Faith and Reason

FAITH AND REASON

PROOFS 21-25

GALILEO GALILEI

Marin Mersenne

1588-1648
Catholic Priest
Theologian, Philosopher, Mathematician, Music Theorist
Father of acoustics
Considered the center of the world of science and mathematics during the first half of the 1600s.

Angelo Secchi

1818-1878
Jesuit Priest, Astronomer, & Director of the Observatory at the Pontifical Gregorian University. He was one founder of astrophysics, & pioneered spectroscopic study of stars.

Blaise Paschal

1623-1662
Christian, Mathematician, Physicist, Theologian, Writer, Philosopher, and Inventor. Contributed to the study of fluids, clarified concepts of pressure and vacuum, and wrote the Pensées.

Robert Boyle

1627-1691
Anglican, Philosopher, Chemist, Physicist. Considered founder of modern chemistry, and pioneered modern experimental scientific method. Best known for "Boyle's Law".
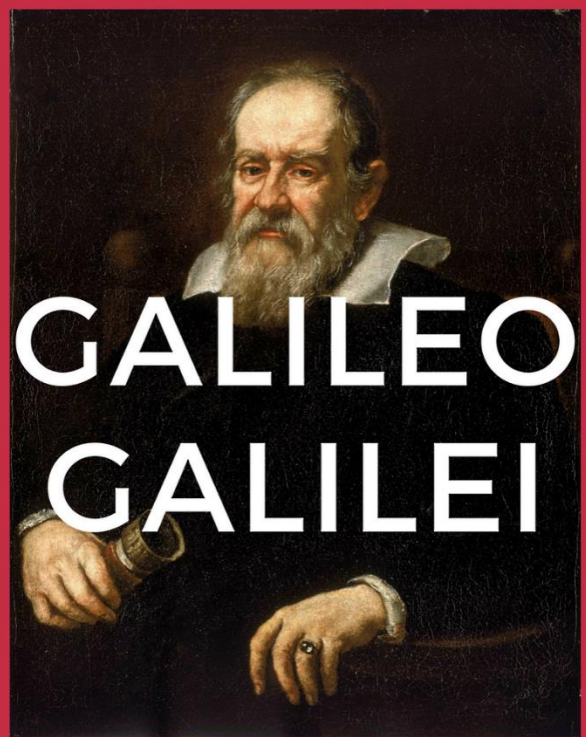
1564-1642
Catholic
Close friend of Pope Urban VIII
Polymath: Astronomer, Physicist, Engineer, Philosopher, Mathematician. Played major role in the scientific revolution of the 17th century. Called "father of observational astronomy", "father of modern physics", "father of scientific method", and "father of science".

Developed Model of Heliocentric Universe and promised Pope Urban VIII he would not publish it since it was not yet proven fact. Broke promise, published his works, and was "imprisoned" in a roomy Italian home. He remained a faithful Catholic the remainder of his life.

THINK CRITICALLY REASON TOGETHER

J Horsfield 2019

Hearts Minds Media

Open Faith Thinking

Reason is the capacity of [consciously] making sense of things, establishing and verifying [facts], applying [logic], and changing or justifying practices, [institutions], and [beliefs] based on new or existing [information].[1] It is closely associated with such characteristically [human] activities as [philosophy], [science], [language], [mathematics] and [art], and is normally considered to be a distinguishing ability possessed by [humans].[2] Reason, or an aspect of it, is sometimes referred to as [rationality].

Reasoning is associated with [thinking], [cognition], and [intellect]. The philosophical field of [logic] studies ways in which humans reason [formally] through [argument].[3] Reasoning may be subdivided into forms of [logical reasoning] (forms associated with the strict sense): [deductive reasoning], [inductive reasoning], [abductive reasoning]; and other modes of reasoning considered more informal, such as [intuitive reasoning] and [verbal reasoning]. Along these lines, a distinction is often drawn between logical, discursive reasoning (reason proper), and [intuitive reasoning],[4] in which the reasoning process through intuition—however valid—may tend toward the personal and the subjectively opaque. In some social and political settings logical and intuitive modes of reasoning may clash, while in other contexts intuition and formal reason are seen as complementary rather than adversarial. For example, in [mathematics], intuition is often necessary for the creative processes involved with arriving at a [formal proof], arguably the most difficult of formal reasoning tasks.

Reasoning, like habit or [intuition], is one of the ways by which thinking moves from one idea to a related idea. For example, reasoning is the means by which rational individuals understand sensory information from their environments, or conceptualize abstract dichotomies such as [cause] and [effect], [truth] and [falsehood], or ideas regarding notions of [good or evil]. Reasoning, as a part of executive decision making, is also closely identified with the ability to self-consciously change, in terms of [goals], [beliefs], [attitudes], [traditions], and [institutions], and therefore with the capacity for [freedom] and [self-determination]. [5]

In contrast to the use of "reason" as an [abstract noun], [a reason] is a consideration given which either explains or justifies events, phenomena, or [behavior].[6] Reasons justify decisions, reasons support explanations of natural phenomena; reasons can be given to explain the actions (conduct) of individuals.

Using reason, or reasoning, can also be described more plainly as providing good, or the best, reasons. For example, when evaluating a moral decision, "morality is, at the very least, the effort to guide one's conduct by *reason*—that is, doing what there are the best reasons for doing— while giving equal [and impartial] weight to the interests of all those affected by what one does."[7]

[Psychologists] and [cognitive scientists] have attempted to study and explain [how people reason], e.g. which cognitive and neural processes are engaged, and how cultural factors affect the inferences that people draw. The field of [automated reasoning] studies how reasoning may or may not be modeled computationally. [Animal psychology] considers the question of whether animals other than humans can reason.

Etymology and related words[]

In the [English language] and other modern [European languages], "reason", and related words, represent words which have always been used to translate Latin and classical Greek terms in the sense of their philosophical usage.

- The original [Greek] term was "λόγος" *logos*, the root of the modern English word "[logic]" but also a word which could mean for example "speech" or "explanation" or an "account" (of money handled).[8]
- As a philosophical term *logos* was translated in its non-linguistic senses in [Latin] as *ratio*. This was originally not just a translation used for philosophy, but was also commonly a translation for *logos* in the sense of an account of money.[9]
- [French] *raison* is derived directly from Latin, and this is the direct source of the English word "reason".[6]

The earliest major philosophers to publish in English, such as [Francis Bacon](), [Thomas Hobbes](), and [John Locke]() also routinely wrote in Latin and French, and compared their terms to Greek, treating the words "*logos*", "*ratio*", "*raison*" and "reason" as interchangeable. The meaning of the word "reason" in senses such as "human reason" also overlaps to a large extent with "[rationality]()" and the adjective of "reason" in philosophical contexts is normally "[rational]()", rather than "reasoned" or "reasonable".[10] Some philosophers, [Thomas Hobbes]() for example, also used the word *ratiocination* as a synonym for "reasoning".

Philosophical history[]

[Francisco de Goya](), *[The Sleep of Reason Produces Monsters]()* (*El sueño de la razón produce monstruos*), c. 1797

The proposal that reason gives humanity a special position in nature has been argued to be a defining characteristic of western [philosophy]() and later western [modern science](), starting with classical Greece. Philosophy can be described as a way of life based upon reason, and in the other direction reason has been one of the major subjects of philosophical discussion since ancient times. Reason is often said to be [reflexive](), or "self-correcting", and the critique of reason has been a persistent theme in philosophy.[11] It has been defined in different ways, at different times, by different thinkers about human nature.

Classical philosophy[]

For many classical [philosophers](), nature was understood [teleologically](), meaning that every type of thing had a definitive purpose which fit within a natural order that was itself understood to have aims. Perhaps starting with [Pythagoras]() or [Heraclitus](), the cosmos is even said to have reason.[12] Reason, by this account, is not just one characteristic that humans happen to have, and that influences happiness amongst other characteristics. Reason was considered of higher stature than other characteristics of human nature, such as sociability, because it is something humans share with nature itself, linking an apparently immortal part of the human mind with the divine order of the cosmos itself. Within the human [mind]() or [soul]()(*[psyche]()*), reason was described by [Plato]() as being the natural monarch which should rule over the other parts, such as spiritedness (*[thumos]()*) and the passions. [Aristotle](), Plato's student, defined human beings as [rational animals](), emphasizing reason as a characteristic of [human nature](). He *defined* the highest human happiness or well being (*[eudaimonia]()*) as a life which is lived consistently, excellently and completely in accordance with reason.[13]

The conclusions to be drawn from the discussions of Aristotle and Plato on this matter are amongst the most debated in the history of philosophy.[14] But teleological accounts such as Aristotle's were highly influential for those who attempt to explain reason in a way which is consistent with monotheism and the immortality and divinity of the human soul. For example, in the neo-platonist account of Plotinus, the cosmos has one soul, which is the seat of all reason, and the souls of all individual humans are part of this soul. Reason is for Plotinus both the provider of form to material things, and the light which brings individuals souls back into line with their source.[15] Such neo-Platonist accounts of the rational part of the human soul were standard amongst medieval Islamic philosophers, and under this influence, mainly via Averroes, came to be debated seriously in Europe until well into the renaissance, and they remain important in Iranian philosophy.[14]

Subject-centred reason in early modern philosophy[]

The early modern era was marked by a number of significant changes in the understanding of reason, starting in Europe. One of the most important of these changes involved a change in the metaphysical understanding of human beings. Scientists and philosophers began to question the teleological understanding of the world.[16] Nature was no longer assumed to be human-like, with its own aims or reason, and human nature was no longer assumed to work according to anything other than the same "laws of nature" which affect inanimate things. This new understanding eventually displaced the previous world view that derived from a spiritual understanding of the universe.

René Descartes

Accordingly, in the 17th century, René Descartes explicitly rejected the traditional notion of humans as "rational animals", suggesting instead that they are nothing more than "thinking things" along the lines of other "things" in nature. Any grounds of knowledge outside that understanding was, therefore, subject to doubt.

In his search for a foundation of all possible knowledge, Descartes deliberately decided to throw into doubt *all* knowledge – *except* that of the mind itself in the process of thinking:

At this time I admit nothing that is not necessarily true. I am therefore precisely nothing but a thinking thing; that is a mind, or intellect, or understanding, or reason – words of whose meanings I was previously ignorant.[17]

This eventually became known as epistemological or "subject-centred" reason, because it is based on the *knowing subject*, who perceives the rest of the world and itself as a set of objects to be studied, and successfully mastered by applying the knowledge accumulated through such study. Breaking with tradition and many thinkers after him, Descartes explicitly did not divide the incorporeal soul into parts, such as reason and intellect, describing them as one indivisible incorporeal entity.

A contemporary of Descartes, [Thomas Hobbes](#) described reason as a broader version of "addition and subtraction" which is not limited to numbers.[18] This understanding of reason is sometimes termed "calculative" reason. Similar to Descartes, Hobbes asserted that "No discourse whatsoever, can end in absolute knowledge of fact, past, or to come" but that "sense and memory" is absolute knowledge.[19]

In the late 17th century, through the 18th century, [John Locke](#) and [David Hume](#) developed Descartes' line of thought still further. Hume took it in an especially [skeptical](#) direction, proposing that there could be no possibility of [deducing](#) relationships of cause and effect, and therefore no knowledge is based on reasoning alone, even if it seems otherwise.[20][21]

Hume famously remarked that, "We speak not strictly and philosophically when we talk of the combat of passion and of reason. Reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them."[22] Hume also took his definition of reason to unorthodox extremes by arguing, unlike his predecessors, that human reason is not qualitatively different from either simply conceiving individual ideas, or from judgments associating two ideas,[23] and that "reason is nothing but a wonderful and unintelligible instinct in our souls, which carries us along a certain train of ideas, and endows them with particular qualities, according to their particular situations and relations."[24] It followed from this that animals have reason, only much less complex than human reason.

In the 18th century, [Immanuel Kant](#) attempted to show that Hume was wrong by demonstrating that a "[transcendental](#)" self, or "I", was a necessary condition of all experience. Therefore, suggested Kant, on the basis of such a self, it is in fact possible to reason both about the conditions and limits of human knowledge. And so long as these limits are respected, reason can be the vehicle of morality, justice, aesthetics, theories of knowledge ([epistemology](#)), and understanding.

Substantive and formal reason[]

In the formulation of Kant, who wrote some of the most influential modern treatises on the subject, the great achievement of reason ([German](#): *Vernunft*) is that it is able to exercise a kind of universal law-making. Kant was able therefore to reformulate the basis of moral-practical, theoretical and aesthetic reasoning, on "universal" laws.

Here [practical reasoning](#) is the self-legislating or self-governing formulation of universal [norms](#), and [theoretical](#) reasoning the way humans posit universal [laws of nature](#).[25]

Under practical reason, the moral [autonomy](#) or freedom of human beings depends on their ability to behave according to laws that are given to them by the proper exercise of that reason. This contrasted with earlier forms of morality, which depended on [religious understanding](#) and interpretation, or [nature](#) for their substance.[26]

According to Kant, in a free society each individual must be able to pursue their goals however they see fit, so long as their actions conform to principles given by reason. He formulated such a principle, called the "[categorical imperative](#)", which would justify an action only if it could be universalized:

Act only according to that maxim whereby you can, at the same time, will that it should become a universal law.[27]

In contrast to Hume then, Kant insists that reason itself (German *Vernunft*) has natural ends itself, the solution to the metaphysical problems, especially the discovery of the foundations of morality. Kant claimed that this problem could be solved with his "[transcendental logic](#)" which unlike normal logic is not just an instrument, which can be used indifferently, as it was for Aristotle, but a theoretical science in its own right and the basis of all the others.[28]

According to [Jürgen Habermas](#), the "substantive unity" of reason has dissolved in modern times, such that it can no longer answer the question "How should I live?" Instead, the unity of reason has to be strictly formal, or "procedural". He thus described reason as a group of three autonomous spheres (on the model of Kant's three critiques):

1. **Cognitive–instrumental reason** is the kind of reason employed by the sciences. It is used to observe events, to predict and control outcomes, and to intervene in the world on the basis of its hypotheses;
2. **Moral–practical reason** is what we use to deliberate and discuss issues in the moral and political realm, according to universalizable procedures (similar to Kant's categorical imperative); and
3. **Aesthetic reason** is typically found in works of art and literature, and encompasses the novel ways of seeing the world and interpreting things that those practices embody.

For Habermas, these three spheres are the domain of experts, and therefore need to be mediated with the "lifeworld" by philosophers. In drawing such a picture of reason, Habermas hoped to demonstrate that the substantive unity of reason, which in pre-modern societies had been able to answer questions about the good life, could be made up for by the unity of reason's formalizable procedures.[29]

The critique of reason[]

Hamann, Herder, Kant, Hegel, Kierkegaard, Nietzsche, Heidegger, Foucault, Rorty, and many other philosophers have contributed to a debate about what reason means, or ought to mean. Some, like Kierkegaard, Nietzsche, and Rorty, are skeptical about subject-centred, universal, or instrumental reason, and even skeptical toward reason as a whole. Others, including Hegel, believe that it has obscured the importance of intersubjectivity, or "spirit" in human life, and attempt to reconstruct a model of what reason should be.

Some thinkers, e.g. Foucault, believe there are other *forms* of reason, neglected but essential to modern life, and to our understanding of what it means to live a life according to reason.[11]

In the last several decades, a number of proposals have been made to "re-orient" this critique of reason, or to recognize the "other voices" or "new departments" of reason:

For example, in opposition to subject-centred reason, Habermas has proposed a model of communicative reason that sees it as an essentially cooperative activity, based on the fact of linguistic intersubjectivity.[30]

Nikolas Kompridis has proposed a widely encompassing view of reason as "that ensemble of practices that contributes to the opening and preserving of openness" in human affairs, and a focus on reason's possibilities for social change.[31]

The philosopher Charles Taylor, influenced by the 20th century German philosopher Martin Heidegger, has proposed that reason ought to include the faculty of disclosure, which is tied to the way we make sense of things in everyday life, as a new "department" of reason.[32]

In the essay "What is Enlightenment?", Michel Foucault proposed a concept of critique based on Kant's distinction between "private" and "public" uses of reason. This distinction, as suggested, has two dimensions:

- **Private reason** is the reason that is used when an individual is "a cog in a machine" or when one "has a role to play in society and jobs to do: to be a soldier, to have taxes to pay, to be in charge of a parish, to be a civil servant".
- **Public reason** is the reason used "when one is reasoning as a reasonable being (and not as a cog in a machine), when one is reasoning as a member of reasonable humanity". In these circumstances, "the use of reason must be free and public."[33]

Reason compared to related concepts[]

Compared to logic[]

The terms "logic" or "logical" are sometimes used as if they were identical with the term "reason" or with the concept of being "rational", or sometimes logic is seen as the most pure or the defining form of reason. For example in modern economics, rational choice is assumed to equate to logically consistent choice.

