Resolved: Belief in the supernatural is incompatible with belief in science.

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Table of Contents

Definitions

Belief

"Belief" means whether we trust in something to be true.

Eric Schwitzgebel, 8-14-2006, "Belief (Stanford Encyclopedia of Philosophy)," https://plato.stanford.edu/entries/belief/

The term "belief" to refers to the attitude we have, roughly, whenever we take something to be the case or regard it as true. To believe something, in this sense, needn't involve actively reflecting on it: Of the vast number of things ordinary adults believe, only a few can be at the fore of the mind at any single time. Nor does the term "belief", in standard philosophical usage, imply any uncertainty or any extended reflection about the matter in question (as it sometimes does in ordinary English usage). Many of the things we believe, in the relevant sense, are quite mundane: that we have heads, that it's the 21st century, that a coffee mug is on the desk. Forming beliefs is thus one of the most basic and important features of the mind, and the concept of belief plays a crucial role in both philosophy of mind and epistemology. The "mind-body problem", for example, so central to philosophy of mind, is in part the question of whether and how a purely physical organism can have beliefs. Much of epistemology revolves around questions about when and how our beliefs are justified or qualify as knowledge.

Most contemporary philosophers characterize belief as a "propositional attitude". Propositions are generally taken to be whatever it is that sentences express (see the entry on propositions). For example, if two sentences mean the same thing (e.g., "snow is white" in English, "Schnee ist weiss" in German), they express the same proposition, and if two sentences differ in meaning, they express different propositions. (Here we are setting aside some complications about that might arise in connection with indexicals; see the entry on indexicals.) A propositional attitude, then, is the mental state of having some attitude, stance, take, or opinion about a proposition or about the potential state of affairs in which that proposition is true—a mental state of the sort canonically expressible in the form "S A that P", where S picks out the individual possessing the mental state, A picks out the attitude, and P is a sentence expressing a proposition. For example: Ahmed [the subject] hopes [the attitude] that Alpha Centauri hosts intelligent life [the proposition], or Yifeng [the subject] doubts [the attitude] that New York City will exist in four hundred years. What one person doubts or hopes, another might fear, or believe, or desire, or intend—different attitudes, all toward the same proposition. Contemporary discussions of belief are often embedded in more general discussions of the propositional attitudes; and treatments of the propositional attitudes often take belief as the first and foremost.

Supernatural- The Unknown

Supernatural means to be beyond the understanding of known science.

The Chicago Institute for Science and Technology, 10-28-2014, "What Does It Mean to Be Supernatural?" https://www.c2st.org/what-does-it-mean-to-be-supernatural/

Halloween is coming up, and popular culture is being filled its annual dose of references to the supernatural (including the recent season premiere of the show Supernatural, which is probably not a coincidence). Ghosts, monsters, black magic, vampires, witches, and others all fall under this umbrella of "the supernatural."

But what does it mean to be supernatural?

My dictionary defines "supernatural" as "(of a manifestation or event) attributed to some force beyond scientific understanding or the laws of nature."

Being beyond scientific understanding is actually very mundane. Most of the way the brain works is beyond our current scientific understanding, but no serious researcher is throwing up his or her arms and declaring it supernatural. The relationship between mass and energy was beyond scientific understanding until Albert Einstein figured it out. The origin of mitochondria and chloroplasts were beyond scientific understanding until Lynn Margulis figured it out. Every issue of every scientific journal is filled with things that were beyond the understanding of science just a year or so prior. This is not what people mean when they say that something is supernatural. They mean the second thing — beyond the laws of nature. The word supernatural literally means "above nature," or, more figuratively, outside or separate from nature.

But what is nature and what are its laws?

Consulting my dictionary once again, "nature" is defined as "the phenomena of the physical world collectively, including plants, animals, the landscape, and other features and products of the earth, as opposed to humans or human creations." And once again, my dictionary fails to provide a completely cogent or useful definition. If humans and our creations are not natural, does that mean that the computer I'm writing on is supernatural? Again, no one would reasonably make this claim. The first part of this definition, "the phenomena of the physical world collectively," is actually pretty good as it is. Nature, or the physical world, is made up of two things: matter and energy, which Einstein showed us are the same thing. Nature is everything that exists. It is all of the animals, plants, fungi, bacteria and all of the rest of life. It is all of the rocks and minerals and water and air. Even humans, which are animals, are part of nature. Everything beyond our planet is part of the natural world, as well. All of the undiscovered types and forms of matter and energy are part of nature. Every answer to an empirical question is part of nature, and it is the job of scientists to discover nature is it exists.

Are ghosts real? This is an empirical question because the answer is not subject to ideology or personal preference. Ghosts cannot be real for me but not real for someone else, any more than the statement

“the earth’s atmosphere is 78% nitrogen” can be real for me but not real for someone else. Correct answers to empirical questions are correct whether you like it or not. Likewise, either ghosts are real or they are not. If they are real, they are part of nature, and are therefore natural phenomenon. It may come as a surprise to people that, if ghosts are real, it will be scientists who discover them. This is true of everything else that is commonly labeled as “supernatural.” If everything that exists is part of nature, then what does that mean? If something is truly supernatural, it doesn’t exist.

Supernatural- Religious

The “Supernatural” means transcendent and beyond science.

Austin Cline, 6-25-2019, "How Religions Involve Theism," Learn Religions, https://www.learnreligions.com/religion-is-belief-in-supernatural-beings-250678

What Is the Supernatural?

According to supernaturalism, a supernatural order is the original and fundamental source of all that exists. It is this supernatural order which defines the limits of what may be known. Something that is supernatural is above, beyond, or transcendent to the natural world—it is not a part of or dependent upon nature or any natural laws. The supernatural is also commonly conceived of as being better, higher, or purer than the mundane, natural world around us.

Incompatible

Incompatible means not able to work or exist with due to conflicts of differences.

The Cambridge Unabridged Encyclopedia,
https://dictionary.cambridge.org/us/dictionary/english/incompatible

Not able to exist or work with another person or thing because of basic differences:

When we started living together, we realized how incompatible we were - our interests were so different.

Maintaining quality is incompatible with increasing output.

Any new video system that is incompatible with existing ones has little chance of success.

Science

Science means the pursuit and application of knowledge and understanding of the natural and social world following a systematic methodology based on evidence.

Science Council, "Our definition of science," https://sciencecouncil.org/about-science/our-definition-of-science/

Science is the pursuit and application of knowledge and understanding of the natural and social world following a systematic methodology based on evidence.

Scientific methodology includes the following:

Objective observation: Measurement and data (possibly although not necessarily using mathematics as a tool)

Evidence

Experiment and/or observation as benchmarks for testing hypotheses

Induction: reasoning to establish general rules or conclusions drawn from facts or examples

Repetition

Critical analysis

Verification and testing: critical exposure to scrutiny, peer review and assessment

Why define science?

In 2009, the Science Council agreed that it wanted to be clearer when it talked about sound science and science-based policy. The Science Council has “science” in its name but had not previously clarified what this actually meant. In addition to developing a better understanding of what types of organizations might become members, it was felt that the recent inclusion of the advancement of science as a charitable activity in the 2006 Charities Act suggested that in that context a definition would be useful, this was how this definition arose.

“Because ‘science’ denotes such a very wide range of activities a definition of it needs to be general; it certainly needs to cover investigation of the social as well as natural worlds; it needs the words “systematic” and “evidence”; and it needs to be simple and short. The definition succeeds in all these respects admirably, and I applaud it therefore.”

Topic Analysis

Topic Summary

My first undergraduate degree is in history. For as long as I can remember, I have been fascinated by all manners of historical events and the stories and narratives that follow. Although not a scientist, I believe in validation and logic. I am also fascinated by ghost stories. My YouTube is filled with "Nukes Top 5" videos. I love content creators that explore historical sites looking for the paranormal. I also believe in a higher power. Can these three things: my religion, my love of the unexplained, and my belief in rationality and logic co-exist, or am I doomed to exist in a paradox? This is the core of the resolution for the 2023-24 Big Questions season.

To analyze this resolution, we first need to break down the terms that are to be weighed compared. The imagery of the supernatural draws up visions of ghosts, aliens, the unexplained, and the theme from the *X-Files*. The above list (minus the *X-Files*) would qualify as "supernatural." However, the exclusivity of the term is not limited to the paranormal, but rather to the unexplained. The APA Dictionary of Psychology would define the supernatural as phenomenon that are beyond the scope of scientific understanding or natural explanations. To most observers, and the casual definition, this would include such this as ghosts, spirits, magic, miracles, and psychic phenomena. Since the foundation for what is "supernatural" is constrained to what we can explain through scientific knowledge and understanding, things like high powers or gods, deities, and other divine beings and powers can also qualify as such. This is validated by Life Science in October 2015 where they discuss the evolution of religion stemming from the supernatural. Furthermore, Pope Francis furthered in that same year that belief in the supernatural typically relies on personal experiences, cultural or religious beliefs, anecdotal evidence, or faith as an origin point.

Moving on to the concept of "science," astrophysics and Director of the Hayden Planetarium, Dr. Neil Degrasse Tyson has stated that science can loosely be defined as a systematic and organized approach to acquiring knowledge about the natural world. This is most often accomplished through observation, experimentation, and analysis involving the formulation of testable hypotheses, the collection and interpretation of empirical evidence, and the development of theories and models to explain and predict phenomena.

Science aims to uncover the foundational principles and laws that govern the universe and uses rigorous methods to ensure the objectivity, reproducibility, and reliability of findings. Most people when asked would define the fields of "science" as physics, chemistry, biology, astronomy, geology, and many others, each with its own specific methodologies and areas of study. The core tenant and goal of "science" is to advance our understanding of the world, driving technological innovation, and informing evidence-based decision-making.

Comparing the two, they at first seem incompatible. A lay person might object and say that to believe in both logic, rationality, and data collection can't exist in a world where a person also believes in something that is undefined, unexplained, and exists without data. In the end however, are they really all that different? Many great scientists and those of logical minds have believed in both a higher power and in science. Once again, going back to Dr. Tyson, science also is about searching for the unexplained. It seeks to fill in the blanks and provide further clarity around the natural world. The unknown drives us to further develop our techniques and seek the truth. One can say that everything is unexplained and

thus supernatural until it is discovered and explained. In short, one could argue that the belief in the supernatural pushes scientific discovery forward.

Meanwhile, opponents state that scientific discovery and explanation relies on empirical evidence and repeatable testing. The supernatural quite often lacks such evidence and can be difficult to quantify or test. Look at popular ghost hunting shows such as *Ghost Adventures* or The Watcher Network's *Ghost Files*. Taken at face value, they often provide a plethora of undisputed paranormal evidence. Under closer examination, it is important to acknowledge that they are first and foremost, an entertainment product. They are funded through sponsors and ads. Their equipment is based off theories that someone believes to work and are tested not to disprove a theory but to validate one. For instance, when these shows say that something like a spirit box can detect the electronic communications of ghosts or spirits, they provide lackluster testing and rigor. To test most scientific theories, one would create a control and test the device in several scenarios to see if anything speaks to them. If it only speaks at the haunted location, then it would show paranormal activity. However, in these shows, they bring it to the haunted location, and when it shows activity, that validates their idea that it must be haunted.

One item that might come up in this debate is the question of "god." The question of whether God or a higher power is considered "supernatural" depends on the specific definition and understanding of the term "supernatural" being used. Different people and philosophical traditions may interpret and define the concept differently.

From a theological viewpoint, many religious beliefs assert that God or a higher being is supernatural. Many religions describe a god as a transcendent and omnipotent being who exists beyond the boundaries of the natural world and possesses attributes and powers that surpass the limitations of the physical realm. To these religions, God is the ultimate source of all creation, including the natural order. You can't test for a higher power because the higher power is essentially everywhere, and thus there would be no way to find a stable control or an area where the higher power isn't present.

The concept of a higher power and the understanding of the supernatural will change depending on religious and philosophical traditions. Some religious perspectives may view God or this power as immanent, meaning that they are present within and actively involved in the natural world, while others may emphasize God's transcendence and separation from the natural realm. Going further, many scientists in the late 16th to early 19th centuries were Deists. They believed that there was a God, but that they were as a watchmaker. They would set the universe in motion only to step back and watch their creation as to grinds on like the gears of a clock.

So, am I stuck in limbo? This debate comes down to the core question of whether all things can be measured, charted, observed, and quantified or whether there are some things just exist without explanation. Can you believe in ghosts and God while working at a super collider? This topic offers a unique chance for students to discover what it means to "discover." Is the work of a scientist who believes to this day that their childhood house is haunted tainted? You be the judge.

