The Final Theory

Rethinking Our Scientific Legacy

(Second Edition)

Mark McCutcheon

Universal-Publishers
Boca Raton

The Final Theory: Rethinking Our Scientific Legacy (Second Edition)

Universal Publishers
Boca Raton, Florida • USA
2010

ISBN-10: 1-59942-866-0
ISBN-13: 978-1-59942-866-6

www.universal-publishers.com

Library of Congress Cataloging-in-Publication Data

McCutcheon, Mark, 1965-
The final theory : rethinking our scientific legacy / Mark McCutcheon. -- 2nd ed.
p. cm.
ISBN-13: 978-1-59942-866-6 (pbk. : alk. paper)
ISBN-10: 1-59942-866-0 (pbk. : alk. paper)
1. Quantum theory. 2. Special relativity (Physics) 3. General relativity (Physics) 4. Expanding universe. I. Title.
QC174.13.M33 2010
530.14'2--dc22

2010002011

To my father for his considered feedback and many long hours of editing. To friends who offered helpful comments and suggestions along the way. And to the many first-edition readers who have taken time to either contact me personally or engage in public discussions about its various new concepts; with special mention to Mo Casey, Steve Hanson and Roland Michel Tremblay.

In loving memory of my mother.

Table of Contents

Preface

"Happy is he who gets to know the reasons for things"
~ Virgil

Science is our tool for uncovering the nature of our universe, and since we seem to inhabit a stable, orderly universe based on solid and reliable physical principles, as our science develops it should bring things more into focus, producing an increasingly clear picture of it all. Yet, in the past century alone, our science has given us quantum paradoxes, relativity mysteries, parallel universes, hyper-dimensional superstrings, virtual particles, dark matter, dark energy ... and the list goes on. Is our universe truly such a bizarre place, or could it be that our investigative tool itself – our science – has simply lost its way? This book makes a firm case for the latter, with clear discussions exposing the flaws in the above concepts and more, while stepping back to take a good look at the scientific legacy we have inherited.

Crucially, our science rests upon the *Law of Conservation of Energy*, which states that everything arises from a pool of continually recycled energy that is never created or destroyed but only changes form – in essence, you can't get something for nothing. Consequently, all energies and forces must draw upon another underlying source of energy. A universe where isolated energies and forces could be conjured up to act upon the surroundings without draining an underlying energy source would be one of fantasy and magic – not science.

This central energy law encompasses gravity, magnetism, electricity, electromagnetic radiation, strong and weak nuclear forces, and even matter itself via the energy-mass equivalence, $E=mc^2$. As such, it is critically important to note that *science as we know it is entirely an energy-based paradigm*, composed of a patchwork of separate and still rather poorly understood energies, forces and "effects." And further, many of these everyday phenomena, such as gravity or magnetism, do indeed act mysteriously and endlessly in isolation, with the *physical nature* of such clear energy-conservation violations either overlooked completely, dismissed with flawed *logical* diversions, such as the Work Equation, or abstracted away with purely *mathematical* models. This is our energy paradigm, inherited from a much simpler time, which we

now use exclusively and unquestioningly as the scientific lens through which we view and interpret all observations.

This also means, then, that our scientists' current search for the ultimate understanding – a final Theory of Everything – *demands* that it be found wholly within this inherited energy paradigm. Yet, as this book clearly shows, this is a dangerously presumptuous restriction to impose on the pursuit of such a grand unknown, and is the reason all such attempts at a final theory have failed – until now. What, after all, is the word "energy" except a legacy catch-all term for active phenomena all around us that scientists have always struggled to understand, and still do today? The experts concede that the nature of gravitational energy remains an open question even today, long after both Newton and Einstein. Light, and all electromagnetic radiation from radio waves to X-rays, is now considered a quantum-mechanical wave-particle paradox. Electric charge and magnetism are essentially first-causes unto themselves, acting forcefully, energetically and endlessly on their own despite the energy transformation requirements of our conservation laws. The "strong and weak nuclear forces" are actually *models* of forces that, should they turn out to exist as advertised, also act forcefully, energetically and endlessly without the required underlying energy transformation – forces proposed to explain observations that otherwise contradict today's atomic theory. And the velocity of light is mysteriously linked to the very passage of time, via *Special Relativity* theory, while unexplained "dark energy" and unseen "dark matter" have been fast-tracked into our science in an attempt to account for vast discrepancies between astronomical observations and the equations of *General Relativity* theory.