Reason and logic can however be thought of as distinct, although logic is one important aspect of reason. Author Douglas Hofstadter, in *Gödel, Escher, Bach*, characterizes the distinction in this way. Logic is done inside a system while reason is done outside the system by such methods as skipping steps, working backward, drawing diagrams, looking at examples, or seeing what happens if you change the rules of the system.[34]

Reason is a type of thought, and the word "logic" involves the attempt to describe rules or norms by which reasoning operates, so that orderly reasoning can be taught. The oldest surviving writing to explicitly consider the rules by which reason operates are the works of the Greek philosopher Aristotle, especially *Prior Analysis* and *Posterior Analysis*.[35] Although the Ancient Greeks had no separate word for logic as distinct from language and reason, Aristotle's newly coined word "syllogism" (*syllogismos*) identified logic clearly for the first time as a distinct field of study. When Aristotle referred to "the logical" (*hē logikē*), he was referring more broadly to rational thought.[36]

Reason compared to cause-and-effect thinking, and symbolic thinking[]

As pointed out by philosophers such as Hobbes, Locke and Hume, some animals are also clearly capable of a type of "associative thinking", even to the extent of associating causes and effects. A dog once kicked, can learn how to recognize the warning signs and avoid being kicked in the future, but this does not mean the dog has reason in any strict sense of the word. It also does not mean that humans acting on the basis of experience or habit are using their reason.[37]

Human reason requires more than being able to associate two ideas, even if those two ideas might be described by a reasoning human as a cause and an effect, perceptions of smoke, for example, and memories of fire. For reason to be involved, the association of smoke and the fire would have to be thought through in a way which can be explained, for example as cause and effect. In the explanation of Locke, for example, reason requires the mental use of a third idea in order to make this comparison by use of syllogism.[38]

More generally, reason in the strict sense requires the ability to create and manipulate a system of symbols, as well as indices and icons, according to Charles Sanders Peirce, the symbols having only a nominal, though habitual, connection to either smoke or fire.[39] One example of such a system of artificial symbols and signs is language.

The connection of reason to symbolic thinking has been expressed in different ways by philosophers. Thomas Hobbes described the creation of "Markes, or Notes of remembrance" (*Leviathan* Ch. 4) as *speech*. He used the word *speech* as an English version of the Greek word *logos* so that speech did not need to be communicated.[40] When communicated, such speech becomes language, and the marks or notes or remembrance are called "Signes" by Hobbes. Going further back, although Aristotle is a source of the idea that only humans have reason (*logos*), he does mention that animals with imagination, for whom sense perceptions can persist, come closest to having something like reasoning and *nous*, and even uses the word "logos" in one place to describe the distinctions which animals can perceive in such cases.[41]

Reason, imagination, mimesis, and memory[]

Reason and imagination rely on similar mental processes.[42] Imagination is not only found in humans. Aristotle, for example, stated that *phantasia* (imagination: that which can hold images or *phantasmata*) and *phronein* (a type of thinking that can judge and understand in some sense) also exist in some animals.[43] According to him, both are related to the primary perceptive ability

of animals, which gathers the perceptions of different senses and defines the order of the things that are perceived without distinguishing universals, and without deliberation or *logos*. But this is not yet reason, because human imagination is different.

The recent modern writings of Terrence Deacon and Merlin Donald, writing about the origin of language, also connect reason connected to not only language, but also mimesis,[44] More specifically they describe the ability to create language as part of an internal modeling of reality specific to humankind. Other results are consciousness, and imagination or fantasy. In contrast, modern proponents of a genetic predisposition to language itself include Noam Chomsky and Steven Pinker, to whom Donald and Deacon can be contrasted.

As reason is symbolic thinking, and peculiarly human, then this implies that humans have a special ability to maintain a clear consciousness of the distinctness of "icons" or images and the real things they represent. Starting with a modern author, Merlin Donald writes[45]

A dog might perceive the "meaning" of a fight that was realistically play-acted by humans, but it could not reconstruct the message or distinguish the representation from its referent (a real fight). [...] Trained apes are able to make this distinction; young children make this distinction early – hence, their effortless distinction between play-acting an event and the event itself

In classical descriptions, an equivalent description of this mental faculty is *eikasia*, in the philosophy of Plato.[46] This is the ability to perceive whether a perception is an image of something else, related somehow but not the same, and therefore allows humans to perceive that a dream or memory or a reflection in a mirror is not reality as such. What Klein refers to as *dianoetic eikasia* is the *eikasia* concerned specifically with thinking and mental images, such as those mental symbols, icons, *signes*, and marks discussed above as definitive of reason. Explaining reason from this direction: human thinking is special in the way that we often understand visible things as if they were themselves images of our intelligible "objects of thought" as "foundations" (*hypothēses* in Ancient Greek). This thinking (*dianoia*) is "...an activity which consists in making the vast and diffuse jungle of the visible world depend on a plurality of more 'precise' *noēta*".[47]

Both Merlin Donald and the Socratic authors such as Plato and Aristotle emphasize the importance of *mimesis*, often translated as *imitation* or *representation*. Donald writes[48]

Imitation is found especially in monkeys and apes [... but ...] Mimesis is fundamentally different from imitation and mimicry in that it involves the invention of intentional representations. [...] Mimesis is not absolutely tied to external communication.

Mimēsis is a concept, now popular again in academic discussion, that was particularly prevalent in Plato's works, and within Aristotle, it is discussed mainly in the *Poetics*. In Michael Davis's account of the theory of man in this work.[49]

It is the distinctive feature of human action, that whenever we choose what we do, we imagine an action for ourselves as though we were inspecting it from the outside. Intentions are nothing more than imagined actions, internalizings of the external. All action is therefore imitation of action; it is poetic...[50]

Donald like Plato (and Aristotle, especially in *On Memory and Recollection*), emphasizes the peculiarity in humans of voluntary initiation of a search through one's mental world. The ancient Greek *anamnēsis*, normally translated as "recollection" was opposed to *mneme* or *memory*. Memory, shared with some animals,[51]requires a consciousness not only of what happened in the past, but also *that* something happened in the past, which is in other words a kind of *eikasia*[52] "...but nothing except man is able to recollect."[53] Recollection is a deliberate effort to search for and recapture something once known. Klein writes that, "To become aware of our having forgotten something means to begin recollecting."[54] Donald calls the same thing *autocueing*, which he explains as follows:[55] "Mimetic acts are reproducible on the basis of internal, self-generated cues. This permits voluntary recall of mimetic representations, without the aid of external cues – probably the earliest form of representational *thinking*."

In a celebrated paper in modern times, the fantasy author and philologist J.R.R. Tolkien wrote in his essay "On Fairy Stories" that the terms "fantasy" and "enchantment" are connected to not

only "....the satisfaction of certain primordial human desires...." but also "...the origin of language and of the mind".

Logical reasoning methods and argumentation[]

Looking at logical categorizations of different types of reasoning the traditional main division made in philosophy is between deductive reasoning and inductive reasoning. Formal logic has been described as *the science of deduction*.[56] The study of inductive reasoning is generally carried out within the field known as informal logic or critical thinking.

Deductive reasoning[]

A subdivision of Philosophy is Logic. Logic is the study of reasoning. Deduction is a form of reasoning in which a conclusion follows necessarily from the stated premises. A deduction is also the conclusion reached by a deductive reasoning process. One classic example of deductive reasoning is that found in syllogisms like the following:

- Premise 1: All humans are mortal.
- Premise 2: Socrates is a human.
- Conclusion: Socrates is mortal.

The reasoning in this argument is valid, because there is no way in which the premises, 1 and 2, could be true and the conclusion, 3, be false.

Inductive reasoning[]

Induction is a form of inference producing propositions about unobserved objects or types, either specifically or generally, based on previous observation. It is used to ascribe properties or relations to objects or types based on previous observations or experiences, or to formulate general statements or laws based on limited observations of recurring phenomenal patterns.

Inductive reasoning contrasts strongly with deductive reasoning in that, even in the best, or strongest, cases of inductive reasoning, the truth of the premises does not guarantee the truth of the conclusion. Instead, the conclusion of an inductive argument follows with some degree of probability. Relatedly, the conclusion of an inductive argument contains more information than is already contained in the premises. Thus, this method of reasoning is ampliative.

A classic example of inductive reasoning comes from the empiricist David Hume:

- Premise: The sun has risen in the east every morning up until now.
- Conclusion: The sun will also rise in the east tomorrow.

Analogical reasoning[]

Analogical reasoning is a form of inductive reasoning from a particular to a particular. It is often used in case-based reasoning, especially legal reasoning.[57] An example follows:

- Premise 1: Socrates is human and mortal.
- Premise 2: Plato is human.
- Conclusion: Plato is mortal.

Analogical reasoning is a weaker form of inductive reasoning from a single example, because inductive reasoning typically uses a large number of examples to reason from the particular to the general.[58] Analogical reasoning often leads to wrong conclusions. For example:

- Premise 1: Socrates is human and male.
- Premise 2: Ada Lovelace is human.
- Conclusion: Therefore Ada Lovelace is male.

Abductive reasoning[]

Abductive reasoning, or argument to the best explanation, is a form of reasoning that doesn't fit in deductive or inductive, since it starts with incomplete set of observations and proceeds with likely possible explanations so the conclusion in an abductive argument does not follow with certainty from its premises and concerns something unobserved. What distinguishes abduction from the other forms of reasoning is an attempt to favour one conclusion above others, by subjective judgement or attempting to falsify alternative explanations or by demonstrating the likelihood of the favoured conclusion, given a set of more or less disputable assumptions. For example, when a patient displays certain symptoms, there might be various possible causes, but one of these is preferred above others as being more probable.

Fallacious reasoning[]
Main articles: Fallacy, Formal fallacy, and Informal fallacy

Flawed reasoning in arguments is known as fallacious reasoning. Bad reasoning within arguments can be because it commits either a formal fallacy or an informal fallacy.

Formal fallacies occur when there is a problem with the form, or structure, of the argument. The word "formal" refers to this link to the *form* of the argument. An argument that contains a formal fallacy will always be invalid.

An informal fallacy is an error in reasoning that occurs due to a problem with the *content*, rather than mere *structure*, of the argument.

Traditional problems raised concerning reason[]

Philosophy is sometimes described as a life of reason, with normal human reason pursued in a more consistent and dedicated way than usual. Two categories of problem concerning reason have long been discussed by philosophers concerning reason, essentially being reasonings about reasoning itself as a human aim, or philosophizing about philosophizing. The first question is concerning whether we can be confident that reason can achieve knowledge of truth better than other ways of trying to achieve such knowledge. The other question is whether a life of reason, a life that aims to be guided by reason, can be expected to achieve a happy lifemore so than other ways of life (whether such a life of reason results in knowledge or not).

Reason versus truth, and "first principles"[]

Since classical times a question has remained constant in philosophical debate (which is sometimes seen as a conflict between movements called Platonism and Aristotelianism) concerning the role of reason in confirming truth. People use logic, deduction, and induction, to reach conclusions they think are true. Conclusions reached in this way are considered, according to Aristotle, more certain than sense perceptions on their own.[59] On the other hand, if such reasoned conclusions are only built originally upon a foundation of sense perceptions, then, our most logical conclusions can never be said to be certain because they are built upon the very same fallible perceptions they seek to better.[60]

This leads to the question of what types of first principles, or starting points of reasoning, are available for someone seeking to come to true conclusions. In Greek, "first principles" are *archai*, "starting points",[61] and the faculty used to perceive them is sometimes referred to in Aristotle[62] and Plato[63] as *nous* which was close in meaning to *awareness* or *consciousness*.[64]

Empiricism (sometimes associated with Aristotle[65] but more correctly associated with British philosophers such as John Locke and David Hume, as well as their ancient equivalents such as Democritus) asserts that sensory impressions are the only available starting points for reasoning and attempting to attain truth. This approach always leads to the controversial conclusion that absolute knowledge is not attainable. Idealism, (associated with Plato and his school), claims that there is a "higher" reality, from which certain people can directly arrive at truth without needing to rely only upon the senses, and that this higher reality is therefore the primary source of truth.

Philosophers such as [Plato](), [Aristotle](), [Al-Farabi](), [Avicenna](), [Averroes](), [Maimonides](), [Aquinas]() and [Hegel]() are sometimes said to have argued that reason must be fixed and discoverable—perhaps by dialectic, analysis, or study. In the vision of these thinkers, reason is divine or at least has divine attributes. Such an approach allowed religious philosophers such as [Thomas Aquinas]() and [Étienne Gilson]() to try to show that reason and [revelation]() are compatible. According to Hegel, "...the only thought which Philosophy brings with it to the contemplation of [History](), is the simple conception of reason; that reason is the Sovereign of the World; that the history of the world, therefore, presents us with a rational process."[66]

Since the 17th century [rationalists](), reason has often been taken to be a [subjective faculty](), or rather the unaided ability ([pure reason]()) to form concepts. For [Descartes](), [Spinoza]() and [Leibniz](), this was associated with [mathematics](). [Kant]() attempted to show that pure reason could form concepts ([time]() and [space]()) that are the conditions of experience. Kant made his argument in opposition to Hume, who denied that reason had any role to play in experience.

Reason versus emotion or passion[]

After Plato and Aristotle, [western literature]() often treated reason as being the faculty that trained the passions and appetites.[*citation needed*] [Stoic philosophy]() by contrast considered all passions undesirable.[*citation needed*] After the critiques of reason in the early Enlightenment the appetites were rarely discussed or conflated with the passions.[*citation needed*] Some Enlightenment camps took after the Stoics to say Reason should oppose Passion rather than order it, while others like the Romantics believed that Passion displaces Reason, as in the maxim "follow your heart".[*citation needed*]

Reason has been seen as a slave, or judge, of the passions, notably in the work of [David Hume](), and more recently of [Freud]().[*citation needed*] Reasoning which claims that the object of a desire is demanded by logic alone is called *rationalization*.[*citation needed*]

[Rousseau]() first proposed, in his second *[Discourse]()*, that reason and political life is not natural and possibly harmful to mankind.[67] He asked what really can be said about what is natural to mankind. What, other than reason and civil society, "best suits his constitution"? Rousseau saw "two principles prior to reason" in human nature. First we hold an intense interest in our own well-being. Secondly we object to the suffering or death of any sentient being, especially one like ourselves.[68]These two passions lead us to desire more than we could achieve. We become dependent upon each other, and on relationships of authority and obedience. This effectively puts the human race into slavery. Rousseau says that he almost dares to assert that nature does not destine men to be healthy. According to Velkley, "Rousseau outlines certain programs of rational self-correction, most notably the political legislation of the *[Contrat Social]()* and the moral education in *[Émile]()*. All the same, Rousseau understands such corrections to be only ameliorations of an essentially unsatisfactory condition, that of socially and intellectually corrupted humanity."

This quandary presented by Rousseau led to [Kant]()'s new way of justifying reason as freedom to create good and evil. These therefore are not to be blamed on nature or God. In various ways, [German Idealism]() after Kant, and major later figures such [Nietzsche](), [Bergson](), [Husserl](), [Scheler](), and [Heidegger](), remain preoccupied with problems coming from the metaphysical demands or *urges* of *reason*.[69] The influence of Rousseau and these later writers is also large upon art and politics. Many writers (such as [Nikos Kazantzakis]()) extol passion and disparage reason. In politics modern [nationalism]() comes from Rousseau's argument that rationalist [cosmopolitanism]() brings man ever further from his natural state.[70]

Another view on reason and emotion was proposed in the 1994 book titled *[Descartes' Error]()* by [Antonio Damasio](). In it, Damasio presents the "[Somatic Marker Hypothesis]()" which states that emotions guide behavior and decision-making. Damasio argues that these somatic markers (known collectively as "gut feelings") are "intuitive signals" that direct our decision making processes in a certain way that cannot be solved with rationality alone. Damasio further argues that rationality requires emotional input in order to function.