Differences between Science and the Supernatural

Science and the supernatural are two different concepts that deal with different aspects of our understanding of the world. The differences generally are centered on how a final explanation is determined and the process that proceeds it.

Let's look at some of the differences.

The Nature of Explanation: Science relies on the scientific method, which involves making observations, formulating hypotheses, conducting experiments, and drawing conclusions based on empirical evidence. It seeks to explain natural phenomena through natural causes and processes, emphasizing testability, repeatability, and falsifiability. In contrast, the supernatural refers to phenomena that are beyond the scope of scientific understanding and cannot be explained by natural laws or processes. Supernatural explanations often inspire metaphysical or paranormal concepts, such as gods, spirits, or magic. Many of these things can't be explained. They exist in a realm beyond understanding.

The Empirical Evidence: Science relies on empirical evidence obtained through formal observation and experimentation. Scientific theories and hypotheses are built upon this evidence and are subject to scrutiny, revision, and peer review. Supernatural claims are typically lacking empirical evidence that can be independently verified. They often rely on personal experiences, anecdotes, or faith-based beliefs, which are not considered sufficient in scientific inquiry.

Predictability and Consistency: Science exists to uncover patterns and regularities in the natural world, which allows for prediction and control of phenomena. Scientific theories are based on evidence that can be tested and verified by others. In contrast, supernatural phenomena are often considered unpredictable, inconsistent, and difficult to replicate under controlled conditions. In some cases, there is no pattern as to the appearance of supernatural events. They are often regarded as mysterious or outside the realm of natural laws, making them less appt for scientific investigation.

The Methodology: Science uses systematic methodologies, such as experimentation, observation, and mathematical modeling to understand the natural world. It relies on logical reasoning and critical thinking to interpret data and draw conclusions. Supernatural phenomena are often explored through subjective experiences, religious or spiritual beliefs, and cultural traditions that vary across different societies and individuals.

The Scope of Explanation: Science aims to provide naturalistic explanations for various phenomena, including the physical, biological, and social aspects of the world around us. It focuses on understanding the underlying mechanisms and causes of natural events. In contrast, the world of the supernatural deals with phenomena that are considered to transcend or exist outside the realm of the natural world. It often involves concepts such as miracles, divine intervention, or paranormal phenomena that are not explained by conventional scientific theories.

Importance of the Supernatural

Belief in the supernatural can be important to individuals and communities for a variety of reasons, though the significance and motivations behind such beliefs can vary widely among different cultures, belief systems, and personal perspectives.

Supernatural beliefs often provide a sense of meaning and purpose to people's lives. Believing in a higher power or supernatural forces can explain life's mysteries and uncertainties, giving individuals a sense that there is a greater purpose to their existence.

Belief in the supernatural can offer comfort in times of distress or uncertainty. The idea of a higher power or protective spirits can provide a sense of security and reassurance, helping individuals cope with difficult situations. Supernatural beliefs are often deeply embedded in cultural and social identities. They can provide a sense of belonging to a particular community or group that shares similar beliefs, rituals, and practices. In times of conflict, people often look to the supernatural to find explanation and conform. In many cases, this does not mean the rejection of a scientific explanation. The American Psychological Association states that during times of trouble, the belief in religion peaks. Many people use their belief to calm themselves, which in turn reduces stress.

Belief in the supernatural can serve as an explanation for phenomena that may be difficult to comprehend or explain through purely naturalistic means. This can include things like miracles, divine intervention, and other mysterious events. Many supernatural belief systems include moral and ethical guidelines that provide a framework for behavior. Believing in a higher power or supernatural consequences for actions can influence individuals to act in ways that align with these ethical principles. Many people that believe in the supernatural don’t reject science, but rather, they use this to fill in the gaps. This can make scientific understanding easier to comprehend and accept.

Believing in the supernatural can help individuals cope with existential fears, such as fear of death or the unknown. It can provide a way to address these fears by offering a narrative that helps manage anxiety. Supernatural beliefs often offer the promise of an afterlife or continuation of existence beyond death. This can provide individuals with hope for a better future beyond their earthly lives.

Finally, many people are drawn to the mystery and wonder associated with the supernatural. Believing in the existence of supernatural forces can ignite a sense of curiosity and exploration, encouraging individuals to seek out spiritual experiences and insights. Some of the most popular TV and online shows are based on ghost hunting or other supernatural discovery.

What is Science, the Scientific Method, and Why is this Important?

Science is a systematic and organized approach to understanding the natural world through observation, experimentation, and the formulation of testable explanations for various phenomena. It's a methodical process of inquiry that aims to uncover and explain the underlying principles and patterns that govern the universe. Science seeks to build a body of knowledge based on empirical evidence and rational analysis.

The scientific method is an approach used by scientists to investigate and understand natural phenomena. It's a structured process that involves making observations, formulating hypotheses, conducting experiments, or gathering data, analyzing the results, and drawing conclusions.

As students in school, many of us learned the scientific method in our middle school days. This method can be broken down into the following 6 steps.

Step 1 Observation: Scientists begin by making observations about a particular phenomenon or aspect of the natural world. A scientist might be observing the change in what types of flowers are growing in a field. They might wonder what caused the change. These observations may lead to questions or hypotheses about why or how things work the way they do.

EX- A scientist might notice that the native flowers in a field have died, and a new species is growing.

Step 2 Hypothesis: A hypothesis is a testable explanation or prediction based on existing knowledge and observations. It's a proposed answer to the question being investigated. Hypotheses are formulated in a way that they can be tested through experimentation or data collection.

Hypotheses are formulated in a way that they can be tested and potentially disproven. This principle of falsifiability helps maintain the integrity of scientific inquiry and prevents unfalsifiable claims from being accepted as valid. The process of peer review involves independent experts evaluating the quality and validity of scientific research. This helps ensure that only well-designed and rigorous studies become part of the scientific body of knowledge.

EX- A scientist might hypothesize that the soil has changed, and this change is more hospitable for a different species of flower.

Step 3 Experimentation or Data Collection: Scientists design experiments or gather data to test their hypotheses. They manipulate variables, control conditions, and collect quantitative or qualitative data to analyze.

EX- A scientist might start by taking soil samples for chemical changes or by planting different flowers in a section of the field to see if they grow. The scientist might also interview people that live in the area to see if there have been any chemical spills or releases in the area.

Step 4 Analysis: The data collected during experimentation are analyzed using statistical and analytical methods to determine whether the results support or refute the hypothesis. This analysis involves looking for patterns, trends, and relationships in the data.

EX- The data collected from the soil samples, the sample flower patches, and the interviews would be evaluated and evaluated.

Step 5 Conclusion: Based on the analysis of the data, scientists draw conclusions about the validity of the hypothesis. If the results consistently support the hypothesis, it may become a theory or accepted explanation. If the results do not support the hypothesis, scientists may revise or discard it.

EX- If the scientist finds a change in the soil, if the normal flowers do not grow, and if interviews show that the locals noticed that crop dusters were flying over the field in the last few days, the scientist will conclude that a crop duster sprayed the field, and it killed the native flowers which allowed nonnative species to grow.

Step 6 Communication: Scientists communicate their findings through scientific papers, presentations, conferences, and other forms of dissemination. This transparency allows other scientists to review, replicate, and build upon the research.

EX- The scientist would alert the crop duster that their chemical was dangerous to native species of flowers.

Scientific research relies on empirical evidence obtained through observation and experimentation. This evidence is more reliable than anecdotal or subjective information. The scientific method drives progress by continually refining our understanding of the world. New discoveries lead to innovations, technological advancements, and improvements in various fields. The scientific method is applicable across various disciplines and areas of study. It provides a common language and approach for researchers in different fields to communicate and collaborate.

How Do We Falsify Things?

When you think of proving something true or false, you likely think of a typical debate round. Through providing a Claim-Warrant-Impact style argument, countering with rebuttal blocks, and weighing, debaters believe that they prove things true and false. They don't. Each debate round is a test. Like an experiment in a lab, each round is a set of tests to prove the hypothesis (the resolution) true or false based on our variables (arguments) under rigor (the round). The only thing each round has proven is that at that one instance, with that judge, with the variables as they were, you either won or lost. Over the entire season, looking at every result across every tournament over that one resolution, that gets us closer to a proven result.

The principle of falsifiability is an important concept in scientific understanding, particularly in the field of empirical and data driven sciences. The ability to test a theory to determine an outcome has existed for as long as humans have existed. However, this would be revolutionized by philosopher Karl Popper (Trivia: The NSDA sponsored an event based around Popper's work called Popper Debate. Raise your hand if you remember this) as a criterion for distinguishing scientific theories from non-scientific ones. According to Popper, a scientific theory must be capable of being tested and falsified through empirical observations or experiments. For example, the theory that gravity pulls things to the center of an object in space can be tested for. The idea that Diet Coke is the best soft drink in the world is not scientific. It could be quantified in numbers but the variable that would be test for are in themselves variables as people's tastes differ. This is an example of a survey not a theory.

In the context of scientific understanding, falsifiability serves to establish the validity of theories. A good scientist might say that the ability to test their work is not so much that they are trying to justify their work but to see if their work is wrong. Should those tests fail to prove their hypothesis wrong, their theory is validated. The current scientific model applies a rigorous and controlled set of tests to a hypothesis or theory to allow scientists to gather evidence that either supports or refutes that hypothesis is the cornerstone of discovery and modern civilization. If a theory consistently withstands attempts at falsification and aligns with empirical observations, it gains credibility and is considered more robust.

In academics, the scientific method is built upon the principle of falsifiability, which means that scientific claims or hypotheses should be testable and potentially able to be proven false through empirical evidence. Falsifiability is a crucial criterion for distinguishing scientific theories from non-scientific ones.

Pseudoscience and Superstition

Even the most logical of all people have superstitions or beliefs in illogical steps that they use to guide their lives. This is often called “pseudoscience.” Pseudoscience refers to ideas, beliefs, or practices that appear to be based on scientific methods but lack the empirical evidence, rigor, and validity that true scientific inquiry requires. Pseudoscientific claims often make unfounded or exaggerated claims that are not supported by reliable scientific research. In some circles of society, the belief in the supernatural is often associated with a belief in pseudoscience.

Examples of pseudoscience include astrology, homeopathy, creationism (in the context of denying evolutionary theory), various conspiracy theories, and certain alternative medicine practices that lack scientific backing. It's important to note that not all unconventional or unorthodox ideas are pseudoscientific; they become pseudoscientific when they are presented as scientific fact without the necessary evidence.

An offshoot of pseudoscience is superstition. Superstition refers to beliefs or practices that are based on irrational, supernatural, or magical thinking rather than on evidence, reason, or scientific understanding. These beliefs often involve attributing certain events, outcomes, or phenomena to mysterious or mystical causes, rather than natural or logical explanations. Often, theater students will refuse to say “Macbeth” in a theater, some people will not fly on Friday the 13th, and my students often knock on wood every time I get in the van to drive them to the tournament. These are all examples of superstition. They are to base on fact or even logic. They are imposing that we believe in that exist beyond logic, but we do so. Theaters preform Macbeth all the time, Friday the 13th is just another day in a 365-day colander, and I’m 5-star driver.

Superstitions can vary widely across cultures and individuals, and they often arise from a desire to control or influence uncertain or important aspects of life, such as health, luck, relationships, or success. People may engage in superstitious behaviors or hold superstitious beliefs to bring about desired outcomes or to avoid perceived negative consequences, even if there's no logical connection between the actions or beliefs and the outcomes they seek.

Pseudoscience can have various roles or places in society, both positive and negative. For instance, pseudoscience can be entertaining. Some pseudoscientific ideas are entertaining and capture people's imagination, leading to the creation of movies, books, and cultural phenomena.

Pseudoscience can serve as a good case study for teaching critical thinking skills. By analyzing and debunking pseudoscientific claims, individuals can learn how to evaluate evidence, logical fallacies, and scientific methodologies.

On the downside, pseudoscience can be very harmful. It can spread misinformation and lead people to make decisions based on faulty or false information, which can be harmful to themselves and others. Many beliefs can cost people money. Pseudoscientific practices may lead people to spend money on products or services that have no proven benefits, leading to financial exploitation.

Possibly, one of the most harmful attributes of pseudoscience is the creation of the distrust of science. Pseudoscientific ideas can erode public trust in legitimate scientific research and the scientific community when people have difficulty distinguishing between what is truly scientific and what is not.

