. Let us now begin our journey. Enjoy!

The Book
Of Existence

Introduction

Since the beginning of time, philosophers have reached for one, common goal: to create a final theory – one that explains anything and everything in existence. Before the Nineteenth Century, philosophers subsumed all of the areas of human knowledge, including math, science and the remainder, into one field: philosophy. Only in this realm did questions regarding nature's greatest secrets exist, such as, "Did the universe have a beginning?" and "How did it come about in the first place?" Growing knowledge, specifically in the area of science, caused our questions about our environment to become to abundant and technical for any single philosopher, dividing this knowledge into specific fields of expertise, truly understood by only few. Since science's objective is to prove any beliefs that we may have via hard evidence, the philosophic approach, weak in its foundation, greatly waned in popularity. This harsher criticism of hypotheses has enabled us to realize a greater understanding of the universe than we previously thought possible. Many now believe that they can understand aspects of the universe that they can't even see!

But why would one bother to spend one's short life thinking about such things, anyway? Besides the technological achievements derived from this knowledge – which have significantly bettered our lives today – it serves us in our humane need for closure. The need for closure arises as the result of unanswered questions regarding topics that affect us, usually instigated by the experience of having something torn away from us, or maybe by the feeling that something is missing from our lives. In the case of the philosopher's goal, it is disturbing to be conscious but clueless of why. Examples of closure can be seen all throughout society. When a criminal breaks the law, closure is created by penalization. When someone dies, a closing ceremony called a funeral is held. When someone slips when running barefoot on the edge of a pool, a "No Running" sign is added. Even by just putting a happy ending on a story told, we have created an example of closure.

Humanity's first comprehensive form of closure was religion. This form has survived since we humans developed our ability to think abstractly; however, there are several innate impurities in this form. It has been found that all forms of religion founded before the advent of science were formed solely by human speculation, absent of any factual backing, what-so-ever (we will expound on this fact in the Book of Thought.) All of today's most popular religions are rooted in ancient folklore, which is a recipe for seams to unravel from their initial fabrics of thought. As the result of this, popular religion is never personally conceived in the same sense that it was originally meant to be. Many believe that we are now beginning to gain a better grip on reality via modern science, but it is difficult for most to part with the religious closure that they were raised with and to both understand and accept what many consider are more evolved methods of reasoning.

In terms of personal satisfaction, is there any difference between the two forms of closure: via religion or via science? Common sense leads us to conclude that a theory of everything would provide a much more satisfying form of closure than the unraveled forms that religions provide. When one "finds God", one simply perceives a glimpse of the grandiose existence that is the universe around oneself, not *why* it exists or how it came about. When one

can additionally perceive these things, the pleasure derived from the closure is infinitely greater. The first time I truly realized the beauty of just the big bang theory, I was smiling for weeks! Although I knew the information years before, I finished comprehending it one day out of the blue while in conversation with a friend of mine, Mr. Will Rhoutsong.

How can one truly accept that scientific closure is the best form? Besides the new, enhanced form of perception that accompanies it, the answer lies in the process used to determine scientific fact. The *scientific method* is a system used to create a meticulously organized study of one variable in a perfectly controlled event. In other words, when studying one feature of, or event that exists in the universe, the scientific method is used to show that *that*, and *only* that event or feature, endures a solitary change, with absolutely no other feature enduring a simultaneous change. There is always a *control*: an identical observation in which the change did not occur. By using this process, all of the inconsistencies from one experiment to another are secluded, leaving only the truth.

The practice of scientific experimentation relies on the principle of *cause and effect*: for every cause in existence, there is one or more effect(s.) If one causes a cup to fall from a tabletop, two obvious effects arise: the contents will spill and the cup will feel a force on itself that is exactly opposite of its velocity upon impact. Everything that occurs in nature is an effect of a previous cause, which will go on to be the cause of further effects (which we call events) throughout time. By using the scientific method, we analyze a cause that produces effects, which we can freely observe. Through our observations, factual data about our universe is secured.

Since all effects existing throughout time have resulted from their respected causes, logic tells us that time and the contents of the universe must have ultimately originated from one underlying cause, whether it may have been “Creation” itself or something else. To map this entire chain of cause and effect, we would need to know and understand all of the variables that exist in the entire universe, which we obviously as of yet do not (and it appears we will never do so.) Using what we *do* know, we scientists have traced the cause and effect structure of universal history back to a pinpoint and even smaller yet – the very widely accepted “big bang” model of our universe.