Reason versus faith or tradition[]
Main articles: [Faith](), [Religion](), and [Tradition]()

There are many religious traditions, some of which are explicitly fideist and others of which claim varying degrees of rationalism. Secular critics sometimes accuse all religious adherents of irrationality, since they claim such adherents are guilty of ignoring, suppressing, or forbidding some kinds of reasoning concerning some subjects (such as religious dogmas, moral taboos, etc.).[71] Though the theologies and religions such as classical monotheism typically do not claim to be irrational, there is often a perceived conflict or tension between faith and tradition on the one hand, and reason on the other, as potentially competing sources of wisdom, law and truth.[72][73]

Religious adherents sometimes respond by arguing that faith and reason can be reconciled, or have different non-overlapping domains, or that critics engage in a similar kind of irrationalism:

- **Reconciliation:** Philosopher Alvin Plantinga argues that there is no real conflict between reason and classical theism because classical theism explains (among other things) why the universe is intelligible and why reason can successfully grasp it.[74][75]
- **Non-overlapping magisteria:** Evolutionary biologist Stephen Jay Gould argues that there need not be conflict between reason and religious belief because they are each authoritative in their own domain (or "magisterium").[76][77] For example, perhaps reason alone is not enough to explain such big questions as the origins of the universe, the origin of life, the origin of consciousness,[78] the foundation of morality, or the destiny of the human race. If so, reason can work on those problems over which it has authority while other sources of knowledge or opinion can have authority on the big questions.[79]
- **Tu quoque:** Philosophers Alasdair MacIntyre and Charles Taylor argue that those critics of traditional religion who are adherents of secular liberalism are also sometimes guilty of ignoring, suppressing, and forbidding some kinds of reasoning about subjects.[80][81] Similarly, philosophers of science such as Paul Feyaraband argue that scientists sometimes ignore or suppress evidence contrary to the dominant paradigm.
- **Unification:** Theologian Joseph Ratzinger, later Benedict XVI, asserted that "Christianity has understood itself as the religion of the Logos, as the religion according to reason," referring to John 1:Ἐν ἀρχῇ ἦν ὁ λόγος, usually translated as "In the beginning was the Word (Logos)." Thus, he said that the Christian faith is "open to all that is truly rational", and that the rationality of Western Enlightenment "is of Christian origin".[82]

Some commentators have claimed that Western civilization can be almost defined by its serious testing of the limits of tension between "unaided" reason and faith in "revealed" truths—figuratively summarized as Athens and Jerusalem, respectively.[83][84] Leo Strauss spoke of a "Greater West" that included all areas under the influence of the tension between Greek rationalism and Abrahamic revelation, including the Muslim lands. He was particularly influenced by the great Muslim philosopher Al-Farabi. To consider to what extent Eastern philosophy might have partaken of these important tensions, Strauss thought it best to consider whether dharma or tao may be equivalent to Nature (by which we mean *physis* in Greek). According to Strauss the beginning of philosophy involved the "discovery or invention of nature" and the "pre-philosophical equivalent of nature" was supplied by "such notions as 'custom' or 'ways'", which appear to be *really universal in all times and places*. The philosophical concept of nature or natures as a way of understanding *archai* (first principles of knowledge) brought about a peculiar tension between reasoning on the one hand, and tradition or faith on the other.[85]

Although there is this special history of debate concerning reason and faith in the Islamic, Christian and Jewish traditions, the pursuit of reason is sometimes argued to be compatible with the other practice of other religions of a different nature, such as Hinduism, because they do not define their tenets in such an absolute way.[86]

Reason in particular fields of study[]

Reason in political philosophy and ethics[]

[Aristotle](#) famously described reason (with language) as a part of [human nature](#), which means that it is best for humans to live "politically" meaning in communities of about the size and type of a small [city state](#) (*polis* in Greek). For example...

It is clear, then, that a human being is more of a political [*politikon* = of the *polis*] animal [*zōion*] than is any bee or than any of those animals that live in herds. For nature, as we say, makes nothing in vain, and humans are the only animals who possess reasoned speech [*logos*]. Voice, of course, serves to indicate what is painful and pleasant; that is why it is also found in other animals, because their nature has reached the point where they can perceive what is painful and pleasant and express these to each other. But speech [*logos*] serves to make plain what is advantageous and harmful and so also what is just and unjust. For it is a peculiarity of humans, in contrast to the other animals, to have perception of good and bad, just and unjust, and the like; and the community in these things makes a household or city [*polis*]. [...] By nature, then, the drive for such a community exists in everyone, but the first to set one up is responsible for things of very great goodness. For as humans are the best of all animals when perfected, so they are the worst when divorced from law and right. The reason is that injustice is most difficult to deal with when furnished with weapons, and the weapons a human being has are meant by nature to go along with prudence and virtue, but it is only too possible to turn them to contrary uses. Consequently, if a human being lacks virtue, he is the most unholy and savage thing, and when it comes to sex and food, the worst. But justice is something political [to do with the *polis*], for right is the arrangement of the political community, and right is discrimination of what is just. ([Aristotle's Politics](#) 1253a 1.2. Peter Simpson's translation, with Greek terms inserted in square brackets.)

The concept of human nature being fixed in this way, implied, in other words, that we can define what type of community is always best for people. This argument has remained a central argument in all political, ethical and moral thinking since then, and has become especially controversial since firstly [Rousseau](#)'s Second Discourse, and secondly, the [Theory of Evolution](#). Already in Aristotle there was an awareness that the *polis* had not always existed and had needed to be invented or developed by humans themselves. The household came first, and the first villages and cities were just extensions of that, with the first cities being run as if they were still families with Kings acting like fathers.[87]

[Friendship](#) [*philia*] seems to prevail [in] man and woman according to [nature](#) [*kata phusin*]; for people are by nature [*tēi phusei*] pairing [*sunduastikon*] more than political [*politikon* = of the *polis*], in as much as the household [*oikos*] is prior [*proteron* = earlier] and more necessary than the *polis* and making children is more common [*koinoteron*] with the animals. In the other animals, community [*koinōnia*] goes no further than this, but people live together [*sumoikousin*] not only for the sake of making children, but also for the things for life; for from the start the functions [*erga*] are divided, and are different [for] man and woman. Thus they supply each other, putting their own into the common [*eis to koinon*]. It is for these [reasons] that both utility [*chrēsimon*] and pleasure [*hēdu*] seem to be found in this kind of friendship. ([Nicomachean Ethics](#), VIII.12.1162a. Rough literal translation with Greek terms shown in square brackets.)

[Rousseau](#) in his Second Discourse finally took the shocking step of claiming that this traditional account has things in reverse: with reason, language and rationally organized communities all having developed over a long period of time merely as a result of the fact that some habits of cooperation were found to solve certain types of problems, and that once such cooperation became more important, it forced people to develop increasingly complex cooperation—often only to defend themselves from each other.

In other words, according to Rousseau, reason, language and rational community did not arise because of any conscious decision or plan by humans or gods, nor because of any pre-existing human nature. As a result, he claimed, living together in rationally organized communities like modern humans is a development with many negative aspects compared to the original state of man as an ape. If anything is specifically human in this theory, it is the flexibility and adaptability

of humans. This view of the animal origins of distinctive human characteristics later received support from Charles Darwin's Theory of Evolution.

The two competing theories concerning the origins of reason are relevant to political and ethical thought because, according to the Aristotelian theory, a best way of living together exists independently of historical circumstances. According to Rousseau, we should even doubt that reason, language and politics are a good thing, as opposed to being simply the best option given the particular course of events that lead to today. Rousseau's theory, that human nature is malleable rather than fixed, is often taken to imply, for example by Karl Marx, a wider range of possible ways of living together than traditionally known.

However, while Rousseau's initial impact encouraged bloody revolutions against traditional politics, including both the French Revolution and the Russian Revolution, his own conclusions about the best forms of community seem to have been remarkably classical, in favor of city-states such as Geneva, and rural living.

Psychology[]

Main article: Psychology of reasoning

Scientific research into reasoning is carried out within the fields of psychology and cognitive science. Psychologists attempt to determine whether or not people are capable of rational thought in a number of different circumstances.

Assessing how well someone engages in reasoning is the project of determining the extent to which the person is rational or acts rationally. It is a key research question in the psychology of reasoning. Rationality is often divided into its respective theoretical and practical counterparts.

Behavioral experiments on human reasoning[]

Experimental cognitive psychologists carry out research on reasoning behaviour. Such research may focus, for example, on how people perform on tests of reasoning such as intelligence or IQ tests, or on how well people's reasoning matches ideals set by logic (see, for example, the Wason test).[88] Experiments examine how people make inferences from conditionals e.g., *If A then B* and how they make inferences about alternatives, e.g., *A or else B*.[89] They test whether people can make valid deductions about spatial and temporal relations, e.g., *A is to the left of B*, or *A happens after B*, and about quantified assertions, e.g., *All the A are B*.[90]Experiments investigate how people make inferences about factual situations, hypothetical possibilities, probabilities, and counterfactual situations.[91]

Developmental studies of children's reasoning[]

Developmental psychologists investigate the development of reasoning from birth to adulthood. Piaget's theory of cognitive development was the first complete theory of reasoning development. Subsequently, several alternative theories were proposed, including the neo-Piagetian theories of cognitive development.[92]

Neuroscience of reasoning[]

The biological functioning of the brain is studied by neurophysiologists and neuropsychologists. Research in this area includes research into the structure and function of normally functioning brains, and of damaged or otherwise unusual brains. In addition to carrying out research into reasoning, some psychologists, for example, clinical psychologists and psychotherapists work to alter people's reasoning habits when they are unhelpful.

Computer science[]

Automated reasoning[]
Main articles: Automated reasoning and Computational logic

In artificial intelligence and computer science, scientists study and use automated reasoning for diverse applications including automated theorem proving the formal semantics of programming languages, and formal specification in software engineering.

Meta-reasoning[]
Main article: Metacognition

Meta-reasoning is reasoning about reasoning. In computer science, a system performs meta-reasoning when it is reasoning about its own operation.[93] This requires a programming language capable of reflection, the ability to observe and modify its own structure and behaviour.

Evolution of reason[]

> This section **needs expansion**. You can help by adding to it. *(August 2017)*

Dan Sperber believes that reasoning in groups is more effective and promotes their evolutionary fitness.

A species could benefit greatly from better abilities to reason about, predict and understand the world. French social and cognitive scientists Dan Sperber and Hugo Mercier argue that there could have been other forces driving the evolution of reason. They point out that reasoning is very difficult for humans to do effectively, and that it is hard for individuals to doubt their own beliefs (confirmation bias). Reasoning is most effective when it is done as a collective – as demonstrated by the success of projects like science. They suggest that there are not just individual, but group selection pressures at play. Any group that managed to find ways of reasoning effectively would reap benefits for all its members, increasing their fitness. This could also help explain why humans, according to Sperber, are not optimized to reason effectively alone. Their argumentative theory of reasoning claims that reason may have more to do with winning arguments than with the search for the truth.[94][95]

References[]

1. **^** *Kompridis, Nikolas (2000). "So We Need Something Else for Reason to Mean". International Journal of Philosophical Studies. 8 (3): 271–295. doi:10.1080/096725500750039282.*
2. **^** individuals, for example, "humans have reason." Compare: *MacIntyre, Alasdair(2013). Dependent Rational Animals: Why Human Beings Need the Virtues. The Paul Carus Lectures. Open Court. ISBN 978-0-8126-9705-6. Retrieved 2014-12-01. [...] the exercise of independent practical reasoning is one essential constituent to full human flourishing.*
3. **^** *Hintikka, J. "Philosophy of logic". Encyclopædia Britannica. Encyclopædia Britannica, Inc. Retrieved 12 November 2013.*
4. **^** Aristotle, Nicomachean Ethics 6 – The Intellectual Virtues
5. **^** Michel Foucault, "What is Enlightenment?" in *The Essential Foucault*, eds. Paul Rabinow and Nikolas Rose, New York: The New Press, 2003, 43–57. See also Nikolas Kompridis, "The Idea of a New Beginning: A Romantic Source of Normativity and Freedom," in *Philosophical Romanticism*, New York: Routledge, 2006, 32–59; "So We Need Something Else for Reason to Mean", *International Journal of Philosophical Studies* 8: 3, 271–295.
6. ^ Jump up to:*ᵃ ᵇ* Merriam-Webster.com Merriam-Webster Dictionary definition of reason
7. **^** Rachels, James. The Elements of Moral Philosophy, 4th ed. McGraw Hill, 2002
8. **^** *Liddell, Henry George; Scott, Robert, "logos", A Greek–English Lexicon.* For etymology of English "logic" see any dictionary such as the Merriam Webster entry for logic.

9. **^** *Lewis, Charlton; Short, Charles, "ratio", A Latin Dictionary*

10. **^** See Merriam Webster "rational" and Merriam Webster "reasonable".

11. ^ Jump up to:ᵃ ᵇ *Habermas, Jürgen (1990). The Philosophical Discourse of Modernity. Cambridge, MA: MIT Press.*

12. **^** *Kirk; Raven; Schofield (1983), The Presocratic Philosophers (second ed.), Cambridge University Press.* See pp. 204 & 235.

13. **^** *Nicomachean Ethics Book 1.*

14. ^ Jump up to:ᵃ ᵇ *Davidson, Herbert (1992), Alfarabi, Avicenna, and Averroes, on Intellect, Oxford University Press, p. 3.*

15. **^** *Moore, Edward, "Plotinus", Internet Encyclopedia of Philosophy*

16. **^** *Dreyfus, Hubert. "Telepistemology: Descartes' Last Stand". socrates.berkeley.edu. Retrieved February 23, 2011.*

17. **^** Descartes, "Second Mation".

18. **^** *Hobbes, Thomas (1839), Molesworth, ed., De Corpore, London, J. Bohn*: "We must not therefore think that computation, that is, ratiocination, has place only in numbers, as if man were distinguished from other living creatures (which is said to have been the opinion of *Pythagoras*) by nothing but the faculty of numbering; for *magnitude, body, motion, time, degrees of quality, action, conception, proportion, speech and names* (in which all the kinds of philosophy consist) are capable of addition and substraction [*sic*]. Now such things as we add or substract, that is, which we put into an account, we are said to *consider*, in Greek λογίζεσθαι [*logizesthai*], in which language also συλλογίζεσθι [*syllogizesthai*] signifies to *compute*, *reason*, or *reckon*."

19. **^** *Hobbes, Thomas, "VII. Of the ends, or resolutions of discourse", The English Works of Thomas Hobbes, 3 (Leviathan)* and *Hobbes, Thomas, "IX. Of the several subjects of knowledge", The English Works of Thomas Hobbes, 3 (Leviathan)*

20. **^** *Locke, John (1824) [1689], "XXVII On Identity and Diversity", An Essay concerning Human Understanding Part 1, The Works of John Locke in Nine Volumes (12th ed.), Rivington*

21. **^** *Hume, David, "I.IV.VI. Of Personal Identity", A Treatise of Human Nature*

22. **^** *Hume, David, "II.III.III. Of the influencing motives of the will.", A Treatise of Human Nature*

23. **^** *Hume, David, "I.III.VII (footnote) Of the Nature of the Idea Or Belief", A Treatise of Human Nature*

24. **^** *Hume, David, "I.III.XVI. Of the reason of animals", A Treatise of Human Nature*

25. **^** Immanuel Kant, *Critique of Pure Reason*; *Critique of Practical Reason*.

26. **^** Michael Sandel, *Justice: What's the Right Thing to Do?*, New York: Farrar, Straus and Giroux, 2009.

27. **^** *Kant, Immanuel; translated by James W. Ellington [1785] (1993). Grounding for the Metaphysics of Morals 3rd ed. Hackett. p. 30. ISBN 978-0-87220-166-8.*

28. **^** See *Velkley, Richard (2002), "On Kant's Socratism", Being After Rousseau, University of Chicago Press* and Kant's own first preface to *The Critique of Pure Reason*.

29. **^** Jürgen Habermas, *Moral Consciousness and Communicative Action*, Cambridge, MA: MIT Press, 1995.

30. **^** Jürgen Habermas, *The Theory of Communicative Action: Reason and the Rationalization of Society*, translated by Thomas McCarthy. Boston: Beacon Press, 1984.

31. **^** Nikolas Kompridis, *Critique and Disclosure: Critical Theory between Past and Future*, Cambridge, MA: MIT Press, 2006. See also Nikolas Kompridis, "So We Need Something Else for Reason to Mean", *International Journal of Philosophical Studies* 8:3, 271–295.