In a healthy and informed society, pseudoscience should be critically examined and debunked through scientific investigation and rational discourse. When dogma and superstition gather under fear and the unexplained, it can lead to the spread of dangerous and harmful ideas.

Aff Evidence

Science is a hard set of facts and the supernatural are beliefs. The two are incompatible.

Elof Carlson, 9-23-2021, "Lifelines: Why do scientists reject the supernatural?," No Publication, https://tbrnewsmedia.com/life-lines-why-do-scientists-reject-the-supernatural/

Scientists study nature. Nature is the world we can observe. It includes things like life, from viruses to plants and animals, and to all forms of humanity. It includes the earth and its continents, oceans, and atmosphere. It includes the moon, the planets and stars and galaxies. It includes the composition of all the objects we can see, touch, taste, smell, or hear.

What does it not include? Scientists call that aspect of our experience the supernatural. What is the supernatural? It includes a belief in gods, souls, ghosts, spirits, devils, angels, saints, witches, goblins, trolls, leprechauns, and mythical beasts like unicorns, or snakes that speak intelligible language we can understand, or a host of imagined possibilities such as a fountain of youth, turning other metals into gold, devising perpetual motion machines, pills that can convert water into gasoline, or using the ground powder of rhinoceros horns to cure impotence in middle aged men.

It also includes pseudo-sciences such as astrology, alchemy, palmistry, mind-reading, telekinesis, and other forms of extrasensory perception. The list is long, and scientists would strike off some of the supernatural if carefully controlled experiments are done to demonstrate them. Unfortunately, that has not occurred.

Magicians are often allied with scientists in exposing the tricks other magicians and charlatans use to fool inexperienced or gullible people. Science has more mysteries to solve and does not need supernatural unproven claims to compete for an interpretation of the universe. Science uses reason, gathering of information or data, proposals of theories, testing of theories, instruments to amplify or supplement our senses, and experimentation to test predictions of theories.

The supernatural depends on faith. It raises some difficulties. Whose gods are valid and whose have been demoted to myths? Is Zeus still alive? Is Osiris still alive? Is Gilgamesh still alive? Of our current deities, is Jesus an aspect of a Trinitarian deity or is he a human prophet who founded a new religion? If the Old Testament deity called Jehovah, Lord, or God is monotheistic, and if He is also the God of the Hebrew people of the Old Testament, is He the same God that Christians pray to and call Jesus?

As these questions and concerns sink in, note that scientists exclude the numerous ways supernatural beings (represented in human or other forms of life) are accepted. The supernatural events and things are accepted through faith. Science is universal and demands testable and repeatable evidence. It does not matter what country one lives in; water will consist of two atoms of hydrogen and one atom of

oxygen. It will behave the same wherever it is studied and exists as a gas, liquid, or solid, depending on temperature and pressure.

Science is very strict about the evidence needed for demonstrating something to science. Those who practice supernatural beliefs do so out of faith. There is no one universal supernatural system all people would agree to. But all people on earth will be convinced that striking a match to dry paper at room temperature, in breathable air, will ignite the paper and reduce it to ashes and release carbon dioxide into the air.

Science is good. It constantly checks theories to weed out false and dangerous ideas.

Edna DeVore 2005, Education and Public Outreach, "Evolution: It's only a theory, but one worth teaching," March 3, space.com/searchforlife/seti_devore_theory_050303.html

Certainly, there are continuing debates among scientists about the particulars of cosmic, planetary, and biological evolution. The nature of science requires continual questioning of ideas, evidence and theories. Theoretical scientists consider what we know and pose new ideas and models to explain the natural world. New models and ideas generate new scientific tests of theory: observational experiments at Earth and space-based observatories, high-energy collisions of particle physics, deep-sea dives at the plate boundaries, and lab experiments in molecular biology to cite a few. Science is based upon observational and experimental evidence. Concepts that don't match observations are altered or tossed out. It's an iterative cycle. Likewise, if a scientist makes an observation or does an experiment that cannot be replicated, the results are suspect. Scientific explanations of the natural world are tested against nature and discarded if they do not work. Consider cold fusion. Science is a self-correcting system that provides humans with powerful descriptions that allow us to understand and predict how the natural world works.

Most scientists do not believe in the supernatural

Michael Stirrat & R Elisabeth Cornwell, 12-9-2013, "Eminent scientists reject the supernatural: a survey of the Fellows of the Royal Society," BioMed Central, https://evolution-outreach.biomedcentral.com/articles/10.1186/1936-6434-6-33

In the USA, while around 16% of the general population report no religious affiliation approximately 95% believe in God or some higher power (Gallup & Lindsay 1999); (Lugo et al 2008). US scientists, however, are substantially less likely to hold belief in the supernatural (Larson and Witham 1997; Leuba 1916). Interestingly, this difference is far more evident among distinguished scientists: Larson and Witham (1998) found that 92% of the members of the National Academy of Sciences reject a belief in God or higher power. Religiosity in Great Britain is less robust than in the US, with polls reporting only 42% believing in a personal God and 52% believing that God or some higher power had a hand in creating the universe (ICM Research 2005). What about British scientists? One thousand and seventy-four Fellows of the Royal Society of London were invited to participate in a survey of attitudes toward religion; 248 Fellows replied. They were asked about their beliefs in a personal God, the existence of a supernatural entity, consciousness surviving death, and whether religion and science occupy non-overlapping magisteria (NOMA). Overwhelmingly, the majority of Fellows affirmed strong opposition to the belief in a personal god, to the existence of a supernatural entity, and to consciousness after death. With regard to 'NOMA', there was no consensus among the Fellows as to whether science and religion are in conflict. We also found that while (surprisingly) childhood religious upbringing and age were not significantly related to current attitudes toward religion, scientific discipline played a small but significant influence: biological scientists are even less likely to be religious than physical scientists. This may be because biology currently bears the brunt of religious interference in science: for example, evolution, stem-cell research, and cloning have been targeted recently by religious activists. However, this suggested explanation does not explain the lack of consensus upon whether science and religion can co-exist without conflict. To our knowledge, whether scientists perceive conflict with religion has not previously been explored among top scientists and the differences in perceptions reported here between the biological and physical sciences suggest that religious ideas are more in conflict with biology than other sciences.

The supernatural overrides logic and harms society

Mark Travers, 7-4-2022, "Believing In Supernatural Punishments Affects Us More Deeply Than We Think," Forbes, https://www.forbes.com/sites/traversmark/2022/07/04/believing-in-supernatural-punishments-affects-us-more-deeply-than-we-think/?sh=7206d2da4e88

A new study published in Current Opinion in Psychology examines how our beliefs in heaven and hell, and other 'supernatural punishment' narratives, can override our logic and, to some extent, dictate our behavior. The paper suggests that there are pros and cons to these common belief structures and offers a reason for why they are so prevalent in cultures around the world.

"People endorse supernatural narratives, like beliefs in hell or moralistic gods, in an attempt to make each other more cooperative," explains psychologist Manvir Singh of the Institute of Advanced Study in Toulouse, France. "Furthermore, we adopt them because they are cognitively 'sticky' — that is, our cognitive biases make supernatural narratives especially compelling."

According to Singh and co-author Léo Fitouchi, supernatural beliefs can control us because they bypass what they term 'epistemic vigilance,' or the lens through which humans evaluate the reliability of information communicated by others.

"If I tell you, for example, that a given food item is poisoned, I may be providing true and useful information or I may be trying to manipulate you to keep more food for myself," says Fitouchi. "So, you need psychological mechanisms to evaluate whether the information other people provide is true or not."

Both Singh and Fitouchi highlight that negatively weighted beliefs such as the threat of punishment are most likely to bypass our epistemic vigilance.

"Studies suggest that people are predisposed to believe that wrongdoers are more likely to suffer misfortunes — which is exactly what supernatural punishment beliefs claim," informs Fitouchi. "People are also more likely to accept threatening beliefs, such as warnings against eternal damnation in hell."

The search for a higher power enslaves us into herd mentality.

Jonny Anomaly, Assistant Professor of Philosophy at Ithaca College, 2005, “Nietzsche's Critique of Utilitarianism”, http://muse.jhu.edu/journals/journal_of_nietzsche_studies/v029/29.1anomaly.html

What does it mean to espouse the values of a herd animal? We have already encountered some of the values Nietzsche associates with slave morality—humility, industriousness, pity, but in what sense are they "herd" values? If the fundamental goal of an animal within a herd is its own preservation, and if its own preservation depends upon the health of the herd of which it is a member, then, Nietzsche supposes, the moral principles of that group will tend to reflect the kind of egalitarianism embodied in Bentham's dictum, "Everybody counts for one, and nobody for more than one."7 Nietzsche considers this the essence of herd mentality: "[I]t is the instinct of the herd that finds its formula in this rule—one is equal, one takes oneself for equal" (WP 925). According to Nietzsche, this egalitarian formula originates from the benefit that comes from reciprocal cooperation among equals in a group but has been extended by Christian morality to apply to all people—including unequals. Nietzsche thus construes the golden rule as a precept of "prudence" or mutual advantage, observing that "John Stuart Mill believes in it"as the basis of morality, but that he fails to grasp its prudential origin (WP 925).8

Nietzsche also portrays egalitarian values as myopic, dangerous, and potentially self-subverting. This is because, Nietzsche thinks, the opposite of these values—pain, suffering, inequality; in short, "evil"—is equally indispensable for the survival and happiness of the very herd that seeks to eradicate it. Accordingly, Nietzsche sharply criticizes Bentham's hedonic calculus (which correlates happiness maximization with pain minimization) as inconsistent with utilitarian goals. In its place, Nietzsche stresses the necessity of physical suffering and intellectual struggle for the self-improvement of each and, by extension, the vitality and happiness of the group. He accordingly rebukes the proponent of any morality that makes the reduction of suffering its fundamental goal: "[I]f you experience suffering and displeasure as evil, worthy of annihilation and as a defect of existence, then it is clear that besides your religion of pity you also harbor another religion in your heart that is perhaps the mother of the religion of pity: the religion of comfortableness" (GS 338). This religion—or, more specifically, morality—of comfort thwarts its own goals by attempting to eliminate all suffering (BGE 44).9 In a passage that anticipates what we now call the "hedonic paradox," according to which pleasure is diminished when we pursue it directly, Nietzsche ridicules those who, like Bentham, seek to maximize individual or collective happiness by minimizing pain: "[H]ow little you know of human happiness, you comfortable and benevolent people, for happiness and unhappiness are sisters and even twins that either grow up together or, as in your case, remain small together" (GS 338).10 He goes on to underline the idiosyncratic nature of suffering and the simplemindedness of those who heedlessly strive to relieve the suffering of others. "It never occurs to them," Nietzsche adds, "that ... the path to one's own heaven always leads through the voluptuousness of one's own hell" (GS 338).

The belief in the supernatural came from a sense of fear. This belief system creates a cult mentality that stifles progress.

James Der Derian, Watson Institute research professor of international studies and professor of political science at Brown University, 1998, “The Value of Security: Hobbes, Marx, Nietzsche, and Baudrillard”, http://www.ciaonet.org/book/lipschutz/lipschutz12.html

itself lacks an aim or purpose that might redeem the suffering endemic to its very existence: “What does nihilism mean” That the highest values devaluate themselves. The aim is lacking; “why?” finds no answer” (WI 2). A justification of human existence is furnished by any aim (or goal or purpose), whose pursuit promises to enable human beings to endure the suffering of their meaningless existence. In lieu of some such aim, human beings might be forced to find meaning for them- selves in their own self-annihilatio

Nietzsche transvalues both Hobbes's and Marx's interpretations of security through a genealogy of modes of being. His method is not to uncover some deep meaning or value for security, but to destabilize the intolerable fictional identities of the past which have been created out of fear, and to affirm the creative differences which might yield new values for the future. 33 Originating in the paradoxical relationship of a contingent life and a certain death, the history of security reads for Nietzsche as an abnegation, a resentment and, finally, a transcendence of this paradox. In brief, the history is one of individuals seeking an impossible security from the most radical "other" of life, the terror of death which, once generalized and nationalized, triggers a futile cycle of collective identities seeking security from alien others--who are seeking similarly impossible guarantees. It is a story of differences taking on the otherness of death, and identities calcifying into a fearful sameness. Since Nietzsche has suffered the greatest neglect in international theory, his reinterpretation of security will receive a more extensive treatment here.