So, does all the order around us truly arise from such bizarre law-violating phenomena, or are our inherited science paradigm and its dedicated community of practitioners unwittingly separating us ever further from a true understanding of our universe, and perhaps even the meaning of it all? This book first demonstrates that our science is a fatally flawed inherited *energy paradigm*, then presents a sweeping new scientific paradigm that redefines our various "energies" in terms of a single overlooked principle in nature that gives a much more sensible scientific explanation of the observations around us. This new understanding arises from a *literal* interpretation of the thought experiment Einstein developed into his far more abstract *General Relativity* theory, and answers the question: if the legacy term "energy" is actually just a centuries-old placeholder for an unknown at the heart of it all, *what is this unknown*?

To be sure, there have been many explanatory attempts from scientists and laymen alike, with the wilder and more scientifically questionable proposals of late arguably coming from *within* the official scientific community itself. Rather than scientists questioning current theory when observations strongly suggest it, instead quite imaginative proposals emerge that often attempt to explain observations by inventing new *unexplained* phenomena – for further investigation. This often becomes de facto "science" if it creates enough controversy or intrigue to continually feed the science media and attract funding. The recent meteoric rise of "dark matter" and "dark energy" into our science provides an excellent case study of this process, where observations would otherwise suggest a rethink of current gravitational theory or cosmological assumptions. In such cases the failure of the current theory and the viability of the unexplained new phenomena invented to salvage it are completely glossed over despite the classic *scientific method* requiring that *any* theory refuted by experiment or observation be simply considered *wrong* and in need of a rethink. This now commonplace disregard for the classic scientific method and appetite for scientifically unexplained inventions as explanations has led to the increasingly troubled state of our science.

Although these many ongoing explanatory attempts all recognize that something major is wrong or missing in our science, they all, fatally, either lie firmly *within* our troubled energy-based legacy or depart far from anything scientific – and often both. This has now resulted in all claims to a final theory being immediately tarred with the same brush, all equally tarnished and stereotyped from the start. While this is understandable after so many have cried "Wolf!" it is important to remember that in the original parable there eventually really was a wolf. So, too, in our quest for the Theory of Everything, if our universe is actually the rational and comprehensible place it would seem, particularly when not viewed through the lens of the past century's more fanciful science, then there really should be a sensible, sweeping, clarifying final theory awaiting discovery. And indeed, within these pages lies the first truly comprehensive, entirely alternate and fully parallel scientific view of our universe and the world around us to break free of our troubled energy paradigm and qualify as this final scientific understanding.

A Note on Format

Although this book is intended for both scientists and non-scientists alike, it does represent a sweeping re-think of our complete body of scientific knowledge today. Therefore, in order to help organize the discussions, as well as to quickly identify key points and their significance, summary boxes or icons will accompany key sections or phrases as follows:

Highlights a key point in a discussion.

Introduces a new idea for consideration.

• Lists key points in the discussion to follow.

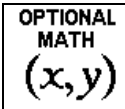
Reminder of a current law of physics in Standard Theory.

Indicates a physical law violation in a current scientific belief.

Indicates an unexplained mystery in a current scientific belief.

Indicates a logic or math error in a current scientific belief.

Presents a thought experiment or real-world experiment.



Indicates that math follows, but is optional reading which is explained in either the preceding or following section.

Introduction

"The greatest discoveries of science have always been those that forced us to rethink our beliefs about the universe and our place in it." ~ Robert L. Park

We are all born into this universe and live out our lives within its laws and principles. From the inescapable law of gravity extending across the universe to the fundamental principles behind the tiniest atoms, our lives are immersed in the laws of nature. As intelligent beings it is natural for us to wonder about the world around us, and as children of this universe it seems reasonable that we might arrive at an understanding of it all – that this understanding is very much our birthright.