32. **^** Charles Taylor, *Philosophical Arguments* (Harvard University Press, 1997), 12; 15.

33. **^** Michel Foucault, "What is Enlightenment?", *The Essential Foucault*, New York: The New Press, 2003, 43–57.

34. **^** Douglas Hofstadter, *Gödel, Escher, Bach*, Vintage, 1979, ISBN 0-394-74502-7

35. **^** Aristotle, *Complete Works* (2 volumes), Princeton, 1995, ISBN 0-691-09950-2

36. **^** See this Perseus search, and compare English translations. and see LSJ dictionary entry for λογικός, section II.2.b.

37. **^** See the Treatise of Human Nature of David Hume, Book I, Part III, Sect. XVI.

38. **^** *Locke, John (1824) [1689], "XVII Of Reason", An Essay concerning Human Understanding Part 2 and Other Writings, The Works of John Locke in Nine Volumes, 2 (12th ed.), Rivington*

39. **^** Terrence Deacon, *The Symbolic Species: The Co-Evolution of Language and the Brain*, W.W. Norton & Company, 1998, ISBN 0-393-31754-4

40. **^** Leviathan Chapter IV Archived 2006-06-15 at the Wayback Machine: "The Greeks have but one word, logos, for both speech and reason; not that they thought there was no speech without reason, but no reasoning without speech"

41. **^** *Posterior Analytics* II.19.
42. **^** See for example Ruth M.J. Byrne (2005). *The Rational Imagination: How People Create Counterfactual Alternatives to Reality.* Cambridge, MA: MIT Press.
43. **^** *De Anima* III.i–iii; *On Memory and Recollection*, *On Dreams*
44. **^** Mimesis in modern academic writing, starting with Erich Auerbach, is a technical word, which is not necessarily exactly the same in meaning as the original Greek. See Mimesis.
45. **^** Origins of the Modern Mind p. 172
46. **^** Jacob Klein *A Commentary on the Meno* Ch.5
47. **^** Jacob Klein *A Commentary on the Meno* p. 122
48. **^** Origins of the Modern Mind p. 169
49. **^** "Introduction" to the translation of *Poetics* by Davis and Seth Benardete p. xvii, xxviii
50. **^** Davis is here using "poetic" in an unusual sense, questioning the contrast in Aristotle between action (*praxis*, the *praktikē*) and making (*poēsis*, the *poētikē*): "Human [peculiarly human] action is imitation of action because thinking is always rethinking. Aristotle can define human beings as at once rational animals, political animals, and imitative animals because in the end the three are the same."
51. **^** Aristotle On Memory 450a 15–16.
52. **^** Jacob Klein *A Commentary on the Meno* p. 109
53. **^** Aristotle Hist. Anim. I.1.488b.25–26.
54. **^** Jacob Klein *A Commentary on the Meno* p. 112
55. **^** *The Origins of the Modern Mind* p. 173 see also *A Mind So Rare* pp. 140–141
56. **^** Jeffrey, Richard. 1991. *Formal logic: its scope and limits*, (3rd ed.). New York: McGraw-Hill:1.
57. **^** *Walton, Douglas N.* (2014). *"Argumentation schemes for argument from analogy"*. In Ribeiro, Henrique Jales. Systematic approaches to argument by analogy. Argumentation library. **25**. Cham; New York: Springer Verlag. pp. 23–40. doi:10.1007/978-3-319-06334-8_2. ISBN 978-3-319-06333-1. OCLC 884441074.
58. **^** *Vickers, John (2009). "The Problem of Induction". The Stanford Encyclopedia of Philosophy. Metaphysics Research Lab, Stanford University.*
59. **^** Example: Aristotle *Metaphysics* 981b: τὴν ὀνομαζομένην σοφίαν περὶ τὰ πρῶτα αἴτια καὶ τὰς ἀρχὰς ὑπολαμβάνουσι πάντες: ὥστε, καθάπερ εἴρηται πρότερον, ὁ μὲν ἔμπειρος τῶν ὁποιανοῦν ἐχόντων αἴσθησιν εἶναι δοκεῖ σοφώτερος, ὁ δὲ τεχνίτης τῶν ἐμπείρων, χειροτέχνου δὲ ἀρχιτέκτων, αἱ δὲ θεωρητικαὶ τῶν ποιητικῶν μᾶλλον. English: "...what is called Wisdom is concerned with the primary causes and principles, so that, as has been already stated, the man of experience is held to be wiser than the mere possessors of any power of sensation, the artist than the man of experience, the master craftsman than the artisan; and the speculative sciences to be more learned than the productive."
60. **^** *Metaphysics* 1009b ποῖα οὖν τούτων ἀληθῆ ἢ ψευδῆ, ἄδηλον: οὐθὲν γὰρ μᾶλλον τάδε ἢ τάδε ἀληθῆ, ἀλλ᾽ ὁμοίως. διὸ Δημόκριτός γέ φησιν ἤτοι οὐθὲν εἶναι ἀληθὲς ἢ ἡμῖν γ᾽ ἄδηλον. English "Thus it is uncertain which of these impressions are true or false; for one kind is no more true than another, but equally so. And hence Democritus says that either there is no truth or we cannot discover it."
61. **^** For example Aristotle *Metaphysics* 983a: ἐπεὶ δὲ φανερὸν ὅτι τῶν ἐξ **ἀρχῆς**αἰτίων δεῖ λαβεῖν **ἐπιστήμην** （τότε γὰρ εἰδέναι φαμὲν ἕκαστον, ὅταν τὴν **πρώτην**αἰτίαν οἰώμεθα **γνωρίζειν**） English "It is clear that we must obtain knowledge of the **primary** causes, because it is when we think that we understand its **primary** cause that we claim to **know** each particular thing."
62. **^** Example: *Nicomachean Ethics* 1139b: ἀμφοτέρων δὴ τῶν **νοητικῶν** μορίων ἀλήθεια τὸ ἔργον. καθ᾽ ἃς οὖν μάλιστα ἕξεις ἀληθεύσει ἑκάτερον, αὗται ἀρεταὶ ἀμφοῖν. English The attainment of truth is then the function of both the **intellectual** parts of the soul. Therefore their respective virtues are those dispositions that will best qualify them to attain truth.
63. **^** Example: Plato *Republic* 490b: μιγεὶς τῷ ὄντι ὄντως, γεννήσας νοῦν καὶ ἀλήθειαν, γνοίη English: "Consorting with reality really, he would beget intelligence and truth, attain to knowledge"
64. **^** "This quest for the beginnings proceeds through sense perception, reasoning, and what they call *noesis*, which is literally translated by "understanding" or intellect," and which we can perhaps translate a little bit more cautiously by "awareness," an awareness of the mind's eye as distinguished from sensible awareness." "Progress or Return" in An Introduction to Political Philosophy: Ten Essays by Leo Strauss. (Expanded version of Political Philosophy: Six Essays by Leo Strauss, 1975.) Ed. Hilail Gilden. Detroit: Wayne State UP, 1989.
65. **^** However, the empiricism of Aristotle must certainly be doubted. For example in *Metaphysics* 1009b, cited above, he criticizes people who think knowledge might not be possible because, "They say that the impression given through sense-perception is necessarily

true; for it is on these grounds that both Empedoclesand Democritus and practically all the rest have become obsessed by such opinions as these."

66. **^** G.W.F. Hegel *The Philosophy of History*, p. 9, Dover Publications Inc., ISBN 0-486-20112-0; 1st ed. 1899

67. **^** *Velkley, Richard (2002), "Speech. Imagination, Origins: Rousseau and the Political Animal", Being after Rousseau: Philosophy and Culture in Question, University of Chicago Press*

68. **^** *Rousseau (1997), "Preface", in Gourevitch, Discourse on the Origin and Foundations of Inequality Among Men or Second Discourse, Cambridge University Press*

69. **^** *Velkley, Richard (2002), "Freedom, Teleology, and Justification of Reason", Being after Rousseau: Philosophy and Culture in Question, University of Chicago Press*

70. **^** *Plattner, Marc (1997), "Rousseau and the Origins of Nationalism", The Legacy of Rousseau, University of Chicago Press*

71. **^** *Dawkins, Richard (2008). The God Delusion (Reprint ed.). Mariner Books. ISBN 978-0-618-91824-9. Scientists... see the fight for evolution as only one battle in a larger war: a looming war between supernaturalism on the one side and rationality on the other.*

72. **^** *Strauss, Leo, "Progress or Return", An Introduction to Political Philosophy*

73. **^** *Locke, John (1824) [1689], "XVIII Of Faith and Reason, and their distinct Provinces.", An Essay concerning Human Understanding Part 2 and Other Writings, The Works of John Locke in Nine Volumes, **2** (An Essay concerning Human Understanding Part 2 and Other Writings) (12th ed.), Rivington*

74. **^** *Plantinga, Alvin (2011). Where the Conflict Really Lies: Science, Religion, and Naturalism (1 ed.). Oxford University Press. ISBN 978-0-19-981209-7.*

75. **^** *Natural Signs and Knowledge of God: A New Look at Theistic Arguments(Reprint ed.). Oxford: Oxford University Press. 2012. ISBN 978-0-19-966107-7.*

76. **^** *Stephen Ja Gould (1997). "Nonoverlapping Magisteria". www.stephenjaygould.org. Retrieved 2016-04-06. To say it for all my colleagues and for the umpteenth millionth time (from college bull sessions to learned treatises): science simply cannot (by its legitimate methods) adjudicate the issue of God's possible superintendence of nature. We neither affirm nor deny it; we simply can't comment on it as scientists.*

77. **^** *Dawkins, Richard (2008). "4". The God Delusion (Reprint ed.). Mariner Books. ISBN 978-0-618-91824-9. This sounds terrific, right up until you give it a moment's thought. You then realize that the presence of a creative deity in the universe is clearly a scientific hypothesis. Indeed, it is hard to imagine a more momentous hypothesis in all of science. A universe with a god would be a completely different kind of universe from one without, and it would be a scientific difference. God could clinch the matter in his favour at any moment by staging a spectacular demonstration of his powers, one that would satisfy the exacting standards of science. Even the infamous Templeton Foundation recognized that God is a scientific hypothesis — by funding double-blind trials to test whether remote prayer would speed the recovery of heart patients. It didn't, of course, although a control group who knew they had been prayed for tended to get worse (how about a class action suit against the Templeton Foundation?) Despite such well-financed efforts, no evidence for God's existence has yet appeared.*

78. **^** *Moreland, J.P. "Consciousness and the Existence of God: A Theistic Argument". Routledge. Retrieved 2016-04-06.*

79. **^** *"The Meaning of Life as Narrative: A New Proposal for Interpreting Philosophy's 'Primary' Question – Joshua W. Seachris – Philo (Philosophy Documentation Center)". www.pdcnet.org. April 2009. Retrieved 2016-04-06.*

80. **^** *Three Rival Versions of Moral Enquiry: Encyclopaedia, Genealogy, and Tradition(60067th ed.). University of Notre Dame Press. 1991. ISBN 978-0-268-01877-1.*

81. **^** *Taylor, Charles (2007). A Secular Age (1st ed.). The Belknap Press of Harvard University Press. ISBN 978-0-674-02676-6.*

82. **^** *"Cardinal Ratzinger on Europe's Crisis of Culture".*

83. **^** *When Athens Met Jerusalem: An Introduction to Classical and Christian Thought (58760th ed.). IVP Academic. 2009. ISBN 978-0-8308-2923-1.*

84. **^** *Shestov, Lev (1968). "Athens and Jerusalem". Annals of the New York Academy of Sciences. **950** (1): 17. Bibcode:2001NYASA.950...17P. doi:10.1111/j.1749-6632.2001.tb02124.x.*

85. **^** "Progress or Return" in An Introduction to Political Philosophy: Ten Essays by Leo Strauss. (Expanded version of Political Philosophy: Six Essays by Leo Strauss, 1975.) Ed. Hilail Gilden. Detroit: Wayne State UP, 1989.

86. **^** *Bhagavad Gita*, Sarvepalli Radhakrishnan: "Hinduism is not just a faith. It is the union of reason and intuition that can not be defined but is only to be experienced."

87. **^** Politics I.2.1252b15

88. **^** Manktelow, K.I. 1999. *Reasoning and Thinking (Cognitive Psychology: Modular Course.)*. Hove, Sussex:Psychology Press
89. **^** Johnson-Laird, P.N. & Byrne, R.M.J. (1991). *Deduction*. Hillsdale: Erlbaum
90. **^** Johnson-Laird, P.N. (2006). *How we reason*. Oxford: Oxford University Press
91. **^** Byrne, R.M.J. (2005). *The Rational Imagination: How People Create Counterfactual Alternatives to Reality*. Cambridge, MA: MIT Press
92. **^** Demetriou, A. (1998). Cognitive development. In A. Demetriou, W. Doise, K.F.M. van Lieshout (Eds.), Life-span developmental psychology (pp. 179–269). London: Wiley.
93. **^** *Costantini, Stefania (2002), "Meta-reasoning: A Survey", Lecture Notes in Computer Science, 2408/2002 (65): 253–288, doi:10.1007/3-540-45632-5_11, ISBN 978-3-540-43960-8*
94. **^** *Mercier, Hugo; Sperber, Dan (2011). "Why Do Humans Reason? Arguments for an Argumentative Theory". Behavioral and Brain Sciences. 34 (2): 57–74. doi:10.1017/S0140525X10000968. PMID 21447233.*
95. **^** *Mercier, Hugo; Sperber, Dan (2017). The Enigma of Reason. Cambridge: Harvard University Press. ISBN 978-0-674-36830-9.*

Relationship between faith and reason[]

From at least the days of the Greek philosophers, the relationship between faith and reason has been hotly debated. Plato argued that knowledge is simply memory of the eternal. Aristotle set down rules by which knowledge could be discovered by reason. Rationalists point out that many people hold irrational beliefs, for many reasons. There may be evolutionary causes for irrational beliefs — irrational beliefs may increase our ability to survive and reproduce. Or, according to Pascal's Wager, it may be to our advantage to have faith, because faith may promise infinite rewards, while the rewards of reason are seen by many as finite. One more reason for irrational beliefs can perhaps be explained by operant conditioning. For example, in one study by B. F. Skinner in 1948, pigeons were awarded grain at regular time intervals regardless of their behaviour. The result was that each of the pigeons developed their own idiosyncratic response which had become associated with the consequence of receiving grain.[1]Believers in faith — for example those who believe salvation is possible through faith alone — frequently suggest that everyone holds beliefs arrived at by faith, not reason. [2] The belief that the universe is a sensible place and that our minds allow us to arrive at correct conclusions about it, is a belief we hold through faith. Rationalists contend that this is arrived at because they have observed the world being consistent and sensible, not because they have faith that it is.

Beliefs held "by faith" may be seen existing in a number of relationships to rationality:

- **Faith as underlying rationality**: In this view, all human knowledge and reason is seen as dependent on faith: faith in our senses, faith in our reason, faith in our memories, and faith in the accounts of events we receive from others. Accordingly, faith is seen as essential to and inseparable from rationality. According to René Descartes, rationality is built first upon the realization of the absolute truth "I think therefore I am", which requires no faith. All other rationalizations are built outward from this realization, and are subject to falsification at any time with the arrival of new evidence.
- **Faith as addressing issues beyond the scope of rationality**: In this view, faith is seen as covering issues that science and rationality are inherently incapable of addressing, but that are nevertheless entirely real. Accordingly, faith is seen as complementing rationality, by providing answers to questions that would otherwise be unanswerable.
- **Faith as contradicting rationality**: In this view, faith is seen as those views that one holds despite evidence and reason to the contrary. Accordingly, faith is seen as pernicious with respect to rationality, as it interferes with our ability to think, and inversely rationality is seen as the enemy of faith by interfering with our beliefs.
- **Faith and reason as essential together**: This is the Catholic view that faith without reason leads to superstition, while reason without faith leads to nihilism and relativism.
- **Faith as based on warrant**: In this view some degree of evidence provides warrant for faith. "To explain great things by small."[3]

Views of the Roman Catholic Church[]

St. Thomas Aquinas, the most important doctor of the Catholic Church, was the first to write a full treatment of the relationship, differences, and similarities between faith—an intellectual assent[4]—and reason,[5] predominately in his *Summa Theologica*, *De Veritate*, and *Summa contra Gentiles*.[6]

The Council of Trent's catechism—the *Roman Catechism*, written during the Catholic Church's Counter-Reformation to combat Protestantism and Martin Luther's antimetaphysical tendencies.[7][8] *Dei Filius* was a dogmatic constitution of the First Vatican Council on the Roman Catholic faith. It was adopted unanimously on 24 April 1870 and was influenced by the philosophical conceptions of Johann Baptist Franzelin, who had written a great deal on the topic of faith and rationality.[9]Because the Roman Catholic Church does not disparage reason, but rather affirms its veracity and utility, there have been many Catholic scientists over the ages.