One must begin with Nietzsche's idea of the will to power, which he clearly believed to be prior to and generative of all considerations of security. In Beyond Good and Evil , he emphatically establishes the primacy of the will to power: "Physiologists should think before putting down the instinct of self-preservation as the cardinal instinct of an organic being. A living thing seeks above all to discharge its strength--life itself is will to power; self-preservation is only one of the most frequent results." 34

The will to power, then, should not be confused with a Hobbesian perpetual desire for power. It can, in its negative form, produce a reactive and resentful longing for only power, leading, in Nietzsche's view, to a triumph of nihilism. But Nietzsche refers to a positive will to power, an active and affective force of becoming, from which values and meanings--including self-preservation--are produced which affirm life. Conventions of security act to suppress rather than confront the fears endemic to life, for ". . . life itself is essentially appropriation, injury, overpowering of what is alien and weaker; suppression, hardness, imposition of one's own forms, incorporation and at least, at its mildest, exploitation--but why should one always use those words in which slanderous intent has been imprinted for ages." 35 Elsewhere Nietzsche establishes the pervasiveness of agonism in life: "life is a consequence of war, society itself a means to war." 36 But the denial of this permanent condition, the effort to disguise it with a consensual rationality or to hide from it with a fictional sovereignty, are all effects of this suppression of fear.

The desire for security is manifested as a collective resentment of difference--that which is not us, not certain, not predictable. Complicit with a negative will to power is the fear-driven desire for protection from the unknown. Unlike the positive will to power, which produces an aesthetic affirmation of difference, the

search for truth produces a truncated life which conforms to the rationally knowable, to the causally sustainable. In The Gay Science, Nietzsche asks of the reader: "Look, isn't our need for knowledge precisely this need for the familiar, the will to uncover everything strange, unusual, and questionable, something that no longer disturbs us? Is it not the instinct of fear that bids us to know? And is the jubilation of those who obtain knowledge not the jubilation over the restoration of a sense of security?"

The fear of the unknown and the desire for certainty combine to produce a domesticated life, in which causality and rationality become the highest sign of a sovereign self, the surest protection against contingent forces. The fear of fate assures a belief that everything reasonable is true, and everything true, reasonable. In short, the security imperative produces, and is sustained by, the strategies of knowledge which seek to explain it. Nietzsche elucidates the nature of this generative relationship in The Twilight of the Idols:

The causal instinct is thus conditional upon, and excited by, the feeling of fear. The "why?" shall, if at all possible, not give the cause for its own sake so much as for a particular kind of cause --a cause that is comforting, liberating and relieving. . .. That which is new and strange and has not been experienced before, is excluded as a cause. Thus, one not only searches for some kind of explanation, to serve as a cause, but for a particularly selected and preferred kind of explanation--that which most quickly and frequently abolished the feeling of the strange, new and hitherto unexperienced: the most habitual explanations. 38

A safe life requires safe truths. The strange and the alien remain unexamined, the unknown becomes identified as evil, and evil provokes hostility--recycling the desire for security. The "influence of timidity," as Nietzsche puts it, creates a people who are willing to subordinate affirmative values to the "necessities" of security: "they fear change, transitoriness: this expresses a straitened soul, full of mistrust and evil experiences." 39

The unknowable which cannot be contained by force or explained by reason is relegated to the off world. "Trust," the "good," and other common values come to rely upon an "artificial strength": "the feeling of security such as the Christian possesses; he feels strong in being able to trust, to be patient and composed: he owes this artificial strength to the illusion of being protected by a god." 40 For Nietzsche, of course, only a false sense of security can come from false gods: "Morality and religion belong altogether to the psychology of error : in every single case, cause and effect are confused; or truth is confused with the effects of believing something to be true; or a state of consciousness is confused with its causes." 41

Nietzsche's interpretation of the origins of religion can shed some light on this paradoxical origin and transvaluation of security. In The Genealogy of Morals, Nietzsche sees religion arising from a sense of fear and indebtedness to one's ancestors:

The conviction reigns that it is only through the sacrifices and accomplishments of the ancestors that the tribe exists --and that one has to pay them back with sacrifices and accomplishments: one thus recognizes a debt that constantly grows greater, since these forebears never cease, in their continued existence as powerful spirits, to accord the tribe new advantages and new strength. 42

Sacrifices, honors, obedience are given but it is never enough, for

The ancestors of the most powerful tribes are bound eventually to grow to monstrous dimensions through the imagination of growing fear and to recede into the darkness of the divinely uncanny and unimaginable: in the end the ancestor must necessarily be transfigured into a god. 43

As the ancestor's debt becomes embedded in institutions, the community takes on the role of creditor. Nietzsche mocks this originary, Hobbesian moment: to rely upon an "artificial strength": "the feeling.

One lives in a community, one enjoys the advantages of communality (oh what advantages! we sometimes underrate them today), one dwells protected, cared for, in peace and trustfulness, without fear of certain injuries and hostile acts to which the man outside , the "man without peace," is exposed . . . since one has bound and pledged oneself to the community precisely with a view to injury and hostile acts. 44

The establishment of the community is dependent upon; indeed, it feeds upon, this fear of being left outside. As the castle wall is replaced by written treaty, however, and distant gods by temporal sovereigns, the martial skills and spiritual virtues of the noble warrior are slowly debased and dissimulated. The subject of the individual will to power becomes the object of a collective resentment. The result? The fear of the external other is transvalued into the "love of the neighbor" quoted in the opening of this section, and the perpetuation of community is assured through the internalization and legitimation of a fear that lost its original source long ago.

This powerful nexus of fear, of external and internal otherness, generates the values which uphold the security imperative. Indeed, Nietzsche locates the genealogy of even individual rights, such as freedom, in the calculus of maintaining security:

- My rights - are that part of my power which others not merely conceded me, but which they wish me to preserve. How do these others arrive at that? First: through their prudence and fear and caution: whether in that they expect something similar from us in return (protection of their rights); or in that they consider that a struggle with us would be perilous or to no purpose; or in that they see in any diminution of our force a disadvantage to themselves, since we would then be unsuited to forming an alliance with them in opposition to a hostile third power. Then: by donation and cession. 45

The point of Nietzsche's critical genealogy is to show that the perilous conditions that created the security imperative--and the western metaphysics that perpetuate it--have diminished if not disappeared; yet, the fear of life persists: "Our century denies this perilousness, and does so with a good conscience: and yet it continues to drag along with it the old habits of Christian security, Christian enjoyment, recreation and evaluation." 46 Nietzsche's worry is that the collective reaction against older, more primal fears has created an even worse danger: the tyranny of the herd, the lowering of man, the apathy of the last man which controls through conformity and rules through passivity. The security of the sovereign, rational self and state comes at the cost of ambiguity, uncertainty, paradox--all that makes a free life worthwhile. Nietzsche's lament for this lost life is captured at the end of Daybreak in a series of rhetorical questions:

Of future virtues--How comes it that the more comprehensible the world has grown the more solemnities of every kind have decreased? Is it that fear was so much the basic element of that reverence which overcame us in the presence of everything unknown and mysterious and taught us to fall down before the incomprehensible and plead for mercy? And has the world not lost some of its charm for us because we have grown less fearful? With the diminution of our fearfulness has our own dignity and solemnity, our own fearsomeness, not also diminished. 47

Science needs to be free from fundamentalist entanglement.

Meera Nanda 2003 “Postmodernism, Science, and Religious Fundamentalism,” www.butterfliesandwheels.com/articleprint.php?num=40

But when I pointed out to the gathering that by this definition, the growing movements of religious fundamentalisms in all major faiths also deserve to be admitted to the guild of science studies, the suggestion was not well received. After all, I argued, the contemporary religious political movements use social constructivist arguments when they put aside whatever scientific theory conflicts with their religious faith, as a social construct of godless, Western secular-humanist atheists who have been ruling world since the Enlightenment. Moreover, I argued, if all sciences alike are social constructs, then why shouldn’t the “sacred sciences” propagated by religious fundamentalist movements be admitted as bona fide “local knowledges” or “standpoint epistemologies” of the community of believers?

I was not being facetious, nor was I stoking the “science wars” when I suggested that there was a dangerous convergence - unintended, surely, but not entirely coincidental - between the social constructivist views of science routinely taught in science studies, women’s studies, postcolonial studies and allied disciplines, and the views of those who defend creation science, Islamic sciences, or, as in the case of India, Vedic sciences. The point I was making was not that the foot-soldiers of religious fundamentalist movements are sitting and poring over the works of David Bloor, Bruno Latour, Donna Haraway or even of that great simplifier, Sandra Harding. They are not - although the more sophisticated among them do cite the classic works of (a hugely misinterpreted) Thomas Kuhn, Paul Feyerabend, and those of local post-colonial and feminist scholars who have popularized the social constructivist critiques of objective knowledge and reason at home. I wanted to show how the promotion of an anti-secularist, anti-Enlightenment view of the world by well-meaning and largely left-wing scholars in world-renowned centers of learning has ended up affirming a view of the world which constitutes the common sense of the rather malign, authoritarian and largely right-wing fundamentalist movements. I wanted to show that that having invested so deeply in anti-modernist and anti-rationalist philosophies, the academic left has no intellectual resources left with which to engage the religious right.

The belief in the supernatural is normal. It is also false.

Stephen Law, "Belief in supernatural beings is totally natural – and false," Aeon, https://aeon.co/ideas/belief-in-supernatural-beings-is-totally-natural-and-false

Human beings are remarkably prone to supernatural beliefs and, in particular, to beliefs in invisible agents – beings that, like us, act on the basis of their beliefs and desires, but that, unlike us, aren't usually visible to the naked eye. Belief in the existence of such person-like entities is ubiquitous. As Steven Pinker notes in 'The Evolutionary Psychology of Religion' (2004), in all human cultures people believe that illness and calamity 'are caused and alleviated by a variety of invisible person-like entities: spirits, ghosts, saints, evils, demons, cherubim or Jesus, devils and gods'. In the United States, for example, a 2013 Harris Poll found that around 42 per cent believe in ghosts, 64 per cent in survival of the soul after death, 68 per cent in heaven, and 74 per cent in God.

Why are we drawn to such beliefs? The answer cannot be simply that they are true. Clearly, most aren't. We know many beliefs are false because they contradict other similar beliefs. Take god-type beliefs. Some believe there's one god; others (such as the Manicheans) that there are two gods; others: pantheons of gods. People also hold dramatically differing beliefs about the characteristics of these divine beings, ascribing to them incompatible attributes and actions. But it's not just disagreement between believers that reveals many of these beliefs to be false. Science has also demonstrated that many of these beliefs are false: for example, diseases are produced not by demonic beings but by entirely natural causes. And of course, supposed evidence for such beings – sightings of ghosts, fairies, angels, gods and their miraculous activities – is regularly debunked by investigators.

When people are asked to justify their belief in such invisible beings, they often appeal to two things. First, to testimony: to reports of sightings, miraculous events supposedly caused by such beings, and so on. Any New Age bookshop will be able to provide numerous testimonies regarding invisible agency that might seem hard to account for naturalistically in terms of hallucination, self-deception, misidentified natural phenomena, trickery, and so on. Second, many will also claim a subjective sense of presence: they 'just know' their dead Auntie is in the room with them, or that they have a guardian angel, by means of some sort of extra sense: a spirit sense. The Delphic oracle believed she received communications from the god Apollo while perched on her tripod. Many contemporary religious folk believe they can sense divinity by means of some sort of sensus divinitatis or god-sense.

If there really are no good grounds for believing such beings exist, however, why do people believe in them? There's much scientific speculation about that but, as yet no definitive answer.

One obvious advantage of positing invisible agents is that they can account for what might otherwise be baffling. I could swear I left my keys on the table, but there they are under the sofa. How on Earth did that happen? If I believe in gremlins – invisible beings living in my house that have the desire to cause mischief and the power to do so – then the mystery is immediately solved. Invisible agents provide quick, convenient explanations for events that might otherwise strike us as deeply mysterious and, in so far as these beings can be appeased or persuaded, belief in them can also create the illusion of control, which can be comforting in an otherwise uncertain and dangerous world.

Scientists working in the cognitive science of religion have offered other explanations, including the hyperactive agency-detecting device (HADD). This tendency explains why a rustle in the bushes in the dark prompts the instinctive thought: 'There's someone there!' We seem to have evolved to be extremely quick to ascribe agency – the capacity for intention and action – even to inanimate objects. In our ancestral environment, this tendency is not particularly costly in terms of survival and reproduction, but a failure to detect agents that are there can be very costly. Fail to detect a sabre-toothed cat, and it'll likely take you out of the gene pool. The evolution of a HADD can account for the human tendency to believe in the presence of agents even when none can be observed. Hence the human belief in invisible person-like beings, such as spirits or gods. There are also forms of supernatural belief that don't fit the 'invisible person-like being' mould, but merely posit occult forces – eg, feng shui, supernaturally understood – but the HADD doesn't account for such beliefs.