In fact, to many it may seem as if we have already arrived at this understanding, with only a few loose ends remaining. Isaac Newton gave us an understanding of gravity as an attracting force in nature, and from there many others have contributed to our understanding of light, electricity, magnetism, atomic structure, etc. This process has finally brought us to a point where science today contains theories that cover every known observation, collectively known as *Standard Theory*. This age of understanding has made it possible to invent radio, television, and computers, even allowing us to build spacecraft that have visited distant planets. Although scientists continue to pursue deeper questions, it may seem that Standard Theory provides us with a fairly comprehensive scientific understanding of our universe. But is this really the case?

How much do we *truly* understand about gravity, for example? Do we know the physical reasons why gravity attracts objects together instead of repelling them away from one another? Newton gave us a compelling *description* of this observation as an apparent attracting force, but provided no *physical explanation* for the existence and nature of this force itself. Does it really make sense that a force holds objects to the ground, and moons and planets in orbit, all with no known power source? Can we confidently say whether or not it is possible to create an *anti*-gravity device, what principles might underlie such a device, or for that matter, even what principles underlie gravity itself? And despite Newton's concept of gravity, Albert Einstein found it necessary to continue searching for answers, arriving at a very different physical description of gravity, while scientists continue to search for still other explanations. Why is it that we have two very

different physical explanations for the same effect in our science today, and continue to search for still others – and do any of them truly answer our most basic questions about gravity?

Do we *truly* understand light? For centuries debate raged as to whether light was composed of waves or particles. Today we have settled on a belief that somehow light is *both* a wave *and* a particle (the photon) – sometimes manifesting as one and sometimes as the other, depending on the situation or experiment. Even today this remains a very mysterious and poorly understood claim arising from a theory known as *Quantum Mechanics* – a theory readily described by its very creators and practitioners as bizarre and paradoxical.

Do we *truly* understand magnetism? We know that two magnets will repel each other if both of their north poles or south poles face each other, but can we truly explain this? If we try to hold these two magnets together against this repelling force our muscles will tire as we continually expend energy, but the repelling force from within the magnet does not. Is it reasonable that an apparently *endless* force from within magnets will continually battle any external power source in this manner, eventually exhausting them without an equivalent weakening itself? In fact, there is *no identifiable power source at all* within these magnets to support this endless force from within. Do we even know what magnetic fields are, or have we simply discovered how to create them and learned to model their behavior with equations? Are we confusing practical know-how and abstract models with true knowledge and understanding?

A closer look shows that solid answers to these and many other questions about everyday occurrences are not to be found in today's Standard Theory. Science has managed to *model* our observations rather well, but many of these models lack a clear physical explanation. Newton worked out a *model* of gravity as an attracting force but couldn't tell us *why* it should attract and *how* matter does this endlessly simply by existing; and we still lack these answers three hundred years after Newton and a century after Einstein. We also have equations that *model* magnetic fields, and theories that describe their obvious observed behaviors, but we have little clear physical explanation for *why* they behave as they do, leaving mysteries such as the apparently endless energy emanating from within a simple permanent magnet.

Many scientists do recognize that we still lack a deep understanding of our universe, which is why there are ongoing efforts to further our knowledge using high-energy particle accelerators and powerful space telescopes. The hope is that these investigations will lead to a

key breakthrough in understanding – perhaps through the discovery of a currently unknown fundamental particle or principle, or some new type of energy or observed cosmological phenomenon. It is expected that if such a key fundamental discovery is made, it will have a ripple effect that runs through the patchwork of often poorly understood theories in our Standard Theory today, ideally transforming them into a single clear theory that simplifies and truly explains everything. This much-hoped-for theory is known by physicists as the *Theory Of Everything* – and is considered the ultimate goal of fundamental research in physics today.

A key expectation of the Theory Of Everything is not only that it will finally explain all of physics – gravity, light, magnetism, etc. – with a clarity and simplicity that is unknown today, but that it will do so via *one single unifying principle* that has so far eluded us. Once found, this theory is expected to provide a clarity and understanding akin to turning on a light to see the contents of a room at a glance, where current theory is like a flashlight in the dark, giving only disconnected glimpses here and there. And, as demonstrated in later chapters, this flashlight-in-the-dark approach has also cast looming shadows that have produced highly misleading illusions over the past century – most notably *Special Relativity Theory*, *General Relativity Theory*, and *Quantum Mechanics*.