Twentieth-century Thomist philosopher Étienne Gilson wrote about faith and reason[10] in his 1922 book *Le Thomisme*.[11] His contemporary Jacques Maritain wrote about it in his *The Degrees of Knowledge*.[12] *Fides et Ratio* is an encyclical promulgated by Pope John Paul II on 14 September 1998. It deals with the relationship between faith and reason. Pope Benedict XVI's 12 September 2006 Regensburg Lecture was about faith and reason.

Lutheran epistemology[]

Some have asserted that Martin Luther taught that faith and reason were antithetical in the sense that questions of faith could not be illuminated by reason. Contemporary Lutheran scholarship however has found a different reality in Luther. Luther rather seeks to separate faith and reason in order to honor the separate spheres of knowledge that each understand. Bernhard Lohse for example has demonstrated in his classic work "Fides Und Ratio" that Luther ultimately sought to put the two together. More recently Hans-Peter Großhans has demonstrated that Luther's work on Bibilical Criticism stresses the need for external coherence in right exegetical method. This means that for Luther it is more important that the Bible be reasonable according to the reality outside of the scriptures than that the Bible make sense to itself, that it has internal coherence. The right tool for understanding the world outside of the Bible for Luther is none other than Reason which for Luther denoted science, philosophy, history and empirical observation. Here a differing picture is presented of a Luther who deeply valued both faith and reason, and held them in dialectical partnership. Luther's concern thus in separating them is honoring their different epistemological spheres.

Reformed epistemology[]

Faith as underlying rationality[]

The view that faith underlies all rationality holds that rationality is dependent on faith for its coherence. Under this view, there is no way to comprehensively *prove* that we are actually seeing what we appear to be seeing, that what we remember actually happened, or that the laws of logic and mathematics are actually real. Instead, all beliefs depend for their coherence on *faith* in our senses, memory, and reason, because the foundations of rationalism cannot be proven by evidence or reason. Rationally, you can not prove anything you see is real, but you can prove that you yourself are real, and rationalist belief would be that you can believe that the world is consistent until something demonstrates inconsistency. This differs from faith based belief, where you believe that your world view is consistent no matter what inconsistencies the world has with your beliefs.

Rationalist point of view[]

In this view, there are many beliefs that are held by faith alone, that rational thought would force the mind to reject. As an example, many people believe in the Biblical story of Noah's flood: that the entire Earth was covered by water for forty days. But objected that most plants cannot survive being covered by water for that length of time, a boat of that magnitude could not have

been built by wood, and there would be no way for two of every animal to survive on that ship and migrate back to their place of origin. (such as penguins), Although Christian apologists offer answers to these and such issues,[13][14][15] under the premise that such responses are insufficient, then one must choose between accepting the story on faith and rejecting reason, or rejecting the story by reason and thus rejecting faith. Within the rationalist point of view, there remains the possibility of multiple rational explanations. For example, considering the biblical story of Noah's flood, one making rational determinations about the probability of the events does so via interpretation of modern evidence. Two observers of the story may provide different plausible explanations for the life of plants, construction of the boat, species living at the time, and migration following the flood. Some see this as meaning that a person is not strictly bound to choose between faith and reason.

Evangelical views[]

American biblical scholar Archibald Thomas Robertson stated that the Greek word *pistis* used for faith in the New Testament (over two hundred forty times), and rendered "assurance" in Acts 17:31 (KJV), is "an old verb to furnish, used regularly by Demosthenes for bringing forward evidence."[16] Likewise Tom Price (Oxford Centre for Christian Apologetics) affirms that when the New Testament talks about faith positively it only uses words derived from the Greek root [pistis] which means "to be persuaded."[17] In contrast to faith meaning blind trust, in the absence of evidence, even in the teeth of evidence, Alister McGrath quotes Oxford Anglican theologian W. H. Griffith-Thomas, (1861-1924), who states faith is "not blind, but intelligent" and "commences with the conviction of the mind based on adequate evidence...", which McGrath sees as "a good and reliable definition, synthesizing the core elements of the characteristic Christian understanding of faith."[18] Alvin Plantinga upholds that faith may be the result of evidence testifying to the reliability of the source of truth claims, but although it may involve this, he sees faith as being the result of hearing the truth of the gospel with the internal persuasion by the Holy Spirit moving and enabling him to believe. "Christian belief is produced in the believer by the internal instigation of the Holy Spirit, endorsing the teachings of Scripture, which is itself divinely inspired by the Holy Spirit. The result of the work of the Holy Spirit is faith."[19]

Jewish philosophy[]

The 14th Century Jewish philosopher Levi ben Gerson tried to reconcile faith and reason. He wrote, "The Torah cannot prevent us from considering to be true that which our reason urges us to believe."[20] His contemporary Hasdai ben Abraham Crescas argued the contrary view, that reason is weak and faith strong, and that only through faith can we discover the fundamental truth that God is love, that through faith alone can we endure the suffering that is the common lot of God's chosen people.

References[]

1. ^ Skinner, B. F. (1 January 1948). "'Superstition' in the pigeon". Journal of Experimental Psychology. **38** (2): 168–172. doi:10.1037/h0055873. PMID 18913665.
2. ^ Rosental, Creighton J. "The reconciliation of faith and reason in Thomas Aquinas": 255.
3. ^ Hawker, Robert (1805). Poor Man's Commentary. pp. Hebrews 11.
4. ^ "Faith" from the *Catholic Encyclopedia*
5. ^ "Reason" from the *Catholic Encyclopedia*
6. ^ For an overview—with copious quotes from St. Thomas Aquinas's works, some of which are quoted here—of his exposition of the topic of faith and reason, consult truthinspire.com.
7. ^ Faith and Reason in Martin Luther
8. ^ On the differences between Thomas Aquinas's conception of faith and reason and that of Martin Luther.*Bruce D. Marshall (1999). "Faith and Reason Reconsidered: Aquinas and Luther on Deciding What is True". The Thomist. **63**: 1–48. Archived from the original on 2003-11-01. Retrieved 2011-05-11.
9. ^ "Creeds of Christendom, with a History and Critical notes. Volume II. The History of Creeds". ccel.org.

10. **^** *""Faith and Reason" by Étienne Gilson"*. *arizona.edu.*
11. **^** *"Le thomisme; introduction au système de saint Thomas d'Aquin"*. *Internet Archive.*
12. **^** https://archive.org/details/DegreesOfKnowledge
13. **^** *Ham, Ken. "Was There Really a Noah's Ark & Flood?". Answers in Genesis. Retrieved 23 January 2014.*
14. **^** *Wright, David. "How Did Plants Survive the Flood?". Answers in Genesis. Retrieved 23 January 2014.*
15. **^** *"How did animals get from the Ark to isolated places." Christian Answers Network. Retrieved 23 January 2014.*
16. **^** *Robertson, Archibald Thomas. WORD PICTURES IN THE NEW TESTAMENT. pp. Chapter 17.*
17. **^** *Price, Thomas. "Faith is about 'just trusting' God isn't It?". Retrieved 23 January 2014.*
18. **^** *McGrath, Alister E. (2008). The Order of Things: Explorations in Scientific Theology. John Wiley & Sons. p. 33. ISBN 140512556X.*
19. **^** *Plantinga, Alvin (2000). Warranted Christian Belief. USA: Oxford University Press. pp. 250, 291. ISBN 0195131924.*
20. **^** Jewish Encyclopedia, volume VIII, page 29

What is a scientific truth?

Philosophers talk about the correspondence theories of truth: subjective, deductive, and inductive (scientific) truth.

- Is scientific truth constant or changeable?
- Is scientific truth all that is measured by experience?
- Scientific truth converges towards religious truth?
- Is the truth all that we believe, or do we have a greater responsibility?

How scientific knowledge changes.

'The ideal of completely correct knowledge is a concept. Scientific knowledge keeps changing, and our ideas about truth change too. Dr. Terry Halwes'

It is not enough that you should understand about applied science in order that your work may increase man's blessings. Concern for the man himself and his fate must always form the chief interest of all technical endeavours; concern for the great unsolved problems of the organization of labour and the distribution of goods in order that the creations of our mind shall be a blessing and not a curse to mankind. Never forget this in the midst of your diagrams and equations.

- Albert Einstein, speech at the California Institute of Technology, Pasadena, California (February 16, 1931), as reported in *The New York Times* (February 17, 1931), p. 6.

There are many philosophical and historical theories as to how scientific consensus changes over time. The history of scientific change is extremely complicated, and there is a tendency to project "winners" and "losers" onto the past in relation to our current scientific consensus, it is very difficult to come up with accurate and rigorous models for scientific change. This is made exceedingly difficult also in part because each of the various branches of science functions in somewhat different ways with different forms of evidence and experimental approaches.

Most models of scientific change rely on new data produced by scientific experiment. Karl Popper proposed that since no amount of experiments could ever prove a scientific theory, but a single experiment could disprove one, science should be based on falsification. Whilst this forms a logical theory for science, it is in a sense "timeless" and does not necessarily reflect a view on how science should progress over time.

Among the most influential challengers of this approach was Thomas Kuhn, who argued instead that experimental data always provide some data which cannot fit completely into a theory, and that falsification alone did not result in scientific change or an undermining of scientific consensus. He proposed that scientific consensus worked in the form of "paradigms", which were interconnected theories and underlying assumptions about the nature of the theory itself which connected various researchers in a given field. Kuhn argued that only after the accumulation of many "significant" anomalies would scientific consensus enter a period of "crisis". At this point, new theories would be sought out, and eventually one paradigm would triumph over the old one – a cycle of paradigm shifts rather than a linear progression towards truth. Kuhn's model also emphasised more clearly the social and personal aspects of theory change, demonstrating through historical examples that scientific consensus was never truly a matter of pure logic or pure facts. However, these periods of 'normal' and 'crisis' science are not mutually exclusive. Research shows that these are different modes of practice, especially as ethics and technology adapts with cultural changes.

'The wrong view of science betrays itself in the craving to be right; for it is not his possession of knowledge, of irrefutable truth, that makes the man of science, but his persistent and recklessly critical quest for truth.Sir Karl Popper
The Logic of Scientific Discovery'

'So he took the whole of science to consist of things that were known infallibly to be true either because they had been directly observed -- and if appropriate measured -- under controlled conditions on many different occasions by trained and competent observers, or because they followed by logical necessity from what had been thus observed. Science, in other words, consisted entirely of immediate observation plus logic, and these were two processes which, if carefully and properly executed, yielded the highest level of certainty that there could be."Bryan Magee, Confessions of a Philosopher, pp.141-142'

Trained in Psychology/Philosophy combined hons and maintaining that seperation yet collaboration I still believe that science and the humanities ask very different questions on the nature, examination and verification of truth. In particular science with observations and falsification is concerned with Fact (Logical deduction, premises, hypothesis) while the humanities are dealing with Truth (Belief statements, nature of reality, theology). They can collaborate but the need for a multi-disciplinary approach for me is crucial.

I always enjoyed bad science by Ben Goldache http://www.badscience.net/ who would ask where truth is in science. Deductive, inductive, empirical and a priory knowledge which each have their place on differing approaches and the design of the study. For myself, Philosophy and Science have very different approaches, methods and interpretations of truth.

Here are at least two limits to science, discussed by the philosopher J.P. Moreland in his book *Christianity and the Nature of Science*:[5]

1. **Presuppositions of Science:** There are a number of preconditions or presuppositions of science which must be assumed if science is to be possible. Importantly, they are *philosophical presuppositions* brought *to* science. Examples include:

- *"the existence of the external, orderly, and knowable world"* The belief that there is a mind-independent ready-made world that exhibits various kinds of order (e.g., the distinction between cause and effect, object and its attributes, the unity of a single thing, the plurality of distinct things, etc.) and can be

discovered by the deliverances of science is a philosophical positions *brought to* science, not a deliverance of science.

- *"the uniformity of nature and induction"* In order for science to make predictions and offer explanations, it needs to assume the uniformity of a nature and the validity of induction. Both of these assumptions are philosophical in nature, they are assumed by scientists in order for science to be possible.

- *"The reliability of the senses and the mind"* Science assumes that our senses are reliable guides to the external world and that our intellect (or mind) is a reliable guide in conceptualizing the phenomena of the external world. Even branches of science that study the brain (neuroscientist) only seek to answer descriptive questions about the brain (not the mind!) whereas philosophy seeks to justify the deliverances of the mind.

- *"The adequacy of language to describe the world"* Science presupposes that language is an adequate medium for referring and stating truths about the world.

- *"Singularities, Ultimate Boundary Conditions, and Brute Givens"* Some features of the universe are, from a scientific perspective, brute givens—they are just there and science uses them to explain other things, even as they remain unexplained. The laws of nature, and the initial conditions of the universe are such brute givens. The cosmic singularity of the Big Bang is a brute given, scientifically speaking—philosophy may ask what caused the Big Bang, but not science.

2. There is knowledge outside science: Some issues/areas of study do not interface with science at all, claims (e.g.) in theology, history, ethics, and more. This doesn't mean that each of these areas never interact with science, still the point is that some issues lie outside the scope of science, and they can still be rationally evaluated, and count as knowledge.

As the philosopher of science, Nicholas Rescher puts it:

"Science does not have exclusive rights to 'knowledge:' its province is far narrower than that of inquiring reason in general. Even among the 'modes of knowledge,' science represents only one among others…. there are many other areas in which we have cognitive interest—areas wholly outside the province of science."

Science doesn't purvey absolute truth. Science is a mechanism. It's a way of trying to improve your knowledge of nature. It's a system for testing your thoughts against the universe and seeing whether they match. And this works, not just for the ordinary aspects of science, but for all of life. **I should think people would want to know that what they know is truly what the universe is like, or at least as close as they can get to it.**

- Isaac Asimov, Interview by Bill Moyers on *Bill Moyers' World Of Ideas*
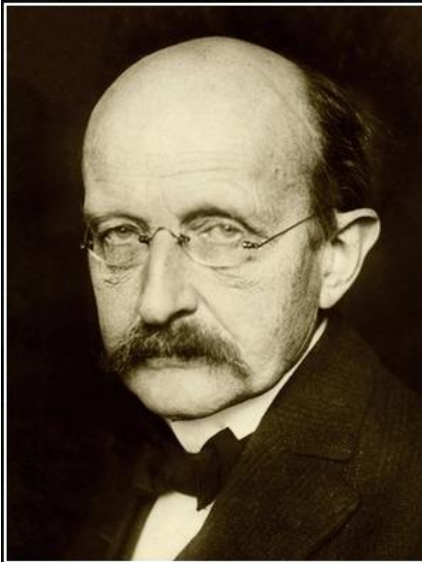
A scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die and a new generation grows up that is familiar with it.

— Max Planck —
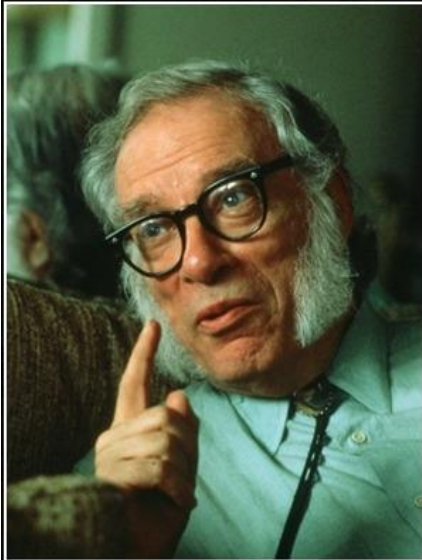
Science does not promise absolute truth, nor does it consider that such a thing necessarily exists. Science does not even promise that everything in the Universe is amenable to the scientific process.