In fact, I doubt that any single mechanism accounts for the human tendency to hold such supernatural beliefs. Certainly nothing as crude as 'wishful thinking' really does the job. What is believed is not always to the liking of the believer; sometimes, as in the case of night visits by demonic beings, it's absolutely terrifying. In any case, the appeal to wishful thinking just postpones the mystery, as we then require an explanation for why humans are so attracted to believing in invisible beings.

Whatever the correct explanation for the peculiar human tendency to believe falsely in invisible person-like beings, the fact that we're so prone to false positive beliefs, particularly when those beliefs are grounded in some combination of testimony and subjective experience, should provide caution to anyone who holds a belief in invisible agency on that basis.

Suppose I see a snake on the ground before me. Under most circumstances, it's then reasonable for me to believe there is indeed a snake there. However, once presented with evidence that I'd been given a drug to cause vivid snake hallucinations, it's no longer reasonable for me to believe I've seen a snake. I might still be seeing a real snake but, given the new evidence, I can no longer reasonably suppose that I am.

Similarly, if we possess good evidence that humans are very prone to false belief in invisible beings when those beliefs are based on subjective experience, then I should be wary of such beliefs. And that, in turn, gives me good grounds for doubting that my dead uncle, or an angel, or God, really is currently revealing himself to me, if my only basis for belief is my subjective impression that this is so. Under such circumstances, those who insist 'I just know!' aren't being reasonable.

Not creating a line between belief and science allows for the suppression of logic.

Meera Nanda 2003 "Postmodernism, Science, and Religious Fundamentalism," www.butterfliesandwheels.com/articleprint.php?num=40

Nowhere is the influence of social constructivist and postcolonial critiques of science more evident than in India, where these ideas have become indistinguishable from the Hindu nationalist promotion of assorted "Vedic sciences." As anyone familiar with global academic trends can attest, ostensibly secular, left-wing intellectuals from India have played a leading role in debates about the nature of knowledge that have raged during the last two decades in American and other Western universities in science studies, feminist epistemology, eco-feminism, postcolonial studies and allied disciplines. Ashis Nandy, Vandana Shiva, Claude Alvares, Gayatri Spivak, Partha Chatterjee, Homi Bhabha, Dipesh Chakravarty, Gyan Prakash, Veena Das, Chandra Tolpady Mohanty and many others have been guiding lights of university humanities departments in America. Not surprisingly, the global prominence of Indian scholars in the assorted postmodernist debates brought them enormous prestige back home. Their critique of "mental colonialism" and their promotion of local knowledges found a strong echo in literally thousands of "alternative development" NGOs and social movements.

The anti-Enlightenment seeds they sowed are now ready for harvest: the cultural authenticity of the non-Western "other" that our radical intellectuals were looking for, has become the official ideology of the Hindu nationalists that have ruled India for a decade. The postcolonial theorists looked to women, working classes, and other marginalized groups to provide more adequate alternatives to Western knowledge. The Hindu nationalists use the same postcolonial arguments against "mental colonization" to find a more adequate alternative epistemology in the most orthodox and mystical core of Hinduism, namely the Vedas and the Upanishads. These nearly three-millennium old Sanskrit texts are being introduced in schools and colleges as "just another name" for modern scientific knowledge including 20th century physics, biology, medicine and even engineering. Conversely, modern sciences are being peddled as "just another name" of the perennial wisdom of the Vedas and the Upanishads. Notwithstanding the deep hold of all kinds of dangerous superstitions in India, Hinduism is being portrayed as the most hospitable of all religions to the spirit of scientific inquiry. All in all, the idealistic view of nature and the mystical mode of knowing taught by the Brahminical texts of India are being whitewashed into a valid - nay, preferred - way of learning and doing science, not just for "Hindu India" but for the whole world. Two unequal and very unlike methods and viewpoints are being declared to be equal and alike to the point of being interchangeable.

Religious dogma taints science and hinders progress.

Martha Nussbaum 2004 Ernst Freund distinguished service prof of law and ethics at U of Chicago, "Religious Intolerance," Foreign Policy, Sept/Oct 2004

Sometimes old ideas are the most dangerous, and few ideas are older than those that undergird religious intolerance. Lamentably, these ideas are acquiring new life. In 2002, Hindus in Gujarat, India, killed several hundred Muslims, with the collaboration of public officials and the police. Europe has recently seen a frightening rebirth of anti-Semitism, while the appeal of radical forms of Islam appears to be increasing in the Muslim world. Prejudice against Muslims and a tendency to equate Islam with terrorism are too prominent in the United States. On and on it goes. Intolerance breeds intolerance, as expressions of hatred fuel existing insecurities and permit people to see their own aggression as legitimate self-defense.

Religion leads to intolerance outside thinking.

Infidels.org 2003 “An Introduction to Atheism,” February 24, www.infidels.org/news/atheism/intro.html

Religion represents a huge financial and work burden on mankind. It's not just a matter of religious believers wasting their money on church buildings; think of all the time and effort spent building churches, praying, and so on. Imagine how that effort could be better spent.

Many theists believe in miracle healing. There have been plenty of instances of ill people being "healed" by a priest, ceasing to take the medicines prescribed to them by doctors, and dying as a result. Some theists have died because they have refused blood transfusions on religious grounds.

It is arguable that the Catholic Church's opposition to birth control -- and condoms in particular -- is increasing the problem of overpopulation in many third-world countries and contributing to the spread of AIDS world-wide.

Religious believers have been known to murder their children rather than allow their children to become atheists or marry someone of a different religion. Religious leaders have been known to justify murder on the grounds of blasphemy.

There have been many religious wars. Even if we accept the argument that religion was not the true cause of those wars, it was still used as an effective justification for them.

The scientific method is transparent. There is no conspiracy or secrecy.

Solomon R Benatar 2002, Dept. Medicine and Bioethics Centre, Faculty of Health Sciences, U. of Cape Town, "Scientific integrity and values in science," education.pwv.gov.za/Conf_Wshops_Events/Values/Solomon_R_Benatar.htm

The prime responsibility of scientists is to ensure that they advance knowledge with integrity and accountability. Dedication to the scientific method, to openness in communicating about their work, and submission to the process of peer review all serve to ensure that science is carried out with transparency, objectivity and accountability. It is less obvious to some that scientific knowledge should be considered as social capital that has accumulated from great intellectual, financial and personal investments by previous generations of scientists, tax payers and research subjects. It is important to acknowledge these contributions and not to consider scientific knowledge solely as the property of scientists. In addition to teaching science to students, established scientists are required to serve as role models for young scientists – and through this process to preserve the integrity and accountability of science. Given the power of weapons of mass destruction it is also increasingly considered irresponsible for scientists to participate in developing such weapons or to collude in any way in doing harm to citizens and distant others. Finally it is necessary for scientists to undertake research that has potential benefit both to the society of today and to future generations.

At its core, scientific thinking and the supernatural are incompatible. There will always be conflict and agendas.

Paul Lorenzini, 10-11-2019, "Is Supernatural Causation Compatible with Science?," Reasons to Believe, https://reasons.org/explore/blogs/voices/is-supernatural-causation-compatible-with-science

When defenders of naturalistic evolution state their case, they frequently begin with the claim that their theory is "scientific." Alternative views, especially those that would invoke supernatural causation, are pejoratively dismissed as "pseudoscience," pseudo because they falsely claim to have scientific legitimacy. Given science's respected status, this becomes a powerful rhetorical device to marginalize Christian claims that life on Earth involved the supernatural intervention of God.

This view played a critically important role in the 2005 case of Kitzmiller v. Dover Area School District.1 Attempts to require the teaching of "Intelligent Design" (ID) were opposed by many parents who claimed it was a subterfuge for bringing religious teachings into the classroom. Ruling in favor of the plaintiffs, Judge John E. Jones of the District Court in the Middle District of Pennsylvania concluded that ID should not be taught in the public schools because, among other reasons, "ID is not science." Why? Because it "violates the age-old ground rules of science by invoking and permitting supernatural causation."

But are there any such "age-old ground rules"? Can science not legitimately consider the possibility of supernatural causation? It turns out this so-called "age-old rule" has been discredited, leaving science no basis for excluding supernatural causation.

Development of Science's "Ground Rules"

When thinker Francis Bacon conceived of what we now call the scientific method in his Novum Organon (1620), it is correct to say he believed any testable hypothesis must be derived from our physical sense experience. This is what we call the method of induction. One starts with data and generalizes toward a hypothesis from the data, then tests the hypothesis. It is a methodology that would, indeed, seem to exclude supernatural causation.

During the next two centuries the notion grew that science, grounded in this methodology, could purge humanity from the distortions of religion and superstition. In the nineteenth century, this idea took the form of positivism, a view vigorously embraced by a group of like-minded scientists and philosophers in the early twentieth century known as the Vienna Circle. Positivism is based on the claim, following Bacon, that the only source of positive knowledge of the world is information we derive from our physical senses. No scientific hypothesis is valid, on this view, unless it is derived from data that can be directly observed, measured, or reproduced. These ideas, having been stirred through much of the

nineteenth century, were influential enough that as they spread during the early twentieth century, “an intellectual hegemony of positivism was beginning to be established” in American universities.2

By the mid-twentieth century, however, it became clear that the positivist model was running into problems. It was neither defensible philosophically, nor did it accurately describe how scientists function in practice. As philosopher Richard Bernstein wrote in 1976: “There is not a single major thesis advanced by either nineteenth-century positivists or the Vienna Circle that has not been devastatingly criticized when measured by the positivist’s own standards for philosophical argument.”3 In commenting on Berstein’s remarks, Donald Schon observes “[a]mong philosophers of science no one wants any longer to be called a positivist.”

The underlying problem goes back to Bacon’s assumption that science operates exclusively on the principle of induction, the idea that any testable hypothesis must be derived from our sense experience. It doesn’t. Induction is certainly one way to form a hypothesis, but it is not exclusive. In practice there is no prescribed method scientists use for developing hypotheses—they are often products of our imaginative and creative minds.

The alternative to induction is the method of deduction. Here one starts with a generalized hypothesis and works toward specifics. Philosopher Karl Popper, a critic of induction, argued “[t]here is no logical method of having new ideas . . . every discovery contains an ‘irrational element’, or a ‘creative intuition.’” He reinforced his argument with quotes from Einstein: “There is no logical path leading to these . . . laws. They can only be reached by intuition, based upon something like an intellectual love of the objects of experience.”5 Popper’s assertion is that the hypotheses scientists test are not products of some disciplined method of organizing data, but rather products of the creative human mind.

Bertrand Russell expressed the issue more pointedly:

Bacon’s inductive method is faulty through insufficient emphasis on hypothesis. He hoped that mere orderly arrangement of data would make the right hypothesis obvious, but this is seldom the case . . . so far, no method has been found which would make it possible to invent hypothesis by rule.6

The Essence of Science Is Testing Hypotheses

Science does not really care about the source of the hypothesis. It is concerned about testing ideas once they take the form of a hypothesis. The hypothesis is then tested by the rigid standards of science to determine if it fits what we observe in the surrounding universe. These methods cannot always prove the hypothesis is true science cannot prove God, for example. But testing can determine if a particular hypothesis is false.

Yet old ideas die hard. In his historical review of positivism, the late German philosopher Oswald Hanfling writes:

… even if the parent plant is dead, many of its seeds are alive and active in one form or another. In an interview in 1979, A.J. Ayer, a leading philosopher of our time, who had been an advocate of logical positivism in the 1930s, was asked what he now saw as its main defects. He replied: 'I suppose the most important . . . was that nearly all of it was false.' Yet this did not prevent him from admitting shortly afterwards that he still believed in 'the same general approach.'

Thus, positivism remains a foil, if a flawed one, used by defenders of naturalistic evolution to discredit Christian views of creation.8

When Reasons to Believe offers its testable creation model, the "test" is a scientific one: is the model consistent with that which we observe in the universe? If it is not, the model can be said to be falsified. If it is, it does not mean the model is proven (verified), but it does mean it cannot be discarded as inconsistent with that which we observe through legitimate science. The more tests the model passes, the more one can say it is grounded in good science.