Is the big bang model the final theory of everything? No. Although the scientific community does agree that it is itself correct, it is still only a piece of the puzzle. Putting together this entire puzzle is the task at hand, and there have been significant leaps and bounds of improvement in our understanding of what the final theory truly is. We may finally be ending our search in the near future; however, this final theory is just a model that can help us to understand the progression of our universe throughout time. It would just be a skeleton, a foundation for our understanding, and the understandings of everything that exists within this framework would be the flesh. We can *utilize* the skeleton to understand the rest. Such a theory will be final in only one sense – it will bring to an end the ancient search for the principles of the universe that can not be explained in terms of deeper principles. (Weinberg p.18)

As of yet, most of the scientific community is too occupied with the question of *what* the universe is to ask the question of *why*. If a unified theory of everything does exist, it is just a large conglomeration of rules and equations. What is it that gives these equations life and creates for them the conditions required for them to make the universe function in the first place?

“Why does the universe go to all the bother of existing? Is the unified theory so compelling that it brings about its own existence? Or does it need a creator, and, if so, does he have any other effect on the universe? And who created him?” (Hawking p.190)

To answer these questions one must breach what is mathematically accessible and probe before the big bang. All mathematically-based theoretical science is jeopardized beyond this point, leaving only the ancient art of philosophy to lift the shrouds covering the answers to the greatest questions existent. As we shall see, the greatest mysteries of existence can be solved simply by using common sense.

In the Book of Existence, an explanation for all of these questions exists. Furthermore, a brief history of primitive cosmology is provided to aid in understanding mankind’s progression of thought throughout time, leading up to the more refined theories of today: general relativity and quantum mechanics. From this, we advance to modern string theory and M-theory. We then continue with the modern cosmological picture, which has been found to describe everything that we experience today, and, as is assumed, that we forever will. The second part of this book – the Book of Life – continues the story of the universe by describing the origins of the organic realm of existence and the evolution of life on Earth. As you further delve into this book, know, the contents are heavy and voluminous, but rest assured, the rewards will be well worth both the time and thought.

Part A: The Book of Existence

Unit One: Theories of the Past

Chapter one: The Birth of Modern Thinking

With one look at today's society, it is easy to see that most take existence for granted. Most just walk through life aimlessly and unaware of the grand universal structure that consists of both them and everything around them. Existence is the material that composes us and keeps us living. It is the dimensional arena that we and everything else exist in. It is simply everything.

Most people throughout history have assumed that we are incapable of fully understanding the nature of existence. Modern science is beginning to challenge this ignorant assumption of ignorance. We are now discovering the laws and principles that dictate how the universe functions, which are all pointing to the same conclusion: that we *are* capable of such a feat (at least in a mathematical sense.) This book shows why our expectations are so high.

For the purpose of restricting the size of this collection, only some of the necessary components of the theory of everything (the T.O.E.) are explained, and are done so without a great deal of clarification or excess information. The first nine chapters of this book are a tutorial with the purpose of helping readers catch up to our first momentous conclusion: why atheism is the only belief system compatible with existence. The first unit is basic - covering pre-Einstein physics, special relativity, general relativity, and quantum mechanics - and those who are already educated in these fields may skip it if they so choose. The second unit is about string theory, superstring theory, and m-theory. I highly recommend that everyone reads this unit before tackling the concepts that I present in Chapter ten.

Attention: if one feels that one is not ready to have all of one's theistic beliefs fully challenged and have his/her entire perception of reality overturned, one must put this book down now and never pick it up again; however, if one does want to stare the truth directly in the eye, there ahead lies a great abundance of intellectual treasures, waiting for only the bravest to read on and discover. Enjoy!

In order to understand the minds of the theorists of today, it helps to understand the minds of the conceptual pioneers of the past. Let's try to view our world as our ancestors undoubtedly must have viewed it. The Earth appears very different to someone who has absolutely no knowledge of its natural operations. We are now raised with some of this knowledge in youth, so all of our individual understandings are greater than the pioneers' once were. Almost everything that they once believed was true has turned out to be completely false. The reason for this is that our senses easily fool us. The Earth appears still while all astral bodies appear to revolve around us, creating the illusion that we are the center of the universe. The

shape of the Earth's surface looks similar to that of a bas-relief. We must have been created from the dust of the Earth, as we return to it after death. These and many other false conclusions all suggest that we are in the universal spotlight - the one revolving around us, that is our sun. This conception wasn't widely challenged until tens of millennia had long passed.