— Isaac Asimov —
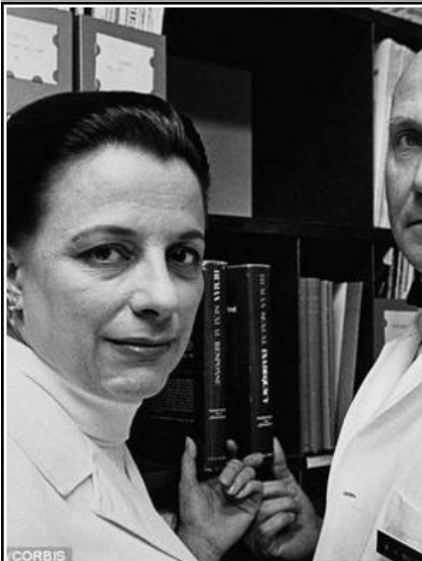
Science by itself has no moral dimension. But it does seek to establish truth. And upon this truth morality can be built.

— William H. Masters —

Several factors can help explain this rise in the belief in scientific truth relativism (Pojman 1995):

(1) A decline in religion:

People are less religious today and therefore less apt to believe in an absolute morality based on God's will.

As our own species is in the process of proving, **one cannot have superior science and inferior morals. The combination is unstable and self-destroying.**

- [Arthur C. Clarke](#)
The vast majority of modern scientists are agnostics in that they reject the claim of the metaphysical realist who presumes to have discovered substance and true being in the outside world. They will claim that substance and the thing in itself are unknowable, or at least that these elude rational investigation, and that the objective world of science is nothing but a mental construct imagined for the purpose of co-ordinating our sense impressions. But, once this point is admitted, they will recognise that this mentally constructed objective universe must to all intents and purposes be treated as a reality pre-existing to the observer who discovers it bit by bit. This last expression of opinion is not the result of some philosophical system. It is imposed upon scientists as an inevitable conclusion; for had it been proved impossible to imagine a common objective universe, the same for all men, science could never have existed, since it would have been reduced to individual points of view which could never have been co-ordinated. In other words, knowledge would have lacked generality; and without generality there could have been no such thing as science.

- A. D'Abro, *The Evolution of Scientific Thought from Newton to Einstein* (1927) p. 450.

(2) A reaction to the abuses of colonialism:

During the colonial era (and before) Western settlers and explorers conquered and converted the "uncivilized" people they found in the Americas, Africa, and the Pacific Islands. These abuses destroyed cultures and exploited indigenous peoples in the name of Western religion and morality.

In 1945, therefore, I proved a sentimental fool; and Mr. Truman could safely have classified me among the whimpering idiots he did not wish admitted to the presidential office. For I felt that no man has the right to decree so much suffering, and that science, in providing and sharpening the knife and in upholding the ram, had incurred a guilt of which it will never get rid. It was at that time that the nexus between science and murder became clear to me. For several years after the somber event, between 1947 and 1952, I tried desperately to find a position in what then appeared to me as a bucolic Switzerland,—but I had no success.

- Erwin Chargaff, *Heraclitean Fire: Sketches from a Life before Nature* (1978), 4.

(3) Multiculturalism:

People have become more aware of cultural diversity as a result of immigration, global communication, and empirical data from anthropology.

Scientists, therefore, are responsible for their research, not only intellectually but also morally. This responsibility has become an important issue in many of today's sciences, but especially so in physics, in which the results of quantum mechanics and relativity theory have opened up two very different paths for physicists to pursue. They may lead us—to put it in extreme terms—to the Buddha or to the Bomb, and it is up to each of us to decide which path to take.

- Fritjof Capra, in *The Turning Point: Science, Society, and the Rising Culture* (1983), 87.

(4) Science:

Many people today view science as the sole arbiter of truth and distrust disciplines, such as moral philosophy, that do not have the same level of objectivity. Further, many widely accepted scientific ideas, such as Darwin's theory of evolution, undermine the belief in objective, moral standards (Dennett 1995).

Science has taught us how to put the atom to work. But to make it work for good instead of for evil lies in the domain dealing with the principles of human duty. We are now facing a problem more of ethics than physics.

- [Bernard Baruch](#) speech to the United Nations Atomic Energy Commission (14 Jun 1946). In Alfred J. Kolatch, Great Jewish Quotations (1996), 39.

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I was particularly interested in that, in working on Jurassic Park that aspect of what are the negative parts. Because in talking with the people who were doing this kind of research what I was hearing was that the most responsible of them were deciding not to proceed down certain lines of inquiry which is really a new phase in science. Traditionally in science what the scientists themselves have said is: "I might as well do it, because if I don't, someone else will. It is going to happen inevitably." I think there's recognition now, that it's no so inevitable and it's quite conceivable that if I don't do this research neither will anyone else. It's simply too dangerous.

- [Michael Crichton](#), interview Lost World section of Beyond Jurassic Park DVD.

(5) Philosophy:

Many philosophers during the last century have challenged the objectivity of ethics and have defended versions of moral relativism. Some of them, such as Nietzsche and Sartre, have had an impact on Western literature and culture.

Science is a magnificent force, but it is not a teacher of [morals](#). It can [perfect](#) machinery, but it adds no moral restraints to protect society from the misuse of the [machine](#). It can also build gigantic intellectual ships, but it **constructs no moral rudders for the control of storm tossed human vessel.** It not only fails

to supply the spiritual element needed but **some of its unproven hypotheses rob the ship of its compass and thus endangers its cargo.**

- [William Jennings Bryan](#) [Scopes Monkey Trial Summation](#) (1925).

In [war](#), science has proven itself an evil genius; it has made war more terrible than it ever was before. Man used to be content to slaughter his fellowmen on a single plane — the earth's surface. Science has taught him to go down into the water and shoot up from below and to go up into the clouds and shoot down from above, thus making the battlefield three times a bloody as it was before; but **science does not teach brotherly love. Science has made war so hellish that civilization was about to commit suicide**; and now we are told that newly discovered instruments of destruction will make the cruelties of the late war seem trivial in comparison with the cruelties of wars that may come in the [future](#).

- [William Jennings Bryan](#) Scopes Monkey Trial Summation.

Our ethical and moral responsibility lies not only in discovery but in proper application and use of this knowledge for the benefit of all life not only our own speciesism.

- All religions, arts and sciences are branches of the same tree. All these aspirations are directed toward ennobling man's life, lifting it from the sphere of mere physical existence and leading the individual towards freedom. It is no mere chance that our older universities developed from clerical schools. Both churches and universities — insofar as they live up to their true function — serve the ennoblement of the individual. They seek to fulfill this great task by spreading moral and cultural understanding, renouncing the use of brute force.
  - [Albert Einstein](#), "Moral Decay" (1937); later published in *Out of My Later Years* (1950).

- **Science without religion is lame, religion without science is blind.**
  - [Albert Einstein](#), paper prepared for initial meeting of the Conference on Science, *Philosophy and Religion in Their Relation to the De*

I hope this has helped in your consideration of the limits of scientific truth and the need for the humanities and arts in contributing to the need for a global responsibility towards all truth for the benefit of all life. J H 2017

Men without Chests/Hearts. Those who lack them lack the specifically human element, the trunk that unites intellectual man with visceral (animal) man, and may be called "men without chests". The final chapter describes the ultimate consequences of this debunking: a distant future in which the values and morals of the majority are controlled by a small group who rule by a "perfect" understanding of psychology, and who in turn, being able to "see through" any system of morality that might induce them to act in a certain way, are ruled only by their own unreflected whims. In surrendering rational reflection on their own motivations, the controllers will no longer be recognizably human, the controlled will be robot-like, and the Abolition of Man will have been completed.

> **It is difficult to resist the conclusion that 20th century man has decided to abolish himself. Tired of the struggle to be himself, he has created boredom out of his own affluence, impotence out of his own erotomania, and vulnerability out of his own strength. He himself blows the trumpet, that brings the walls of his own cities crashing down. Until at last, having educated himself into imbecility, having drugged and polluted himself into stupefaction, he keels over a weary old brontosaurus and becomes extinct.**
> *–Malcolm Muggeridge*
> *British journalist of the 20th century*

"In the 1950s kids lost their innocence.
They were liberated from their parents by well-paying jobs, cars, and lyrics in music that gave rise to a new term ---the generation gap.
In the 1960s, kids lost their authority.
It was a decade of protest---church, state, and parents were all called into question and found wanting. Their authority was rejected, yet nothing ever replaced it.
In the 1970s, kids lost their love. It was the decade of me-ism dominated by hyphenated words beginning with self.
Self-image, Self-esteem, Self-assertion....It made for a lonely world. Kids learned everything there was to know about sex and forgot everything there was to know about love, and no one had the nerve to tell them there was a difference.
In the 1980s, kids lost their hope.
Stripped of innocence, authority and love and plagued by the horror of a nuclear nightmare, large and growing numbers of this generation stopped believing in the future.
In the 1990s kids lost their power to reason. Less and less were they taught the very basics of language, truth, and logic and they grew up with the irrationality of a postmodern world.
In the new millennium, kids woke up and found out that somewhere in the midst of all this change, they had lost their imagination. Violence and perversion entertained them till none could talk of killing innocents since none was innocent anymore."

Traditionally, faith and reason have each been sources of justification for religious belief. Because both can purportedly serve this same epistemic function, it has been a matter of much interest to philosophers and theologians how the two are related and thus how the rational agent should treat claims derived from either source. Some have held that there can be no conflict between the two—that reason properly employed and faith properly understood will never produce contradictory or competing claims— whereas others have maintained that faith and reason can (or even must) be in genuine contention over certain propositions or methodologies. Those who have taken the latter view disagree as to whether faith or reason ought to prevail when the two are in conflict. Kierkegaard, for instance, prioritizes faith even to the point that it becomes positively irrational, while Locke emphasizes the reasonableness of faith to such an extent that a religious doctrine's irrationality—conflict with itself or with known facts— is a sign that it is unsound. Other thinkers have theorized that faith and reason each govern their own separate domains, such that cases of apparent conflict are resolved on the side of faith when the claim in question is, say, a religious or theological claim, but resolved on the side of reason when the disputed claim is, for example, empirical or logical. Some relatively recent philosophers, most notably the logical positivists, have denied that there is a domain of thought or human existence rightly governed by faith, asserting instead that all meaningful statements and ideas are accessible to thorough rational examination. This has presented a challenge to religious thinkers to explain how an admittedly nonrational or transrational form of language can hold meaningful cognitive content.

This article traces the historical development of thought on the interrelation of religious faith and reason, beginning with Classical Greek conceptions of mind and religious mythology and continuing through the medieval Christian theologians, the rise of science proper in the early modern period, and the reformulation of the issue as one of 'science versus religion' in the twentieth century.

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1. Introduction

Faith and reason are both sources of authority upon which beliefs can rest. Reason generally is understood as the principles for a methodological inquiry, whether intellectual, moral, aesthetic, or religious. Thus is it not simply the rules of logical inference or the embodied wisdom of a tradition or authority. Some kind of algorithmic *demonstrability* is ordinarily presupposed. Once demonstrated, a proposition or claim is ordinarily understood to be justified as true or authoritative. Faith, on the other hand, involves a stance toward some claim that is not, at least presently, demonstrable by reason. Thus faith is a kind of attitude of trust or assent. As such, it is ordinarily understood to involve an act of will or a commitment on the part of the believer. Religious faith involves a belief that makes some kind of either an implicit or explicit reference to a transcendent source. The basis for a person's faith usually is understood to come from the authority of revelation. Revelation is either direct, through some kind of direct infusion, or indirect, usually from the testimony of an other. The religious beliefs that are the objects of faith can thus be divided into those what are in fact strictly demonstrable (*scienta*) and those that inform a believer's virtuous practices (*sapientia*).

Religious faith is of two kinds: evidence-sensitive and evidence-insensitive. The former views faith as closely coordinated with demonstrable truths; the latter more strictly as an act of the will of the religious believer alone. The former includes evidence garnered from the testimony and works of other believers. It is, however, possible to hold a religious belief simply on the basis either of faith alone or of reason alone. Moreover, one can even lack faith in God or deny His existence, but still find solace in the practice of religion.

The basic impetus for the problem of faith and reason comes from the fact that the revelation or set of revelations on which most religions are based is usually described and interpreted in sacred pronouncements, either in an oral tradition or canonical writings, backed by some kind of divine authority. These writings or oral traditions are

usually presented in the literary forms of narrative, parable, or discourse. As such, they are in some measure immune from rational critique and evaluation. In fact even the attempt to verify religious beliefs rationally can be seen as a kind of category mistake. Yet most religious traditions allow and even encourage some kind of rational examination of their beliefs.

The key philosophical issue regarding the problem of faith and reason is to work out how the authority of faith and the authority of reason interrelate in the process by which a religious belief is justified or established as true or justified. Four basic models of interaction are possible.

(a) The *conflict model*. Here the aims, objects, or methods of reason and faith seem to be very much the same. Thus when they seem to be saying different things, there is genuine rivalry. This model is thus assumed both by religious fundamentalists, who resolve the rivalry on the side of faith, and scientific naturalists, who resolve it on the side of reason.

(b) The *incompatibilist model*. Here the aims, objects, and methods of reason and faith are understood to be distinct. Compartmentalization of each is possible. Reason aims at empirical truth; religion aims at divine truths. Thus no rivalry exists between them. This model subdivides further into three subdivisions. First, one can hold faith is *transrational*, inasmuch as it is higher than reason. This latter strategy has been employed by some Christian existentialists. Reason can only reconstruct what is already implicit in faith or religious practice. Second, one can hold that religious belief is *irrational*, thus not subject to rational evaluation at all. This is the position taken ordinarily by those who adopt negative theology, the method that assumes that all speculation about God can only arrive at what God is not. The latter subdivision also includes those theories of belief that claim that religious language is only metaphorical in nature. This and other forms of irrationalism result in what is ordinarily considered fideism: the conviction that faith ought not to be subjected to any rational elucidation or justification.

(c) The *weak compatibilist model*. Here it is understood that dialogue is possible between reason and faith, though both maintain distinct realms of evaluation and cogency. For example, the substance of faith can be seen to involve miracles; that of reason to involve the scientific method of hypothesis testing. Much of the Reformed model of Christianity adopts this basic model.

(d) The *strong compatibilist model*. Here it is understood that faith and reason have an organic connection, and perhaps even parity. A typical form of strong compatibilism is termed natural theology. Articles of faith can be demonstrated by reason, either deductively (from widely shared theological premises) or inductively (from common experiences). It can take one of two forms: either it begins with justified scientific claims and supplements them with valid theological claims unavailable to science, or it starts with typical claims within a theological tradition and refines them by using scientific thinking. An example of the former would be the cosmological proof for God's existence; an example of the latter would be the argument that science would not be possible unless God's goodness ensured that the world is intelligible. Many, but certainly not all, Roman Catholic philosophers and theologians hold to the possibility of natural theology. Some natural theologians have attempted to unite faith and reason into a comprehensive metaphysical system. The strong compatibilist model, however, must explain why God chose to reveal Himself at all since we have such access to him through reason alone.

The interplay between reason and faith is an important topic in the philosophy of religion. It is closely related to, but distinct from, several other issues in the philosophy of religion: namely, the existence of God, divine attributes, the problem of evil, divine action in the world, religion and ethics, religious experience and religious language, and the problem of religious pluralism. Moreover, an analysis of the interplay between faith and reason also provides resources for philosophical arguments in other areas such as metaphysics, ontology, and epistemology.

While the issues the interplay between faith and reason addresses are endemic to almost any religious faith, this article will focus primarily on the faith claims found in the three great monotheistic world religions: Judaism, Islam, and particularly Christianity.

This rest of the article will trace out the history of the development of thinking about the relationship between faith and reason in Western philosophy from the classical period of the Greeks through the end of the twentieth century.

2. The Classical Period

Greek religions, in contrast to Judaism, speculated primarily not on the human world but on the cosmos as a whole. They were often formulated as literary myths. Nonetheless these forms of religious speculation were generally practical in nature: they aimed to increase personal and social virtue in those who engaged in them. Most of these religions involved civic cultic practices.

Philosophers from the earliest times in Greece tried to distill metaphysical issues out of these mythological claims. Once these principles were located and excised, these philosophers purified them from the esoteric speculation and superstition of their religious origins. They also decried the proclivities to gnosticism and elitism found in the religious culture whence the religious myths developed. None of these philosophers, however, was particularly interested in the issue of willed assent to or faith in these religious beliefs as such.

a. Aristotle and Plato

Both Plato and Aristotle found a principle of intellectual organization in religious thinking that could function metaphysically as a halt to the regress of explanation. In Plato, this is found in the Forms, particularly the Form of the Good. The Form of Good is that by which all things gain their intelligibility. Aristotle rejected the Form of the Good as unable to account for the variety of good things, appealing instead to the unmoved mover as an unchangeable cosmic entity. This primary substance also has intelligence as *nous*: it is "thought thinking itself." From this mind emerges exemplars for existent things.