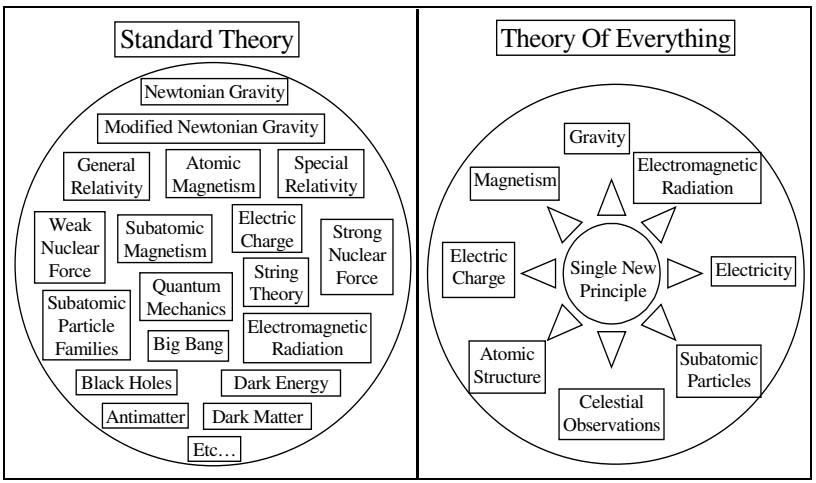
A less comprehensive form of the Theory Of Everything, called the *Unified Field Theory*, is also often sought to explain and unify everything *except* gravity, since it is thought that gravity may have a very different nature than the other fields and forces once we come to truly understand them all. Both theories are sought-after by physicists around the world today, with the ultimate goal being the arrival at an understanding that explains all the forces of nature *including* gravity – i.e. the all-encompassing Theory Of Everything.

Although this formal definition of the Theory Of Everything has taken shape within the last century, it has actually been the ultimate goal of science ever since the earliest times; even medieval alchemists were, in their own way, searching for this ultimate understanding of the physical world. Some of Newton's many contributions to science were his descriptions of gravity, light, and the mechanics of moving objects, while Einstein provided quite different descriptions of these phenomena, with additional ideas about energy, mass, space and time. Both of these scientists were essentially in pursuit of the Theory Of Everything, whether or not their efforts were formally presented as

such, as are many scientists who pursue basic research in an attempt to discover fundamental truths about our universe.

So far, our efforts have not yielded *the* Theory Of Everything, but rather *a* "theory of everything" known as Standard Theory. Although it isn't typically represented this way, Standard Theory is indeed *a* "theory of everything" since it attempts to explain every known observation and phenomenon. It has evolved from many hypotheses presented over the centuries, with the most successful ones incorporated as sub-theories *within* Standard Theory. Even such radical and mysterious theories as *Quantum Mechanics* and *Special Relativity* are not considered part of some other "theory of everything" but part of Standard Theory today.

Therefore, Standard Theory is not only *a* "theory of everything," but it is also the *only* one so far. In order for a new theory to truly form the basis of another "theory of everything" it would have to be based on a new principle that lies entirely outside of known physics – *and* provide a sweeping rewrite of everything in Standard Theory based entirely on this new principle. The figure below shows the patchwork of theories within Standard Theory today, the result of our "flashlight-in-the-dark" approach to science over the past few centuries, as well as the single illuminating perspective of the Theory Of Everything that is expected once the correct underlying principle is discovered.



Today's Patchwork of Theories vs. the Theory Of Everything

The chapters to follow present just such a new principle in physics, showing that all matter may well possess this important new property

that has so far been overlooked or misunderstood, and developing this principle into a second "theory of everything" for us to consider. This new theory begins with a clear physical explanation for gravity that resolves the many questions and mysteries surrounding it today, such as why it behaves as an apparent attracting force and how it functions without a power source. Planetary orbits, ocean tides, and all other known gravitational observations are entirely explained by this new theory without relying on our current theories of gravity. New insights and possibilities are also suggested by this new theory that are unknown today and would not be predicted by our current gravitational theories.