When advocates of naturalistic evolution offer their model, they too are operating in this realm. They propose a hypothesis then test it by comparing its predictions with that which we observe in the universe. Both approaches employ sound science in the way we want science to operate—as a tool for finding truth and testing truth claims against observations of the natural realm. To be sure, that process itself is fraught with its own complications as philosophers of science debate what ultimate truths can or cannot be asserted once one forms a hypothesis.9 But the starting point is always the hypothesis.

Naturalistic evolution and the RTB creation model are two competing hypotheses that differ in many fundamentals. Science, functioning properly, can and should be willing to test both hypotheses against our observations of the universe in an effort to understand which model better explains the whole of reality. To discard the RTB model because it permits supernatural causation is both irrational and "unscientific" in that it excludes possible answers to big questions with no justification in science for doing so. Perhaps it's time to discard the "age-old ground rules" of science in favor of a new ground rule for testing all hypotheses.

Neg Evidence

The belief in religion is supernatural.

Jesse Bering, 2006, "The Cognitive Psychology of Belief in the Supernatural," American Scientist, VOLUME 94, NUMBER 2 PAGE 142, https://www.americanscientist.org/article/the-cognitive-psychology-of-belief-in-the-supernatural

At least from a purely naturalistic perspective, one where we properly view ourselves as animals, such religious beliefs are an odd sort of thing. Not many people would classify their beliefs in God or heaven as "supernatural," even though that's precisely what they are. Just what is it about the human mind that leads so many members of our species, across cultures and geographic distances, to hold such an unshakable, sober and highly personal belief in an invisible, all-powerful being whom Westerners call God? On the face of it, this invisible being is a voyeur who knows all about you, an aloof sadist (as some people believe in the wake of personal misfortunes), a sexual totalitarian and a personal friend, all rolled into one. The fact that, normally, none of this strange mix seems to strike us as bizarre may indicate that this trait has somehow had a deeper benefit for our species.

Mere desire to believe (or, using Sigmund Freud's term, wish fulfillment) doesn't seem to cut it as an explanation of these traits. In studies I have conducted, people's levels of death anxiety didn't have much correlation with their types of religious beliefs—those with low fear of dying, for instance, are just as likely to be materialists as they are immortalists (who believe in consciousness after death). Religious beliefs could instead be a result of cultural indoctrination, a simple matter of exposure from birth to such ideas. But maybe it goes back even further than birth: Perhaps human minds have a genetic predisposition toward supernatural belief.

Religion and the supernatural are evolutionary traits.

Jesse Bering, 2006, "The Cognitive Psychology of Belief in the Supernatural," American Scientist, VOLUME 94, NUMBER 2 PAGE 142, https://www.americanscientist.org/article/the-cognitive-psychology-of-belief-in-the-supernatural

As psychologists such as David M. Buss of the University of Texas at Austin, Leda Cosmides of the University of California, Santa Barbara, and Steven Pinker of Harvard University have been arguing for more than a decade, not only are our bodies a product of natural selection—for example our opposable thumbs for grasping and our bipedal posture for walking—but our minds bear the thumbprint of evolution as well. In many cases, the way we think about a particular class of events (the so-called structure of our psychology) reflects why we think that way (the so-called function of our psychology).

Take, for instance, our preference for sweet and fatty foods or our fear of heights and snakes or the fact that we go "coochie-coochie-coo" whenever we see a cute baby. These behaviors are all, according to evolutionary psychologists, caused by unconscious mental forces that helped our ancestors to survive and thrive in the remote past. We may not know why we do, think or feel as we do, but as biologist Richard Dawkins argues in his book The Selfish Gene, from our genes' point of view, this ignorance is entirely moot anyway, so long as we work on their behalf. Behavior is therefore one of the primary currencies used by natural selection, and it is psychological states that drive behavior.

Recognizing the evolutionary roots of much of human behavior, I began to wonder whether a psychological susceptibility to belief in God is the result of adaptive design. That hypothesis would only make sense if indeed there were behaviors associated with such susceptibility that made us genetically successful. Just as canine teeth evolved to help people rip the flesh off bones, could a belief in God have evolved to help people tear off bits of meaning from an otherwise meaningless existence? Or perhaps God is simply a spandrel—an architectural term (for an ornamental arch) adopted by Stephen Jay Gould and Richard Lewontin to indicate a biological feature that is passed down part and parcel with another trait and is not on its own a product of natural selection. God might be an accidental by-product of human cognitive evolution, a functionless leftover of the capacity to reason about other human minds in the everyday social world, as cognitive scientists such as Pascal Boyer of Washington University in St. Louis believe. There's a third option, which I favor: that religious belief is an exaptation—a spandrel that turned out to be useful and so was subsequently selected for by evolutionary pressures.

The supernatural is the belief in a higher power.

Austin Cline, 6-25-2019, "How Religions Involve Theism," Learn Religions, https://www.learnreligions.com/religion-is-belief-in-supernatural-beings-250678

Belief in the supernatural, especially gods, is one of the most obvious characteristics of religion. It's so common, in fact, that some people mistake mere theism for religion itself, yet that is incorrect. Theism can occur outside of religion, and some religions are atheistic. Despite this, supernatural beliefs are a common and fundamental aspect to most religions, while the existence of supernatural beings is almost never stipulated in non-religious belief systems.

What Is the Supernatural?

According to supernaturalism, a supernatural order is the original and fundamental source of all that exists. It is this supernatural order which defines the limits of what may be known. Something that is supernatural is above, beyond, or transcendent to the natural world—it is not a part of or dependent upon nature or any natural laws. The supernatural is also commonly conceived of as being better, higher, or purer than the mundane, natural world around us.

Science can explain the unexplained. A belief in the supernatural only fills in the gaps.

Conor Feehlymay, "Why We Believe That the Supernatural Causes Natural Events," Discover Magazine, https://www.discovermagazine.com/mind/why-we-believe-that-the-supernatural-causes-natural-events

Supernatural, religious and mythical beliefs are a normal part of human culture.

In every society, for as long as human history has been recorded, people have explained all manner of phenomena in the world by way of divine intervention or some supernatural agenda.

Ancient societies believed they had to sacrifice innocent people to please gods to bring rain, while today, some people blame natural disasters on the perceived moral indiscretions of their peers. Why do we do this?

Scientists, philosophers and theologians have asked themselves this question, with some arriving at the "god of the gaps" hypothesis.

The basic idea is that people tend to infer supernatural explanations to phenomena they don't understand.

On one hand, this can suggest that people tend to let go of their supernatural belief about something when science is able to explain certain phenomena. However, another interpretation suggests people resort to supernatural explanations when a phenomenon has ambiguous or undefined causal agents.

Along this line of reasoning, a group of psychologists asked if, across human societies, people were more likely to invoke supernatural explanations for naturally occurring phenomena or for socially occurring phenomena.

Researchers thought people might be more likely to use supernatural explanations for natural events (such as weather incidents or natural disasters) as opposed to social events (like theft or murder). That's because there's often a clear causal agent in the social cases, whereas natural events typically lack a single force we can point a finger at.

"People tend to assign responsibility to intentional agents when events occur and are more likely to turn to divine intervention when there is no one to blame," says co-author of the study Danica Dillion, a specialist in moral psychology at the University of North Carolina at Chapel Hill.

Dillion and colleagues analyzed ethnographic texts from 114 historical societies, including nomadic hunter-gatherer groups, fishing and horticultural societies and large societies with cities.

Based on descriptions in these texts, the researchers determined whether supernatural explanations were absent, uncommon or common for different types of phenomena that fit into either a natural or a social category.

Researchers defined "supernatural explanations" as the attribution of an event to supernatural processes.

“Most supernatural explanations were attributed to the actions of supernatural agents like gods, ancestor spirits and human magical practitioners. And some were attributed to supernatural forces like karma and the evil eye,” says Dillion.

For Dillion and her colleagues, the results weren’t surprising: Overall, supernatural explanations were more prevalent for natural rather than for social phenomena. “Our results suggest that when events lack clear agents, people fill this gap with supernatural agency,” she says.

The results are consistent with previous research which shows that people often anthropomorphize natural phenomena and events and imbue the natural world with an agenda as if it is a conscious agent (for example, "the Universe is against me today").

A belief in the supernatural is an attempt to explain the world around us.

Personality and Individual Differences, Volume 86, November 2015, Pages 227-231"Supernatural beliefs: Considered adaptive and associated with psychological benefits,", https://www.sciencedirect.com/science/article/abs/pii/S0191886915004043

Supernatural beliefs include peculiar beliefs, which are often considered a sign/symptom of psychopathology (e.g., Psi, remote viewing), religious/spiritual beliefs (e.g., angels), and fate beliefs (e.g., everything happens for a reason). We addressed limitations in the empirical literature by investigating, among a psychologically healthy community sample (n = 189) the perceived adaptivity of supernatural peculiar, religious/spiritual and fate beliefs. Results demonstrated that supernatural beliefs were considered adaptive (important, having a positive impact, serving understanding and hedonic functions). Perceived adaptivity, especially the understanding function, was consistently associated with psychological benefits (more life satisfaction, emotional clarity and positive affect, less negative affect, depression and perceived stress). Perceived adaptivity and associations with psychological benefits did not differ by belief type. The current study suggests that supernatural beliefs, broadly, and peculiar beliefs, specifically, are potentially adaptive in several ways, and associated with psychological benefits.

Introduction

The content of beliefs varies in its level of abstraction (Trope & Liberman, 2010). Some refer to concrete, self-evident phenomena (e.g., “I will not fall when I lean against a boulder”), and others refer to abstract phenomena that cannot be conclusively tested for accuracy (e.g., “The world is dangerous”). Supernatural beliefs are abstract beliefs which lack unambiguous supporting evidence and deviate from existing scientific understanding or reference to natural laws (Berenbaum, Kerns, & Raghavan, 2000). Supernatural beliefs include odd/peculiar beliefs (henceforth referred to as ‘peculiar’), which are often considered a sign/symptom of psychopathology (most notably schizotypal personality disorder; American Psychiatric Association, 2000). Supernatural beliefs also include many religious/spiritual beliefs (e.g., re-incarnation and angels) and some fate beliefs (e.g., everything happens for a reason).

Like fate and religious/spiritual beliefs (Newport, 2011), many people hold peculiar beliefs (Moore, 2005), suggesting that peculiar beliefs are neither categorically maladaptive nor representative of psychopathology. Peculiar beliefs may in fact be adaptive in terms of the psychological needs and functions they fulfill (Berenbaum et al., 2000, Jackson, 1997). For example, they may help people to maintain or increase pleasant emotions and avoid and decrease unpleasant emotions despite challenges (Boden & Gross, 2013). They might also help to explain why things occur and in doing so they help people understand themselves and the world (Heine et al., 2006, Wyer and Albarracin, 2005). Religious/spiritual beliefs have been consistently shown to be adaptive in this manner (e.g., Kay, Moscovitch, & Laurin, 2010), as have fate beliefs, albeit less consistently (e.g., Keeley et al., 2009, Parker et al., 1980). It is because they potentially fulfill important psychological needs and functions that religious/spiritual/fate beliefs may be influential and associated with psychological benefits. Indeed, a range of psychological benefits are associated with both religious/spiritual beliefs (e.g., increased psychological well-being; Laurencelle, Abell, & Schwartz, 2002) and fate beliefs (e.g., limited declines in life satisfaction following the death of a spouse; Specht, Egloff, & Shmuckle, 2011).

A belief in the supernatural is normal for humans.

Robert, 8-31-2007, "Supernatural science: Why we want to believe," NBC News, https://www.nbcnews.com/id/wbna26268698

Monsters are everywhere these days, and belief in them is as strong as ever. What's harder to believe is why so many people buy into hazy evidence, shady schemes and downright false reports that perpetuate myths that often have just one ultimate truth: They put money in the pockets of their purveyors.

The bottom line, according to several interviews with people who study these things: People want to believe, and most simply can't help it.

"Many people quite simply just want to believe," said Brian Cronk, a professor of psychology at Missouri Western State University. "The human brain is always trying to determine why things happen, and when the reason is not clear, we tend to make up some pretty bizarre explanations."

A related question: Does belief in the paranormal have anything to do with religious belief?

The answer to that question is decidedly nuanced, but studies point to an interesting conclusion: People who practice religion are typically encouraged not to believe in the paranormal, but rather to put their faith in one deity, whereas those who aren't particularly active in religion are freer to believe in Bigfoot or consult a psychic.