Both thinkers also developed versions of natural theology by showing how religious beliefs emerge from rational reflections on concrete reality as such. An early form of religious apologetics - demonstrating the existence of the gods -- can be found in Plato's *Laws*. Aristotle's *Physics* gave arguments demonstrating the existence of an unmoved mover as a timeless self-thinker from the evidence of motion in the world.

b. Stoics and Epicureans

Both of these schools of thought derived certain theological kinds of thinking from physics and cosmology. The Stoics generally held a cosmological view of an eternal cycle of identical world-revolutions and world-destructions by a universal conflagration. Absolute necessity governs the cyclic process and is identified with divine reason (*logos*) and providence. This provident and benevolent God is immanent in the physical world. God orders the universe, though without an explicit purpose. Humans are microcosms; their souls are emanations of the fiery soul of the universe. The Epicureans, on the other hand, were skeptical, materialistic, and anti-dogmatic. It is not clear they were theists at all, though at some points they seem to be. They did speak of the gods as living in a blissful state in intermundial regions, without any interest in the affairs of humans. There is no relation between the evils of human life and a divine guidance of the universe. At death all human perception ceases.

c. Plotinus

Plotinus, in the *Enneads*, held that all modes of being and value originate in an overflow of procession from a single ineffable power that he identified with the radical simplicity of the One of Parmenides or the Good of Plato's *Republic*. *Nous*, the second hypostasis after the One, resembles Aristotle's unmoved mover. The orders of the world soul and nature follow after *Nous* in a linear procession. Humans contain the potentialities of these creative principles, and can choose to make their lives an ascent towards and then a union with the intuitive intelligence. The One is not a being, but infinite being. It is the cause of beings. Thus Christian and Jewish philosophers who held to a creator God could affirm such a conception. Plotinus might have been the first negative theologian, arguing that God, as simple, is know more from what he is not, than from what he is.

3. The Rise of Christianity

Christianity, emerging from Judaism, imposed a set of revealed truths and practices on its adherents. Many of these beliefs and practices differed significantly from what the Greek religions and Judaism had held. For example, Christians held that God created the world *ex nihilo*, that God is three persons, and that Jesus Christ was the ultimate revelation of God. Nonetheless, from the earliest of times, Christians held to a significant degree of compatibility between faith and reason.

a. St. Paul

The writings attributed to St. Paul in the Christian Scriptures provide diverse interpretations of the relation between faith and reason. First, in the *Acts of the Apostles*, Paul himself engages in discussion with "certain Epicurean and Stoic philosophers" at the Aeropagus in Athens (Acts 17:18). Here he champions the unity of the Christian God as the creator of all. God is "not far from any one of us." Much of Paul's speech, in fact, seems to allude to Stoic beliefs. It reflects a sympathy with pagan customs, handles the subject of idol worship gently, and appeals for a new examination of divinity not from the standpoint of creation, but from practical engagement with the world. However, he claims that this same God will one day come to judge all mankind. But in his famous passage from Romans 1:20, Paul is less obliging to non-Christians. Here he champions a natural theology against those pagans who would claim that, even on Christian grounds, their previous lack of access to the Christian God would absolve them from guilt for their nonbelief. Paul argues that in fact anyone can attain to the truth of God's existence merely from using his or her reason to reflect on the natural world. Thus this strong compatibilist interpretation entailed a reduced tolerance for atheists and agnostics. Yet in 1 Corinthians 1:23, Paul suggests a kind of

incompatibilism, claiming that Christian revelation is folly the Gentiles (meaning Greeks). He points out that the world did not come to know God through wisdom; God chose to reveal Himself fully to those of simple faith.

These diverse Pauline interpretations of the relation between faith and reason were to continue to manifest themselves in various ways through the centuries that followed.

b. Early Christian Apologists

The early apologists were both compatibilists and incompatibilists. Tertullian took up the ideas of Paul in 1 Corinthians, proclaiming that Christianity is not merely incompatible with but offensive to natural reason. Jerusalem has nothing to do with Athens. He boldly claimed *credo quia absurdum est* ("I believe because it is absurd"). He claims that religious faith is both against and above reason. In his *De Praescriptione Haereticorum*, he proclaims, "when we believe, we desire to believe nothing further."

On the other hand, Justin Martyr converted to Christianity, but continued to hold Greek philosophy in high esteem. In his *Dialogue with Trypho* he finds Christianity "the only sure and profitable philosophy."

In a similar vein, Clement of Alexandria in his *Stromata* called the Gospel "the true philosophy." Philosophy acted as a "schoolmaster" to bring the Greeks to Christ, just as the law brought the Jews. But he maintained that Greek philosophy is unnecessary for a defense of the faith, though it helps to disarm sophistry. He also worked to demonstrate in a rational way what is found in faith. He claimed that "I believe in order that I may know" (*credo ut intelligam*). This set Christianity on firmer intellectual foundations. Clement also worked to clarify the early creeds of Christianity, using philosophical notions of substance, being, and person, in order to combat heresies.

c. St. Augustine

Augustine emerged in the late fourth century as a rigorous defender of the Christian faith. He responded forcefully to pagans' allegations that Christian beliefs were not only superstitious but also barbaric. But he was, for the most part, a strong compatibilist. He felt that intellectual inquiry into the faith was to be understood as faith seeking understanding (*fides quaerens intellectum*). To believe is "to think with assent" (*credere est assensione cogitare*). It is an act of the intellect determined not by the reason, but by the will. Faith involves a commitment "to believe in a God," "to believe God," and "to believe in God."

In *On Christian Doctrine* Augustine makes it clear that Christian teachers not only may, but ought, to use pagan thinking when interpreting Scripture. He points out that if a pagan science studies what is eternal and unchanging, it can be used to clarify and illuminate the Christian faith. Thus logic, history, and the natural sciences are extremely helpful in matters of interpreting ambiguous or unknown symbols in the Scriptures. However, Augustine is equally interested to avoid any pagan learning, such as that of crafts and superstition that is not targeted at unchangeable knowledge.

Augustine believed that Platonists were the best of philosophers, since they concentrated not merely on the causes of things and the method of acquiring knowledge, but also on the cause of the organized universe as such. One does not, then, have to be a Christian to have a conception of God. Yet, only a Christian can attain to this kind of knowledge without having to have recourse to philosophy.

Augustine argued further that the final authority for the determination of the use of reason in faith lies not with the individual, but with the Church itself. His battle with the Manichean heresy prompted him to realize that the Church is indeed the final

arbiter of what cannot be demonstrated--or can be demonstrated but cannot be understood by all believers. Yet despite this appeal to ecclesiastical authority, he believe that one cannot genuinely understand God until one loves Him.

d. Pseudo-Dionysius

Pseudo Dionysius was heavily influenced by neo-Platonism. In letter IX of his *Corpus Dionysiacum*, he claimed that our language about God provides no information about God but only a way of protecting God's otherness. His analysis gave rise to the unique form negative theology. It entailed a severe restriction in our access to and understanding of the nature of God. In his "Mystical Theology" Pseudo-Dionysius describes how the soul's destiny is to be fully united with the ineffable and absolutely transcendent God.

4. The Medieval Period

Much of the importance of this period stems from its retrieval of Greek thinking, particularly that of Aristotle. At the beginning of the period Arab translators set to work translating and distributing many works of Greek philosophy, making them available to Jewish, Islamic, and Christian philosophers and theologians alike.

For the most part, medieval theologians adopted an epistemological distinction the Greeks had developed: between *scienta* (*episteme*), propositions established on the basis of principles, and *opinio*, propositions established on the basis of appeals to authority. An established claim in theology, confirmed by either *scienta* or *opinio*, demanded the believer's assent. Yet despite this possibility of *scientia* in matters of faith, medieval philosophers and theologians believed that it could be realized only in a limited sense. They were all too aware of St. Paul's caveat that faith is a matter of "seeing in a mirror dimly" (1 Cor 1:13).

a. St. Anselm

Like Augustine, Anselm held that one must love God in order to have knowledge of Him. In the *Proslogion*, he argues that "the smoke of our wrongdoing" will prohibit us from this knowledge. Anselm is most noted, however, for his ontological argument, presented in his *Proslogion*. He claimed that it is possible for reason to affirm that God exists from inferences made from what the understanding can conceive within its own confines. As such he was a gifted natural theologian. Like Augustine, Anselm held that the natural theologian seeks not to understand in order to believe, but to believe in order to understand. This is the basis for his principle *intellectus fidei*. Under this conception, reason is not asked to pass judgment on the content of faith, but to find its meaning and to discover explanations that enable others to understand its content. But when reason confronts what is incomprehensible, it remains unshaken since it is guided by faith's affirmation of the truth of its own incomprehensible claims.

b. Peter Lombard

Lombard was an important precursor to Aquinas. Following Augustine, he argued that pagans can know about much about truths of the one God simply by their possession of reason (e.g. that spirit is better than body, the mutable can exists only from a immutable principle, all beauty points to a beauty beyond compare). But in addition, pagans can affirm basic truths about the Trinity from these same affirmations, inasmuch as all things mirror three attributes associated with the Trinity: unity (the Father), form or beauty (the Son), and a position or order (the Holy Spirit).

c. Islamic Philosophers

Islamic philosophers in the tenth and eleventh centuries were also heavily influenced by the reintroduction of Aristotle into their intellectual culture.

Avicenna (Ibn Sina) held that as long as religion is properly construed it comprises an area of truth no different than that of philosophy. He built this theory of strong compatibilism on the basis of his philosophical study of Aristotle and Plotinus and his theological study of his native Islam. He held that philosophy reveals that Islam is the highest form of life. He defended the Islamic belief in the immortality of individual souls on the grounds that, although as Aristotle taught the agent intellect was one in all persons, the unique potential intellect of each person, illuminated by the agent intellect, survives death.

Averroes (Ibn Rushd), though also a scholar of Aristotle's works, was less sympathetic to compatibilism than his predecessor Avicenna. But in his *Incoherence of Incoherence*, he attacked Algazel's criticisms of rationalism in theology. For example, he developed a form of natural theology in which the task of proving the existence of God is possible. He held, however, that it could be proven only from the physical fact of motion. Nonetheless Averroes did not think that philosophy could prove all Islamic beliefs, such as that of individual immortality. Following Aristotle in *De Anima*, Averroes argued for a separation between the active and passive intellects, even though they enter into a temporary connection with individual humans. This position entails the conclusion that no individuated intellect survives death. Yet Averroes held firmly to the contrary opinion by faith alone.

d. Jewish Philosophy

Moses Maimonides, a Jewish philosopher, allowed for a significant role of reason in critically interpreting the Scriptures. But he is probably best known for his development of negative theology. Following Avicenna's affirmation of a real distinction between essence and existence, Maimonides concluded that no positive essential attributes may be predicated of God. God does not possess anything superadded to his essence, and his essence includes all his perfections. The attributes we do have are derived from the Pentateuch and the Prophets. Yet even these positive attributes, such as wisdom and power, would imply defects in God if applied to Him in the same sense they are applied to us. Since God is simple, it is impossible that we should know one part, or predication, of Him and not another. He argues that when one proves the negation of a thing believed to exist in God, one becomes more perfect and closer to knowledge of God. He quotes Psalm 4:4's approval of an attitude of silence towards God. Those who do otherwise commit profanity and blasphemy. It is not certain, however, whether Maimonides rejected the possibility of positive knowledge of the accidental attributes of God's action.

e. St. Thomas Aquinas

Unlike Augustine, who made little distinction between explaining the meaning of a theological proposition and giving an argument for it, Aquinas worked out a highly articulated theory of theological reasoning. St. Bonaventure, an immediate precursor to Aquinas, had argued that no one could attain to truth unless he philosophizes in the light of faith. Thomas held that our faith in eternal salvation shows that we have theological truths that exceed human reason. But he also claimed that one could attain truths about religious claims without faith, though such truths are incomplete. In the *Summa Contra Gentiles* he called this a "a two fold truth" about religious claims,

"one to which the inquiry of reason can reach, the other which surpasses the whole ability of the human reason." No contradiction can stand between these two truths. However, something can be true for faith and false (or inconclusive) in philosophy, though not the other way around. This entails that a non-believer can attain to truth, though not to the higher truths of faith.

A puzzling question naturally arises: why are two truths needed? Isn't one truth enough? Moreover, if God were indeed the object of rational inquiry in this supernatural way, why would faith be required at all? In *De Veritate* (14,9) Thomas responds to this question by claiming that one cannot believe by faith and know by rational demonstration the very same truth since this would make one or the other kind of knowledge superfluous.

On the basis of this two-fold theory of truth, Aquinas thus distinguished between revealed (dogmatic) theology and rational (philosophical) theology. The former is a genuine science, even though it is not based on natural experience and reason. Revealed theology is a single speculative science concerned with knowledge of God. Because of its greater certitude and higher dignity of subject matter, it is nobler than any other science. Philosophical theology, though, can make demonstrations using the articles of faith as its principles. Moreover, it can apologetically refute objections raised against the faith even if no articles of faith are presupposed. But unlike revealed theology, it can err.

Aquinas claimed that the act of faith consists essentially in knowledge. Faith is an intellectual act whose object is truth. Thus it has both a subjective and objective aspect. From the side of the subject, it is the mind's assent to what is not seen: "Faith is the evidence of things that appear not" (Hebrews 11:1). Moreover, this assent, as an act of will, can be meritorious for the believer, even though it also always involves the assistance of God's grace. Moreover, faith can be a virtue, since it is a good habit, productive of good works. However, when we assent to truth in faith, we do so on the accepted testimony of another. From the side of what is believed, the objective aspect, Aquinas clearly distinguished between "preambles of faith," which can be established by philosophical principles, and "articles of faith" that rest on divine testimony alone. A proof of God's existence is an example of a preamble of faith. Faith alone can grasp, on the other hand, the article of faith that the world was created in time (*Summa Theologiae* I, q. 46, a. 2). Aquinas argued that the world considered in itself offers no grounds for demonstrating that it was once all new. Demonstration is always about definitions, and definitions, as universal, abstract from "the here and now." A temporal beginning, thus demonstrated, is ruled out *tout court*. Of course this would extend to any argument about origination of the first of any species in a chain of efficient causes. Here Thomas sounds a lot like Kant will in his antinomies. Yet by faith we believe the world had a beginning. However, one rational consideration that suggests, though not definitively, a beginning to the world is that the passage from one term to another includes only a limited number of intermediate points between them.

Aquinas thus characterizes the articles of faith as first truths that stand in a "mean between science and opinion." They are like scientific claims since their objects are true; they are like mere opinions in that they have not been verified by natural experience. Though he agrees with Augustine that no created intellect can comprehend God as an object, the intellect can grasp his existence indirectly. The more a cause is grasped, the more of its effects can be seen in it; and since God is the ultimate cause of all other reality, the more perfectly an intellect understands God, the greater will be its knowledge of the things God does or can do. So although we cannot know the divine

essence as an object, we can know whether He exists and on the basis of analogical knowledge what must necessarily belong to Him. Aquinas maintains, however, that some objects of faith, such as the Trinity or the Incarnation, lie entirely beyond our capacity to understand them in this life.

Aquinas also elucidates the relationship between faith and reason on the basis of a distinction between higher and lower orders of creation. Aquinas criticizes the form of naturalism that holds that the goodness of any reality "is whatever belongs to it in keeping with its own nature" without need for faith (II-IIae, q.2, a.3). Yet, from reason itself we know that every ordered pattern of nature has two factors that concur in its full development: one on the basis of its own operation; the other, on the basis of the operation of a higher nature. The example is water: in a lower pattern, it naturally flows toward the centre, but in virtue of a higher pattern, such as the pull of the moon, it flows around the center. In the realm of our concrete knowledge of things, a lower pattern grasps only particulars, while a higher pattern grasps universals.