This same new principle further explains the structure of the atom, as well as the nature of the individual electrons, protons and neutrons composing atoms, with a physical simplicity and clarity that is unknown today. This new perspective on atomic structure shows how the gravity of objects can be directly related to the electricity and magnetism produced by the flow of electrons in wires, since this new principle underlies both atoms and electrons. The apparently endless energy within magnets mentioned earlier is also explained by this new principle, and a clear physical reason is given for why electricity and magnetism are so closely related. This principle also suggests an explanation of electron orbits within atoms that resolves this still-mysterious aspect of atomic theory in our science today.

This same new principle is further shown to explain the nature of light, suggesting a resolution to the age-old question of whether light is a particle or a wave … or indeed *something else entirely*. Since the mysterious wave-particle beliefs about light in Standard Theory support a sizable portion of the theory of *Quantum Mechanics*, resolving this issue has serious implications for quantum theory. In fact, our current quantum mechanical descriptions of atomic structure, light, and energy are shown to be unnecessary once the new unifying principle is considered. This should be expected of any alternate "theory of everything" since, by definition, it would have to be entirely separate and self-sustaining without relying on any of the patchwork of theories that compose Standard Theory today – of which *Quantum Mechanics* is one.

As might be further expected then, Einstein's *Special Relativity Theory* is also shown to have serious problems, and is also replaced by this new principle. This means we can now replace the complexities and mysteries of *Quantum Mechanics* and *Special Relativity* with one simple principle that runs throughout our science, dispelling some

long-standing mysterious beliefs such as the speed-of-light limit that we accept as true today. All of the well-known thought experiments and real-world experiments supporting these mysterious theories and beliefs are re-examined and shown to have serious flaws, misunderstandings, or even clearly fatal errors upon closer examination.

Finally, the same simple principle is shown to explain the many mysterious phenomena and particles that have emerged from high-energy particle accelerator experiments in recent decades, such as *virtual particles* and *antimatter*, removing the mystique that surrounds them today. This new explanation of subatomic particle experiments also suggests a new interpretation for the increasing number of new particle types that are being discovered in ever more powerful particle accelerators. It also provides a new perspective on Einstein's idea that matter and energy can be converted back and forth (according to his famous equation, $E=mc^2$). Rather than this mysterious conversion of matter into energy in the explosion of an atomic bomb, or energy into matter when subatomic particles apparently materialize out of pure energy in particle accelerators, this new unifying principle provides a clear, demystifying explanation for both effects. This principle also speaks to many of our celestial observations, suggesting simple alternate explanations for observations leading to today's more mysterious theories about Black Holes, the "Big Bang" creation event, and the recently introduced "Dark Matter" and "Dark Energy".

Logical Fallacies – Twists of Logic that Create "Facts"

It may initially seem unlikely that such a major rethink might be necessary, or even possible, for a science that has advanced and matured for centuries, yet many core ideas in our science were put in place centuries ago when it was far *less* mature and advanced. We have now inherited a legacy of time-honored ideas and beliefs that have become so deeply woven into our science and our thinking that they are often considered unquestioned facts, despite many unresolved problems in plain view.

In our scientific quest for pure objective truth and understanding, various interim beliefs must be adopted along the way – some that stand the test of time and some that do not. In the course of this journey objectivity can sometimes fall by the wayside, with some beliefs arguably receiving more credibility, acceptance or longevity than may ultimately be healthy for science. As evidenced throughout the history of our science, and even throughout our current scientific beliefs and theories as shown in the chapters to come, a prolonged

and widespread sidetracking of science can occur due to a variety of ***logical fallacies*** that remain unchecked and uncorrected.

This situation often arises because logical fallacies can create the appearance of support for currently accepted or favored ideas that may be heavily invested in or deeply entrenched, without other viable answers at the ready. In fact, such motivations *themselves* demonstrate the widespread logical fallacy known as a ***Confirmation Bias***, where only evidence that might support a favored theory is sought and considered. Logical fallacies can cause contradictory evidence to appear as support, observations to be interpreted in ways not justified by the data, and clearly false claims to nevertheless become accepted as fact. As a result, the prevailing scientific beliefs of any era have always been confidently professed, widely accepted, actively supported and staunchly defended – including those now known to be false.