"Christians and New Agers, paranormalists, etc. all have one thing in common: a spiritual orientation to the world," said sociology Professor Carson Mencken of Baylor University.

What is “paranormal” has changed as the world has. People use this to explain new things around them.

Robert, 8-31-2007, "Supernatural science: Why we want to believe," NBC News, https://www.nbcnews.com/id/wbna26268698

In a 2006 study, researchers found a surprising number of college students believe in psychics, witches, telepathy, channeling and a host of other questionable ideas. A full 40 percent said they believe houses can be haunted.

Why are people so eager to accept flimsy and fabricated evidence in support of unlikely and even outlandish creatures and ideas? Why is the paranormal realm, from psychic predictions to UFO sightings, so alluring too so many?

Since people have been people, experts figure, they have believed in the supernatural, from gods to ghosts and now every sort of monster in between.

"While it is difficult to know for certain, the tendency to believe in the paranormal appears to be there from the beginning," explained Christopher Bader, a Baylor sociologist and colleague of Mencken. "What changes is the content of the paranormal. For example, very few people believe in faeries and elves these days. But as belief in faeries faded, other beliefs, such as belief in UFOs, emerged to take their place."

Figuring out why people are this way is a little trickier.

"It is an artifact of our brain's desire to find cause and effect," Cronk, the psychology professor, said in an email interview. "That ability to predict the future is what makes humans 'smart' but it also has side effects like superstitions [and] belief in the paranormal."

"Humans first started believing in the supernatural because they were trying to understand things they couldn't explain," says Benjamin Radford, a book author, paranormal investigator and managing editor of Skeptical Inquirer magazine. "It's basically the same process as mythology: At one point people didn't understand why the sun rose and set each day, so they suggested that a chariot pulled the sun across the heavens."

The supernatural doesn't replace science, it supplements it and helps put people at ease when they are confused or in fear.

Danica Dillion, Joshua Conrad Jackson, 5-15-2023, "God of the Gaps: How the Supernatural Explains What We Can't," Behavioral Scientist, https://behavioralscientist.org/god-of-the-gaps-how-the-supernatural-explains-what-we-cant/

Humans have long used religion to understand the world. The ancient Greeks believed that Poseidon governed the waves at sea, and Athena guided soldiers in battle. In Chinese mythology, the goddess Chang'e orchestrates the cycles of the moon, and the Dragon King controls rainfall. Throughout history, cultures have developed supernatural explanations to explain the mysteries of life.

Supernatural explanations turn religion into a powerful meaning-making tool. In what is known as the "god of the gaps" theory, prominent thinkers like Nietzsche and Drummond proposed that religion evolves to fill gaps in human understanding. This idea remains popular today.

However, we still have little evidence of which kinds of phenomena people use religion to explain. If people use religious beliefs to fill gaps in knowledge, which gaps do religion most often fill? Answering this question could shed light on the origins of religion by revealing which kinds of phenomena may have initially sparked the supernatural beliefs at the heart of religious systems.

Supernatural explanations turn religion into a powerful meaning-making tool … However, we still have little evidence of which kinds of phenomena people use religion to explain.

In a recent paper published in Nature Human Behaviour, we documented the prevalence of supernatural explanations for different phenomena across 114 nonindustrial societies. We assessed this using ethnographic documentation from the eighteenth through twentieth centuries. Our global sample included hunter-gatherer societies like the !Kung, horticultural societies like the Alorese of Indonesia, and large societies with cities such as the Javanese, Malay, and Turkish societies. Some of these societies still exist today, but many no longer do or have undergone significant changes because of colonialism and globalization.

One goal of our project was to compare how frequently humans made supernatural explanations of natural phenomena (events without a clear human cause) and social phenomena (those with a human causal agent).

Supernatural explanations of natural phenomena were plentiful. For example, the Kapauku people of modern-day Indonesia believed stars to be the lit ends of cigarettes smoked by spirits in the sky, and attributed earthquakes to a mythical beast's thumping tail.

We also found supernatural attributions for social phenomena. The Thonga people believed in the power of the "nyokwekulu," a medicine that ferments through a hole in its container when war is imminent to alert the community to prepare for impending conflict.

Among these explanations we found a striking pattern: supernatural explanations were more common for natural events than for social events. All but one of the societies that we surveyed had a supernatural explanation of at least one natural phenomenon, and most had more than one. Most of the societies in our sample had supernatural explanations for disease (96 percent), food scarcity (92 percent), and natural hazards (90 percent). In contrast, supernatural explanations were present for warfare in 67 percent of societies, murder in 82 percent, and theft in 26 percent.

We found a striking pattern: supernatural explanations were more common for natural events than for social events.

Why are supernatural explanations so pervasive for natural phenomena? We believe the most likely reason is the absence of clear, identifiable agents behind natural events. Humans tend to personify the world around them. Research suggests that people interpret events in terms of a responsible agent acting with intention to affect another person or being. For instance, people are more likely to attribute a family's tragic death to divine intervention when a dam breaks spontaneously, rather than when a dam worker deliberately releases the water. When tragedy strikes and there is no clearly responsible person to blame, people turn to the heavens.

There are several theories that could help explain why people have evolved this tendency to personify the world. For one thing, we are highly social; much of our reasoning is dedicated to understanding one another's intentions. When there is no clear source of intention, we feel compelled to generate one. We may also have evolved a tendency to see the world as "alive" as a threat detection device—mistaking a floating plastic bag for a jellyfish can embarrass you, but mistaking a jellyfish for a floating bag can kill you. There is even evidence in other animals for a bias to see nature as alive. Chimpanzees will posture and break sticks to scare away a thunderstorm, and Darwin famously wrote about his dog barking at the wind as it shook a nearby parasol.

The scientific method has many uses beyond science.

Schick and Vaughn 2002, Muhlenberg College & Lewis, How to Think about Weird Things: Critical Thinking for a New Age, Third ed., Boston: McGraw Hill

You don't have to be a scientist to use the scientific method. In fact, many of us use it every day, as biologist Thomas H. Huxley realized, "Science is simply common sense at its best – that is, rigidly accurate in observation, and merciless to fallacy in logic." When getting the right answer is important, we do everything we can to ensure that both our evidence and our explanations are as complete and accurate as possible. In so doing, we are using the scientific method.

Science and a belief in the supernatural supplement each other. They are not harmful.

Center For Humans and Nature, "How People Use Science and the Supernatural to Explain Traumatic Events," Center for Humans and Nature, https://humansandnature.org/how-people-use-science-and-the-supernatural-to-explain-traumatic-events/

The anthropologist Evans-Pritchard studied the Zande of North-Central Africa. According to his ethnographic account, “In Zandeland sometimes an old granary collapse. There is nothing remarkable in this. Every Zande knows that termites eat the supports in the course of time and that even the hardest woods decay after years of service. Now a granary is the summerhouse of a Zande homestead and people sit beneath it in the heat of the day. Consequently, it may happen that there are people sitting beneath the granary when it collapses, and they are injured. Now why should these people have been sitting under this granary at the moment when it collapsed? That it should collapse is easily intelligible, but why should it have collapsed at the moment when these people were sitting beneath it?”

One could say that the collapse of the granary was a coincidence of events, two chains of causation intersected at a certain time and in a certain place. Yet for the Azande, and for all of us, the question of multiple causality remained: Why these people at this moment at this place? The question is not simply one of how but of why. To answer the how question, the Azande explain that termite damages weakened the structural support. To answer the why question, they invoke witchcraft to explain the ill-timed location of the victims.

Access to natural as well as supernatural explanations is not confined to the Azande. It is a pervasive experience across different cultures. We often seek out multiple kinds of explanations for why things occur, and especially so for existentially arousing events with psychological and often moral consequences for human life such as serious illness, our origins, and our inescapable mortality.

I study how people use different kinds of causal explanations to make sense of their lives and worlds. Many assume that natural and supernatural explanations are intrinsically incompatible, that knowledge of natural causes displaces or supersedes the invocation of the supernatural. This view is psychologically inaccurate. Evidence reveals that people use both natural and supernatural explanations to interpret the same psychologically consequential events; people find multiple ways for both kinds of explanations to coexist.

Granaries along a cliff in Talitha AIDS epidemic in South Africa illustrates how people use multiple kinds of explanations to reason about traumatic events. When I studied how Sesotho-speaking, South African communities integrate different kinds of explanations for AIDS, I found that people use both biological and supernatural explanations. The most prominent supernatural explanation for AIDS in South Africa is

witchcraft, the practices of people with malicious intent who use harmful substances and invisible supernatural forces to cause harm. People invoke witchcraft when they suspect ill will or envy. They believe that witches casting spells wreak destruction on victims ranging from unemployment and interpersonal discord to illness and death. An AIDS diagnosis provokes shame, and fear. Much of the vocabulary used to describe HIV infection is similar to the language used to describe witchcraft attacks. For example, the virus attacks the defenses of the immune system. Attributing AIDS to witchcraft diverts the stigma of a sexually transmitted disease from the victim to the perpetrator of the witchcraft attack. It also gives the victim a sense of control. If the curse can be lifted, it offers the potential for a cure.

How do people reconcile seemingly inconsistent biomedical explanations with witchcraft explanations? Witchcraft bewitchment explanations do not stem from ignorance of biological causes. They exist alongside biological explanations and are not replaced by them. People are exquisitely sensitive to the social context of illness, recruiting one or both kinds of explanation. For example, biological explanations are the default explanation for interpreting AIDS when limited contextual information about the circumstances surrounded the infection is provided. However, when attention is drawn to social risk factors that violate normative or moral expectations believed to put people at risk for witchcraft attacks such as lack of generosity or the jealousy of others, supernatural explanations are used to explain HIV infection.

In response to a question about why someone had contracted AIDS, one woman in my study explained, ‘‘Witchcraft can cause a disease that looks like AIDS.’’ Another man explained that ‘‘to medical doctors it seems like AIDS, but it is not. The spell was supposed to look like AIDS.” These explanations provide evidence that one way people reconcile biological and supernatural explanations is to make different kinds of causal attributions about an event. When reasoning about AIDS, some participants in my study explained that different forms of the same illness could have either natural or supernatural origins. Thus, to the Sesotho-speaking community, although certain cases of AIDS may have a biological explanation, witchcraft can cause an equally deadly disease that mimics AIDS. The notion of “supernatural AIDS” may be a reaction to the information people receive from AIDS education programs indicating that witchcraft does not cause AIDS. This would enable people to maintain witchcraft as an explanatory system for illness and misfortune generally.

Another man explained that ‘‘Witchcraft, which is mixed with evil spirits, and having unprotected sex caused AIDS.’’ This suggests that another way people accommodate biological and supernatural explanations is to use both in a loosely integrated way. When reasoning about AIDS, one might invoke both biological risk factors and witchcraft, without specifying how the two forms of explanation fit together. Greater integration of biological and supernatural explanations is also possible.

For example, others explained that “witches are believed to be capable of distorting your sense of good judgment or putting an AIDS-infected person in your path” and “a witch can make a condom weak and break.” This suggests that people use biological and supernatural explanations at different levels of

causality. For example, a biological cause can be regarded as proximate and a supernatural cause as ultimate. Thus, in the case of explaining AIDS, HIV infection through unprotected sex is regarded as proximate whereas witchcraft is regarded as ultimate.

Scientific and supernatural explanations are not in a zero-sum competition in individual minds. They can provide distinct, complementary causal information to explain events with moral and psychological significance to human lives. Scientific explanations often provide answers to proximate "how" questions. Supernatural explanations provide answers to "why" questions, and it's part of human nature to search for why.