The Greek philosopher Aristotle performed the first known major surgery on this misconceived view of our environment. In 340 B.C.E. (before current era: the same notation of time as B.C., but in an atheist-friendly form) he noticed ships on the horizon which were heading back in from the deep Mediterranean, but he, using his ancient binoculars, noticed that he could only see the top of the masts of the ships. As they further approached, the rest of each of the boats slowly emerged, from mast to bow. This can only indicate the existence of two possible situations: either the Earth is flat and the ships grew out of the sea, or the Earth is, instead, spherical. Since the sailors reassured him that they did not grow out of the sea, only one possibility remained. (Aristotle also decided that if the Earth is spherical, than all of the astral bodies of the universe - also previously thought to be flat, like a painting - are probably also spherical; yet he still maintained his belief that the Earth is the center of the universe.)

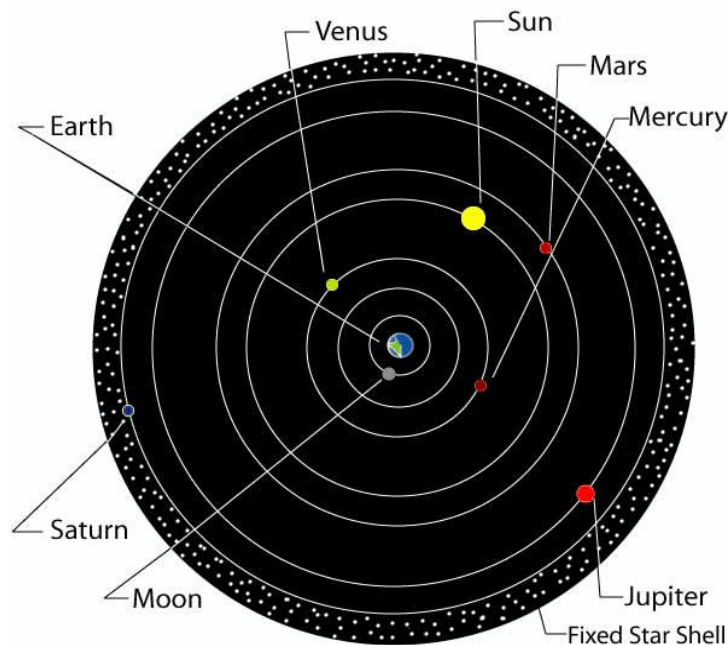
Even after his discovery, most of the world still chose to believe in the flat Earth hypothesis. This is because it would have opened up a huge, proverbial can of worms to suggest that this long-held belief may not have been entirely true. People were bound by their fear of the unknown and their choice to not challenge their long-held, shared conclusion about life. They decided that they would try to ignore Aristotle's evidence, and they were largely successful at this; that is until the Fifteenth Century when Christopher Columbus proved to the "civilized" world otherwise.

In the Second Century C.E. (current era), the Egyptian astronomer, mathematician and geographer, Ptolemy compounded his and Aristotle's cosmological ideas into a model of the universe. This model included the sun, the known planets, and an outer backdrop of stars, like a fashioned blanket draped over a bird cage (Fig 1.1.) All of these heavenly bodies were believed

to move around the Earth in circular orbits. The Aristotelian-Ptolemy model was widely accepted by the people for many centuries; but they *better* have accepted it! Otherwise, the Roman Catholics, in their Inquisition of heresy, would have labeled them heretics and burned them at the stake!

Just when ignorance seemed impenetrable, two scientists exploited a couple of its first holes. In 1514 a Polish astronomer, Nicholas Copernicus, dared to suggest that the Earth and the other planets actually revolve around the sun. Another new idea appeared later in the century from the revolutionary mind of the Italian philosopher Giordano Bruno, when he suggested that the sun is just

Fig 1.1



It was said that heaven and hell lie outside the stars.

another star, only much closer; and furthermore, that other planets, invisible to our naked eyes, orbit other stars. At the time, Bruno's idea was frowned upon and ultimately forgotten. Copernicus, on the other hand, couldn't even preach to the world his hypothesis because the Roman Catholics would have burned him alive for suggesting that the Earth isn't the center of the universe! Consequently, during his lifetime, he had to keep his thoughts confined to the minds of only a select few and to a few of his hidden personal annals.