Due to this dynamic the progress of science, and society in general, tends to proceed at a fairly regular pace, punctuated by sizable revolutions in thought as a major belief system is eventually overturned. Realizing our planet is round and not flat is a classic example of such a revolution in thought; changing from an Earth-centered solar system to a Sun-centered one was another; moving from Newton's universe of purely classical mechanics and a gravitational force to Einstein's relativistic speed-of-light and warped space-time physics was another example; and representing energy and the subatomic realm in terms of quantum-mechanical models and beliefs was yet another still. Now a further revolution in scientific thought may even be upon us, as detailed in the pages of this book. There are actually many formally recognized logical fallacies contributing to this pattern of sustained beliefs that are eventually overturned, with the more common of these fallacies identified and referenced in discussions to come. We begin with a demonstration of multiple logical fallacies in a widely cited, Nobel Prize-winning claim of pulsar evidence supporting Einstein's *General Relativity Theory*.

- ***Appeal To Authority fallacy***
- ***Appeal To Consensus fallacy***
- ***Unrepresentative Sample fallacy***
- ***Inductive fallacy***

Perhaps the two most prevalent examples are the formal logical fallacies known as ***Appeal To Authority*** and ***Appeal To Consensus***. In the *appeal to authority* logical fallacy the correctness of a claim is based largely on the reputation or perceived authority of those making the claim. The implication here is that the knowledge supporting the claim is not comprehensible to others, setting a dangerous precedent of blind faith in the authority claimant. This situation can arise from a runaway process where a claim from a scientist, organization or journal with a lofty or time-honored reputation may receive more credibility than it might ultimately merit. This can lead to broader scientific and academic acceptance, becoming adopted by government, our educational systems and the science media. This can be a very powerful self-reinforcing system, where each component defers to the authority influence of the others instead of objectively evaluating the merit of the original claim.

In the *appeal to consensus* logical fallacy a claim is judged as more credible and correct largely based on majority or consensus opinion. Although this "safety in numbers" approach is often a fair assumption, the danger here is that the original claim itself can be largely or even completely unexamined or unquestioned by the vast majority of its supporters, all of whom are looking to each other for confirmation. In consensus appeals other minority views are often dismissed, presumed to be less informed, less educated or less intelligent if they are at odds with the current consensus view, despite history demonstrating that prevailing consensus views often change significantly over time. Scientific consensus appeals typically consist of majority agreement within a loosely defined scientific community, general acceptance within the academic community, and public opinion fed by the science media via documentaries, popular science magazines, books and websites, as well as newspaper and television science news stories. This can also be a very powerful self-reinforcing dynamic, where the correctness of the original claim is simply assumed – a foregone conclusion that is widely accepted without question.

Both *appeal to authority* and *appeal to consensus* are considered logical fallacies, not because authority or consensus opinion are necessarily incorrect, of course, but because incorrect claims can be powerfully upheld largely or even solely based on authority or consensus. The power of this effect can further influence many to simply defer to perceived authority or prevailing consensus, further reinforcing a claim that may actually be highly questionable. When this occurs we are left with little more than an elitist, faith-based belief system, corrupting the

ideology of solid objective scientific advancement and understanding for all.

Many beliefs in today's science have their share of authority and consensus supporting them. Students defer to the authority of textbooks or teachers; teachers defer to their curriculum requirements, degrees or professors; and professors defer to the prevailing academic consensus or to the authority of noted institutions, journals, experiments or luminaries such as Newton or Einstein. The same views are embraced by the science media and delivered to the general public, which can be a powerful force in any democracy, influencing and supporting government, academic and educational priorities and funding. And while all of these elements certainly deserve due consideration and respect, they are also all part of a very powerful and often largely unquestioned self-reinforcing system running throughout society that is neither infallible nor immune to authority and consensus fallacies.

Numerous logical fallacies can be seen in the widely quoted cosmological claim that signals from the rotating double star system, binary pulsar PSR 1913+16, confirm *General Relativity Theory* – a Nobel Prize-winning authority claim, in fact, which few might be inclined to question, creating a further consensus scenario. Yet is this *General Relativity* confirmation claim truly a solid scientific fact, or might it be a powerful *authority / consensus* fallacy?