Reading and Video Guides

Videos

Title	URL
“A scientific approach to the paranormal | Carrie Poppy”	https://www.youtube.com/watch?v=n8yhaFd_GpM
“An Introduction to Paranormal Psychology - with Chris French”	https://www.youtube.com/watch?v=Jve3p0ws-nI
“Karl Popper, Science, & Pseudoscience: Crash Course Philosophy #8”	https://www.youtube.com/watch?v=-X8Xfl0JdTQ
“Karl Popper's Falsification”	https://www.youtube.com/watch?v=wf-sGqBsWv4
“Miracles: Is Belief in the Supernatural Rational? | Dr. Troy Van Voorhis”	https://www.youtube.com/watch?v=8xorDXEy2t8
“Science vs. Religion: How to Understand the World?”	https://www.youtube.com/watch?v=RInjObj68nc
“The Cognitive Basis of Superstition and Belief in the Supernatural”	https://www.youtube.com/watch?v=H1lTx5IJdUo
“Religion Vs Science: Can the Two Coexist? | Neil deGrasse Tyson”	https://www.youtube.com/watch?v=Xxz0W4OgG9k
“Russell Brand & Neil deGrasse Tyson Breakdown the Physical Realm VS The Spiritual Realm”	https://www.youtube.com/watch?v=a_o_Z7XOZZI
“What Is Science? For Kids | Next Generation Science Lesson (NGSS)”	https://www.youtube.com/watch?v=VaqdcJT7eMc

Reading

Title	URL
“Are Science and Religion Compatible?”	https://www.austincc.edu/tav/1309internetsam02.pdf
“Belief in Supernatural Agents in the Face of Death”	https://www2.psych.ubc.ca/~ara/Manuscripts/Norenzayan&Hansen%20PSPB.pdf
“Karl Popper: The Logic of Scientific Discovery”	http://philotextes.info/spip/IMG/pdf/popper-logic-scientific-discovery.pdf
“Reality, Science and the Supernatural”	https://arts.st-andrews.ac.uk/scientistsincongregationsscotland/wp-content/uploads/2016/05/Reality-Science-and-the-Supernatural.pdf
“Science and the Supernatural”	http://pu.edu.pk/images/journal/phill/pdf_files/03-%20Science%20and%20the%20Supernatural%20by%20Dr.%20Fazal%20Karim.pdf
“Scientific Discovery and the Rate of Invention”	https://www.nber.org/system/files/chapters/c2136/c2136.pdf
“Supernatural Explanations: Science or Not?”	https://files.eric.ed.gov/fulltext/EJ960794.pdf
“The Cognitive Psychology of Belief in the Supernatural”	https://www.qub.ac.uk/schools/InstituteofCognitionCulture/FileUploadPage/Filetoupload,90224,en.pdf
“The Problem of Reality in the Religion-Science Conversation”	https://core.ac.uk/download/pdf/43170041.pdf
“What is the Scientific Method?”	https://www.ccmr.cornell.edu/wp-content/uploads/sites/2/2015/11/ScientificMethod.pdf

Sample Aff Case

Good afternoon, everyone. Today, I am proud to stand in negation of the resolution: Resolved: Belief in the supernatural is incompatible with belief in science. Jerry A. Coyne in Faith Versus Fact: Why Science and Religion Are Incompatible, states “Science and religion, then, are competitors in the business of finding out what is true about our universe. In this goal religion has failed miserably, for its tools for discerning “truth” are useless. These areas are incompatible in precisely the same way, and in the same sense, that rationality is incompatible with irrationality. My claim is this: science and religion are incompatible because they have different methods for getting knowledge about reality, have different ways of assessing the reliability of that knowledge, and, in the end, arrive at conflicting conclusions about the universe.” While science and the supernatural have coexisted for centuries, we firmly believe that their fundamental principles and methodologies are ultimately incompatible.

Before I begin, I would like to state a few definitions to frame the debate.

1. The Stanford Encyclopedia of Philosophy defines “science” as the idea that we trust that something is true and real.

2. Austin Cline of Learn Religion defines the supernatural as beyond nature and transcendent of knowledge.

3. The Science Council defines science as discovery through a process of tests and validation.

Contention 1 Epistemological Conflict:

The heart of science is the pursuit of knowledge grounded in empirical evidence, experimentation, and logical reasoning. Science thrives on skepticism and the constant search for verifiable explanations. Supernatural beliefs, on the other hand, often rely on faith, personal experiences, and traditions that

lack empirical support. This creates an inherent epistemological conflict, where the reliance on unverifiable supernatural claims directly contradicts the principles of evidence-based inquiry that science upholds.

According to The INEOS Group,

> "They (science and faith) disagree profoundly on how we obtain knowledge of the world. Science is based observation and reasoning from observation. Religion assumes that human beings can access a deeper level of information that is not available by either observation or reason. The scientific method is proven by its success."

When supernatural beliefs are accepted alongside scientific understanding, they risk undermining the very essence of scientific inquiry. The acceptance of the supernatural without empirical evidence can lead to confirmation bias and a dismissal of contradicting scientific findings, limiting the potential for new discoveries. Incompatibility arises not from a refusal to entertain diverse perspectives, but from the fundamental disparity in the epistemological foundations of science and the supernatural.

Contention 2 Methodological Divergence:

Scientific methodology rests on the rigorous application of systematic observation, experimentation, and peer review. The scientific process demands that hypotheses and theories are subject to falsifiability and scrutiny. Supernatural beliefs often lack a similar framework for validation and refinement. Their reliance on personal anecdotes and subjective experiences stands in stark contrast to the systematic and objective approach of science.

The Guardian in 2010 states,

> "The scope of science is the world of nature: the reality that is observed, directly or indirectly, by our senses. Science advances explanations about the natural world, explanations that are accepted or rejected by observation and experiment.

> Outside the world of nature, however, science has no authority, no statements to make, no business whatsoever taking one position or another. Science has nothing decisive to say about values, whether economic, aesthetic or moral; nothing to say about the meaning of life or its purpose.
>
> Science has nothing to say, either, about religious beliefs, except when these beliefs transcend the proper scope of religion and make assertions about the natural world that contradict scientific knowledge. Such statements cannot be true.
>
> People of faith need not be troubled that science is materialistic. The materialism of science asserts its limits, not its universality. The methods and scope of science remain within the world of matter. It cannot make assertions beyond that world."

Furthermore, the compatibility of science and the supernatural in education and research can lead to confusion and misrepresentation. Teaching supernatural beliefs as equivalent to scientific theories muddles the distinction between evidence-based knowledge and unfounded speculation. This confusion impedes the development of critical thinking skills and hampers the next generation's ability to discern between credible information and baseless claims.

Contention 3 Undermining Empirical Progress:

Science has propelled humanity forward through technological advancements, medical breakthroughs, and a deeper understanding of the natural world. Belief in the supernatural, when intertwined with science, can compromise the integrity of research and decision-making. When supernatural explanations are accepted without empirical evidence, they discourage the pursuit of further investigation and innovation.

The New Atlantis states this about scientific process,

> "The first is what we might call the accumulationist model of scientific progress. According to this model, science progresses through the steady accumulation of data, facts, or information. The guiding metaphor here is the container: scientists go out and find bits of knowledge and add them to the container. Scientific progress is therefore a cumulative process, linear and gradual.
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> Importantly, this process of accumulation is potentially finite. Scientists could in principle find all the bits of knowledge and discover all there is to know about the world. They can fill up the container. At the very least, scientists could, to mix metaphors a bit, pick all the low-hanging fruit — the bits of knowledge that are most easily accessible — leaving only incremental improvements."

The potential for misunderstanding causality and attributing phenomena to supernatural causes can stifle scientific curiosity. In cases where natural explanations have been replaced by supernatural ones, such as in historical instances of disease outbreaks being attributed to divine wrath, scientific progress stagnated. By recognizing the incompatibility between the supernatural and science, we encourage a commitment to evidence-based inquiry and prevent the obstruction of empirical progress.

Belief in the supernatural is fundamentally incompatible with belief in science due to the epistemological conflict, methodological divergence, and the potential undermining of empirical progress. While individuals are entitled to their personal beliefs, the coexistence of the supernatural and science can blur the lines between evidence-based knowledge and unverified conjecture. Embracing a clear separation between these realms preserves the integrity of scientific inquiry and ensures that humanity's pursuit of knowledge remains grounded in empiricism, rationality, and progress. For these reasons, I affirm the resolution.

Sample Neg Case

Good afternoon, everyone. Today, I am proud to stand in negation of the resolution: Resolved: Belief in the supernatural is incompatible with belief in science. In 1988, In the Symbiotic Universe: Life and Mind in the Cosmos, George Greenstein states “As we survey all the evidence, the thought insistently arises that some supernatural agency—or, rather, Agency—must be involved. Is it possible that suddenly, without intending to, we have stumbled upon scientific proof of the existence of a Supreme Being? Was it God who stepped in and so providentially crafted the cosmos for our benefit?” For generations, when humans gazed up at the sky, civilizations gave credit to a divine creator. Soon, in a quest to unravel the wonders of this creation, humans began to study the unknown. Their discoveries into our natural processes only opened the door to more questions. This cycle of wonder and discovery is the core of our scientific thought. Thus, I seek to prove today that science and the supernatural are not incompatible.

Before I begin, I would like to state a few definitions to frame the debate.

1. The Stanford Encyclopedia of Philosophy defines “science” as the idea that we trust that something is true and real.

2. The Chicago Institute of Science and Technology defines the supernatural as beyond the current understanding we have today.

3. The Science Council defines science as discovery through a process of tests and validation.

Contention 1: Complementary Perspectives

Belief in the supernatural and belief in science offer distinct perspectives on different aspects of human experience. Science focuses on understanding the natural world through empirical evidence,

experimentation, and systematic analysis. In contrast, the supernatural often addresses questions of meaning, morality, and existence beyond the physical realm.

Ryan Normandin writes in 2012 that:

> "The more interesting and nuanced question is whether having any belief system which can be neither confirmed nor refuted by science is inherently in conflict with the scientific method and the body of knowledge we've amassed. The answer to this question, as you will see, is that having such a belief system is not a necessary and sufficient condition for being in conflict with science.
>
> Let me first point out that religion and science have many similarities. Unless God pops down from Heaven to kindly prove his existence for us, religious beliefs cannot be proven to be true; they are taken on faith. Some scientists may find this laughable, but science has the identical characteristic, which is also its greatest strength. By and large, scientific theories can never be proven to be correct. Evidence can be gathered in support of it, but we can never know with 100 percent certainty if gravity actually works the way we think."

These differing scopes suggest that these beliefs may operate in complementary rather than contradictory ways. Embracing the supernatural can provide individuals with a holistic understanding of the human experience that science alone might not encompass.

Contention 2: Interpretation and Context

The perceived conflict between belief in the supernatural and belief in science often arises from rigid interpretations and an oversimplified dichotomy. Many religious and spiritual traditions incorporate metaphor, symbolism, and allegory to convey deeper truths. These interpretations do not necessarily clash with scientific explanations; instead, they operate within different realms of meaning.

According to Understanding Science:

> "A monk looking through a telescope at the sky. With the loud protests of a small number of religious groups over teaching scientific concepts like evolution and the Big Bang in public schools, and the equally loud proclamations of a few scientists with personal, anti-religious philosophies, it can sometimes seem as though science and religion are at war. News outlets offer plenty of reports of school board meetings, congressional sessions, and Sunday sermons in which scientists and religious leaders launch attacks at one another. But just how representative are such conflicts? Not very. The attention given to such clashes glosses over the far more numerous cases in which science and religion harmoniously, and even synergistically, coexist.
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> In fact, people of many different faiths and levels of scientific expertise see no contradiction at all between science and religion. Many simply acknowledge that the two institutions deal with different realms of human experience. Science investigates the natural world, while religion deals with the spiritual and supernatural — hence, the two can be complementary. Many religious organizations have issued statements declaring that there need not be any conflict between religious faith and the scientific perspective on evolution."

When viewed through the lens of metaphorical interpretation, the supernatural can coexist alongside scientific understanding, offering individuals a broader and nuanced worldview.

Contention 3 The focus of cooperation:

Throughout history, belief in the supernatural has not been inherently incompatible with belief in science. Numerous eminent scientists have held both scientific and supernatural beliefs simultaneously. Sir Francis Bacon, often regarded as the father of the scientific method, was a devout Christian who saw his scientific pursuits as a way to uncover God's creation.

Furthermore, the website, Understanding Science states,

> "Moral judgments, aesthetic judgments, decisions about applications of science, and conclusions about the supernatural are outside the realm of science, but that doesn't mean that these realms are unimportant. In fact, domains such as ethics, aesthetics, and religion fundamentally influence human societies and how those societies interact with science. Neither are such domains unscholarly. In fact, topics like aesthetics, morality, and theology are actively studied by philosophers, historians, and other scholars. However, questions that arise within these domains generally cannot be resolved by science, although they can be informed by science."

This historical precedent suggests that the supposed conflict between the two belief systems is not insurmountable and has been reconciled by many individuals in the past.

In conclusion, I have established that belief in the supernatural is not inherently incompatible with belief in science. These two belief systems address different aspects of human existence and understanding. By fostering open dialogue and recognizing the interpretative nature of both realms, we can appreciate their potential for coexistence. Let us remember that an individual's beliefs are shaped by complex factors, and embracing both the supernatural and scientific perspectives can enrich our understanding of the world around us.