In 1609 the Italian astronomer and physicist Galileo Galilei found evidence supporting the Copernican theory. Using his new invention, the telescope, he discovered new moons orbiting Jupiter. If these moons did somehow orbit the Earth, like every other celestial body was said to, it would require a very complicated orbital system to give only the appearance that they orbited Jupiter. This suggested that the Copernican model was a more logical, and thus a more attractive model of the universe. The Pope allowed Galileo to inform the people of his discovery and its implications in a book, but only under the strict conditions of the Church: he could only write about *both* the Aristotelian-Ptolemy and Copernican theories - not just the Copernican - and only if he did not favor either side and he provided the conclusion that only God can determine the workings of the universe, as He can elude man's perception of such if He chooses to. After writing his book, Dialogue Concerning the Two Chief World Systems, the Church determined that Galileo had overstepped his boundaries and banished him to a lifetime of house arrest. This, however, did not inhibit his determination to inform the people of the truth. In 1642 he went on to sneak out a second book to a Holland publisher, The New Sciences, which heavily favored the Copernican theory and helped to incite modern physics and the new, "radical" thinking to come in the Seventeenth Century European Renaissance.

The Renaissance was a time marked by ingenuity. Next to the Twentieth Century, it is regarded as the biggest jump in innovative thinking in known history. Considering that it sparked our modern achievements, one may even argue that it was bigger. The new views of this time, regarding our existence and our capabilities as human beings, went on to give birth to our current, more scientific ways of thinking. There were several great minds involved in this revolution, but we need only focus on two: Roemer and Newton.

When a candle is lit, it seems to instantaneously spray light everywhere in its vicinity. Noticing this, it seems difficult to argue against the notion of instantaneous light speed. For this reason, it was believed that light, as well as the other physical forces, like gravity, were absolute, acting under an absolute God. In 1676 the Danish astronomer, Ole Christian Roemer, who was observing the moons of Jupiter that Galileo had recently discovered, noticed that the light from the moons took longer to reach him when the Earth was at different positions in its orbit around the sun. Roemer had the wit to conclude that this delay could only occur if the light that he was seeing took some amount of time to travel to him. With the tools he possessed, he estimated that it took the light one second to travel 140,000 miles. The estimation was about 46,000 miles per second off, but nevertheless, it was a pretty amazing one, considering the primitive tools he was using and that he did this in an era where people had absolutely no doubt that light traveled instantaneously. He overturned another false ideology: that everyone always saw the same light at the same time, no matter where they happened to be.

Regarded by many as the biggest influence on modern physics is the English mathematician and physicist Sir Issac Newton. Newton is known for several contributions to physics - such as his laws of motion and his universal theory of gravity - and also in mathematics, both mainly from his 1687 publication, Philosophiae Naturalis principia

mathematica. We will observe his theory of gravity.

The classic picture of Newton being blasted in the head while sitting under an apple tree fills our minds when reintroduced to the subject. When observing the apple, he noticed that it did not travel at a fixed speed. It seemed to *accelerate* towards the ground. I doubt the validity of the classic fairytale because if he was observing the apple directly above his head, it would have blasted him between the eyes, which would have made for a much funnier tale. As the apple fell *next* to Newton, it gave him an epiphany: that gravity is neither a completely arbitrary force, nor is it linear by nature. To establish gravity into mathematical law, he had to introduce to the world a new system of mathematics, known as calculus. (Although calculus was first invented by Archimedes, Newton rediscovered this system for his own work.) He later went on to discover that the masses of two objects (for example, the apple and the Earth), if summed together and divided by their distance apart squared, calculates their acceleration due to the force of gravity. This formula simultaneously proved that planetary orbits are not circular. Rather, orbits -- as Johannes Kepler discovered earlier in the century but couldn't explain why -- are elliptical.

Newton's monumental achievement entirely changed the way that people viewed the world. For the first time, we began to look for systems and set principles that dictate what occurs in our natural environment. A movement was brewing, and the classic, egocentric views of our universe were just beginning to be overturned.