First, since various discussions in this book raise serious questions about *General Relativity* itself, it is then questionable how thoroughly this claim of *General Relativity* confirmation has been investigated and opened to skeptical inquiry.

Secondly, in addition to possible *authority* and *consensus* fallacies, this claim further demonstrates the concept of an ***Inductive Fallacy***, where an original statement, even if true, does not justify a much farther-reaching conclusion. Upon closer examination this example actually boils down to a claim that *General Relativity Theory* can be used to accurately model the observations of pulsar PSR 1913+16. The *inductive fallacy* here is that even if this claim holds up under skeptical inquiry it does not justify the much farther-reaching conclusion that the actual physics behind this observation, and, necessarily, the

operation of our entire universe, is confirmed to be that of Einstein's warped space-time theory of gravity. A truly objective scientific viewpoint could only consider such a grand, sweeping conclusion regarding *General Relativity* from this singular remote observation to be pure speculation and conjecture awaiting far stronger evidence.

But the types of logical fallacy that can be demonstrated by this example do not end here, with the further appearance of an ***Unrepresentative Sample Fallacy***, where a minority observation is incorrectly considered representative of the majority, typically because doing so supports a preconceived notion or desired belief. In particular, roughly 100 binary pulsar systems are now known, making PSR 1913+16 only a tiny *one-percent sample* of observations. And, one of the main reasons it is the most widely cited and uniquely awarded pulsar-based support for *General Relativity* is precisely because it fits Einstein's theory far better than the remaining *ninety-nine percent* of pulsar observations. Given this, one might even consider the known binary pulsar sample to date as a *lack* of support for *General Relativity*, if not even evidence *against* it, rather than the opposite representation it has been given in our science.

So, although a powerful *authority* and *consensus* appeal supporting an *inductive fallacy* derived from an *unrepresentative sample* does not necessarily mean this confirmation claim for *General Relativity* is a fallacy itself, the presence of these elements in any claim should certainly give us cause for thought. Indeed, many claims that are considered solid scientific fact today are shown throughout this book to be highly questionable if not even verifiably false, often supported by one or more logical fallacies. As history demonstrates, science can become seriously sidetracked when conjecture and hypothesis are vaulted to accepted scientific fact on weak evidence or questionable logic that may appear to support a currently favored theory or belief. Our understanding of the universe can be stalled or even sidetracked for centuries once *confirmation bias* sets in and beliefs become exempt from rigorous scientific scrutiny and objective skeptical questioning. As shown in the above example, and in many others throughout this book, there are dozens of well-known fallacy categories that can lead us astray if we are not careful.

It should also be noted that the alternate scientific explanations presented throughout this book do not constitute a string of proposed new theories *within* Standard Theory, but belong to a new and *entirely alternate scientific theory* – an alternate "theory of everything." This parallel explanation of our universe provides answers to the many

questions and mysteries in our science today with a clarity that allows even non-scientists to truly comprehend our universe – and does so via one simple unifying principle that is consistent with all known experiments and observations.

It is worth noting that this last point is a claim that cannot be made even of Standard Theory today. That is, as shown in each of the following chapters, within many of our everyday experiences lie unanswered questions, unexplained mysteries, and even clear violations of our most elementary laws of physics when explained with Standard Theory. Therefore, as it stands today, our current body of scientific knowledge is not merely lacking some answers, but is actually a *fatally flawed* "theory of everything." While it is possible that our ongoing search for answers will be able to resolve these flaws and turn Standard Theory into the much-sought-after Theory Of Everything, it is equally possible that the answers can only be found from a completely new perspective. It is suggested that the new theory presented in the following chapters does not merely provide an entirely alternate way of viewing our universe, but that it is the only one to meet the criteria of the Theory Of Everything for which science has been searching for centuries. We now begin the journey toward discovery and understanding of this new scientific principle with an exploration of *gravity*.

- 1 -

Investigating

Gravity

"It is impossible for a man to learn what he thinks he already knows." ~ Epictetus