Given this distinction of orders, Thomas shows how the lower can indeed point to the higher. His arguments for God's existence indicate this possibility. From this conviction he develops a highly nuanced natural theology regarding the proofs of God's existence. The first of his famous five ways is the argument from motion. Borrowing from Aristotle, Aquinas holds to the claim that, since every physical mover is a moved mover, the experience of any physical motion indicates a first unmoved mover. Otherwise one would have to affirm an infinite chain of movers, which he shows is not rationally possible. Aquinas then proceeds to arguments from the lower orders of efficient causation, contingency, imperfection, and teleology to affirm the existence of a unitary all-powerful being. He concludes that these conclusions compel belief in the Judeo-Christian God.

Conversely, it is also possible to move from the higher to the lower orders. Rational beings can know "the meaning of the good as such" since goodness has an immediate order to the higher pattern of the universal source of being (II-IIae q.2, a.3). The final good considered by the theologian differs, however, from that considered by the philosopher: the former is the *bonum ultimum* proportionate to human powers; the latter is the beatific vision. Both forms of the ultimate good have important ramifications, since they ground not only the moral distinction between natural and supernatural virtues, but also the political distinction between ecclesial and secular power.
Aquinas concludes that we come to know completely the truths of faith only through the virtue of wisdom (*sapientia*). Thomas says that "whatever its source, truth of is of the Holy Spirit" (*Summa Theologiae,* I-IIae q. 109, a. 1). The Spirit "enables judgment according to divine truth" (II-IIae 45, q. 1, ad 2). Moreover, faith and charity are prerequisites for the achievement of this wisdom.
Thomas's two-fold theory of truth develops a strong compatibilism between faith and reason. But it can be argued that after his time what was intended as a mutual autonomy soon became an expanding separation.

f. The Franciscan Philosophers
Duns Scotus, like his successor William of Ockham, reacted in a characteristic Franciscan way to Thomas's Dominican views. While the Dominicans tended to affirm

the possibility of rational demonstrability of certain preambles of faith, the Franciscans tended more toward a more restricted theological science, based solely on empirical and logical analysis of beliefs.

Scotus first restricts the scope of Aquinas's rational theology by refuting its ability to provide arguments that stop infinite regresses. In fact he is wary of the attempts of natural theology to prove anything about higher orders from lower orders. On this basis, he rejects the argument from motion to prove God's existence. He admits that lower beings move and as such they require a first mover; but he maintains that one cannot prove something definitive about higher beings from even the most noble of lower beings. Instead, Scotus thinks that reason can be employed only to elucidate a concept. In the realm of theology, the key concept to elucidate is that of infinite being. So in his discussion of God's existence, he takes a metaphysical view of efficiency, arguing that there must be not a first mover, but an actually self-existent being which makes all possibles possible. In moving towards this restricted form of conceptualist analysis, he thus gives renewed emphasis to negative theology.

Ockham then radicalized Scotus's restrictions of our knowledge of God. He claimed that the Greek metaphysics of the 13th century, holding to the necessity of causal connections, contaminated the purity of the Christian faith. He argued instead that we cannot know God as a deduction from necessary principles. In fact, he rejected the possibility that any science can verify any necessity, since nothing in the world is necessary: if A and B are distinct, God could cause one to exist without the other. So science can demonstrate only the implications of terms, premises, and definitions. It keeps within the purely conceptual sphere. Like Scotus he argued held that any necessity in an empirical proposition comes from the divine order. He concluded that we know the existence of God, his attributes, the immortality of the soul, and freedom only by faith. His desire to preserve divine freedom and omnipotence thus led in the direction of a voluntaristic form of fideism.

5. The Renaissance and Enlightenment Periods

Ockham's denial of the necessity in the scope of scientific findings perhaps surprisingly heralded the beginnings of a significant movement towards the autonomy of empirical science. But with this increased autonomy came also a growing incompatibility between the claims of science and those of religious authorities. Thus the tension between faith and reason now became set squarely for the first time in the conflict between science and religion. This influx of scientific thinking undermined the hitherto reign of Scholasticism. By the seventeenth century, what had begun as a criticism of the authority of the Church evolved into a full-blown skepticism regarding the possibility of any rational defense of fundamental Christian beliefs.

The Protestant Reformers shifted their emphasis from the medieval conception of faith as a *fides*(belief that) to *fiducia* (faith in). Thus attitude and commitment of the believer took on more importance. The Reformation brought in its wake a remarkable new focus on the importance of the study of Scripture as a warrant for one's personal beliefs.

The Renaissance also witnessed the development of a renewed emphasis on Greek humanism. In the early part of this period, Nicholas of Cusa and others took a renewed interest in Platonism.

a. The Galileo Controversy

In the seventeenth century, Galileo understood "reason" as scientific inference based and experiment and demonstration. Moreover, experimentation was not a matter simply of observation, it also involved measurement, quantification, and formulization of the properties of the objects observed. Though he was not the first to do attempt this systematization -- Archimedes had done the same centuries before - Galileo developed it to such an extent that he overthrew the foundations of Aristotelian physics. He rejected, for example, Aristotle's claim that every moving had a mover whose force had to be continually applied. In fact it was possible to have more than one force operating on the same body at the same time. Without the principle of a singular moved mover, it was also conceivable that God could have "started" the world, then left it to move on its own.

The finding of his that sparked the great controversy with the Catholic Church was, however, Galileo's defense of Copernicus's rejection of the Ptolemaic geocentric universe. Galileo used a telescope he had designed to confirm the hypothesis of the heliocentric system. He also hypothesized that the universe might be indefinitely large. Realizing that such conclusions were at variance with Church teaching, he followed Augustine's rule than an interpretation of Scripture should be revised when it confronts properly scientific knowledge.

The officials of the Catholic Church - with some exceptions -- strongly resisted these conclusions and continued to champion a pre-Copernican conception of the cosmos. The Church formally condemned Galileo's findings for on several grounds. First, the Church tended to hold to a rather literal interpretation of Scripture, particularly of the account of creation in the book of Genesis. Such interpretations did not square with the new scientific views of the cosmos such as the claim that the universe is infinitely large. Second, the Church was wary of those aspects of the "new science" Galileo represented that still mixed with magic and astrology. Third, these scientific findings upset much of the hitherto view of the cosmos that had undergirded the socio-political order the Church endorsed. Moreover, the new scientific views supported Calvinist views of determinism against the Catholic notion of free will. It took centuries before the Church officially rescinded its condemnation of Galileo.

b. Erasmus

Inspired by Greek humanism, Desiderius Erasmus placed a strong emphasis on the autonomy of human reason and the importance of moral precepts. As a Christian, he distinguished among three forms of law: laws of nature, thoroughly engraved in the minds of all men as St. Paul had argued, laws of works, and laws of faith. He was convinced that philosophers, who study laws of nature, could also produce moral precepts akin to those in Christianity. But Christian justification still comes ultimately only from the grace that can reveal and give a person the ability to follow the law of faith. As such, "faith cures reason, which has been wounded by sin." So, while the laws of works are for the most part prohibitions against certain sins, the laws of faith tend to be positive duties, such as the injunctions to love one's enemies and to carry one's cross daily.

c. The Protestant Reformers

Martin Luther restricted the power of reason to illuminate faith. Like many reformers, he considered the human being alone unable to free itself from sin. In *The Bondage of the Will*, he makes a strict separation between what man has dominion over (his

dealings with the lower creatures) and what God has dominion over (the affairs of His kingdom and thus of salvation). Reason is often very foolish: it immediately jumps to conclusions when it sees a thing happen once or twice. But by its reflections on the nature of words and our use of language, it can help us to grasp our own spiritual impotence.

Luther thus rejected the doctrine of analogy, developed by Aquinas and others, as an example of the false power of reason. In his *Heidelberg Disputation* Luther claims that a theologian must look only "on the visible rearward parts of God as seen in suffering and the cross." Only from this perspective, do we keep our faith when we see, for example, that in the world the unjust prosper and the good undergo afflictions. Thus faith is primarily an act of trust in God's grace.

Luther thus stresses the gratuitousness of salvation. In a traditional sense, Roman Catholics generally held that faith is meritorious, and thus that salvation involves good works. Protestant reformers like Luther, on the other hand, held that indeed faith is pure gift. He thus tended to make the hitherto Catholic emphasis on works look voluntaristic.

Like Luther, John Calvin appealed to the radical necessity of grace for salvation. This was embodied in his doctrine of election. But unlike Luther, Calvin gave a more measured response to the power of human reason to illuminate faith. In his *Institutes of the Christian Religion*, he argued that the human mind possesses, by natural instinct, an "awareness of divinity." This *sensus divinitatis* is that whereby we form specific beliefs about God in specific situations, e.g. when experiencing danger, beauty, or even guilt. Even idolatry can contain as aspect of this. So religion is not merely arbitrary superstition. And yet, the law of creation makes necessary that we direct every thought and action to this goal of knowing God.

Despite this fundamental divine orientation, Calvin denied that a believer could build up a firm faith in Scripture through argument and disputation. He appealed instead to the testimony of Spirit embodied gained through a life of religious piety. Only through this testimony is certainty about one's beliefs obtained. We attain a conviction without reasons, but only through "nothing other than what each believer experiences within himself--though my words fall far beneath a just explanation of the matter." He realized, however, that "believers have a perpetual struggle with their own lack of faith." But these struggles never remove them from divine mercy.

Calvin is thus an incompatibilist of the transrational type: faith is not against, but is beyond human reason.

d. Continental Rationalism

René Descartes, even more profoundly than Calvin, moved reason into the confines of the thinking subject. But he expanded the power of reason to grasp firmly the preambles of faith. In his *Mations*, he claimed to have provided what amounted to be the most certain proofs of God possible. God becomes explicated by means of the foundation of subjective self-certainty. His proofs hinged upon his conviction that God cannot be a deceiver. Little room is left for faith.

Descartes's thinking prepared Gottfried Leibniz to develop his doctrine of sufficient reason. Leibniz first argued that all truths are reducible to identities. From this it follows that a complete or perfect concept of an individual substance involves all its predicates, whether past, present, or future. From this he constructed his principle of

sufficient reason: there is no event without a reason and no effect without a cause. He uses this not only to provide a rigorous cosmological proof for God's existence from the fact of motion, but also to defend the cogency of both the ontological argument and the argument from design.

In his *Theodicy* Leibniz responded to Pierre Bayle, a French *philosophe*, who gave a skeptical critique of rationalism and support of fideism. First, Leibniz held that all truths are complementary, and cannot be mutually inconsistent. He argued that there are two general types of truth: those that are altogether necessary, since their opposite implies contradiction, and those that are consequences of the laws of nature. God can dispense only with the latter laws, such as the law of our mortality. A doctrine of faith can never violate something of the first type; but it can be in tension with truths of the second sort. Thus though no article of faith can be self-contradictory, reason may not be able to fully comprehend it. Mysteries, such as that of the Trinity, are simply "above reason." But how do we weigh the probabilities favoring a doctrine of faith against those derived from general experience and the laws of nature? We must weigh these decisions by taking into account the existence and nature of God and the universal harmony by which the world is providentially created and ordered.

Leibniz insisted that one must respect the differences among the three distinct functions of reason: to comprehend, to prove, and to answer objections. In the faith/reason controversy, Leibniz thought that the third function takes on particular prominence. However, one sees vestiges of the first two as well, since an inquiry into truths of faith employs proofs of the infinite whose strength or weakness the reasoner can comprehend.

Baruch Spinoza, a Dutch philosopher, brought a distinctly Jewish perspective to his rigorously rationalistic analysis of faith. Noticing that religious persons showed no particular penchant to virtuous life, he decided to read the Scriptures afresh without any presuppositions. He found that Old Testament prophecy, for example, concerned not speculative but primarily practical matters. Obedience to God was one. He took this to entail that whatever remains effective in religion applies only to moral matters. He then claimed that the Scriptures do not conflict with natural reason, leaving it free reign. No revelation is needed for morality. Moreover, he was led to claim that though the various religions have very different doctrines, they are very similar to one another in their moral pronouncements.

e. Blaise Pascal

Pascal rejected the hitherto claims of medieval natural theologians, by claiming that reason can neither affirm nor deny God's existence. Instead he focused on the way that we should act given this ambiguity. He argued that since the negative consequences of believing are few (diminution of the passions, some pious actions) but the gain of believing is infinite (eternal life), it is more rational to believe than to disbelieve in God's existence. This assumes, of course, both that God would not grant eternal life to a non-believer and that sincerity in one's belief in God is not a requirement for salvation. As such, Pascal introduced an original form of rational voluntarism into the analysis of faith.

f. Empiricism

John Locke lived at a time when the traditional medieval view of a unified body of articulate wisdom no longer seemed plausible. Yet he still held to the basic medieval idea that faith is assent to specific propositions on the basis of God's authority. Yet

unlike Aquinas, he argued that faith is not a state between knowledge and opinion, but a form of opinion (*doxa*). But he developed a kind of apology for Christianity: an appeal to revelation, without an appeal to enthusiasm or inspiration. His aim was to demonstrate the "reasonableness of Christianity." Though faith and reason have "strict" distinct provinces, faith must be in accord with reason. Faith cannot convince us of what contradicts, or is contrary, to our knowledge. We cannot assent to a revealed proposition if it be contradictory to our clear intuitive knowledge. But propositions of faith are, nonetheless, understood to be "above reason."

Locke specifies two ways in which matters of faith can be revealed: either though "original revelation" or "traditional revelation." Moses receiving the Decalogue is an example of the former; his communication of its laws to the Israelites is an example of the latter. The truth of original revelation cannot be contrary to reason. But traditional revelation is even more dependent on reason, since if an original revelation is to be communicated, it cannot be understood unless those who receive it have already received a correlate idea through sensation or reflection and understood the empirical signs through which it is communicated.

For Locke, reason justifies beliefs, and assigns them varying degrees of probability based on the power of the evidence. But, like Aquinas, Locke held to the evidence not only of logical/mathematical and certain self-affirming existential claims, but also "that which is evident to the senses." All of these veridical beliefs depend upon no other beliefs for their justification. But faith requires the even less certain evidence of the testimony of others. In the final analysis, faith's assent is made not by a deduction from reason, but by the "cr of the proposer, as coming from God, in some extraordinary way of communication." Thus Locke's understands faith as a probable consent.

Locke also developed a version of natural theology. In *An Essay Concerning Human Understanding* he claims that the complex ideas we have of God are made of up ideas of reflection. For example, we take the ideas of existence, duration, pleasure, happiness, knowledge, and power and "enlarge every one of these with our idea of Infinity; and so putting them together, make our complex idea of God." We cannot know God's own essence, however.

David Hume, like Locke, rejected rationalism, but developed a more radical kind of empiricism than Locke had. He argued that concrete experience is "our only guide in reasoning concerning matters of fact." Thus he rejected the possibility of arguing for the truths of faith on the basis either of natural theology or the evidence of miracles. He supported this conclusion on two grounds. First, natural theology requires certain inferences from everyday experience. The argument from design infers that we can infer a single designer from our experience of the world. Though Hume agrees that we have experiences of the world as an artifact, he claims that we cannot make any probable inference from this fact to quality, power, or number of the artisans. Second, Hume argues that miracles are not only often unreliable grounds as evidence for belief, but in fact are apriori impossible. A miracle by definition is a transgression of a law of nature, and yet by their very nature these laws admit of no exceptions. Thus we cannot even call it a law of nature that has been violated. He concludes that reason and experience fail to establish divine infinity, God's moral attributes, or any specification of the ongoing relationship between the Deity and man. But rather than concluding that his stance towards religious beliefs was one of atheism or even a mere Deism, Hume argued that he was a genuine Theist. He believed that we have a genuine natural sentiment by which we long for heaven. The one who is aware of the inability of reason

to affirm these truths in fact is the person who can grasp revealed truth with the greatest avidity.

g. German Idealism

Immanuel Kant was heavily influenced by Descartes's anthropomorphism and Spinoza's and Jean Jacques Rousseau's restriction of the scope of religion to ethical matters. Moreover, he wanted a view that was consistent with Newton's discoveries about the strict natural laws that govern the empirical world. To accomplish this, he steered the scope of reason away from metaphysical, natural, and religious speculation altogether.

Kant's claim that theoretical reason was unable to grasp truths about God effectively continued the contraction of the authority of *scienta* in matters of faith that had been occurring since the late medieval period. He rejected, then, the timeless and spaceless God of revelation characteristic of the Augustinian tradition as beyond human ken. This is most evident in his critique of the cosmological proof for the existence of God in *The Critique of Pure Reason*. This move left Kant immune from the threat of unresolvable paradoxes. Nonetheless he did allow the concept of God (as well as the ideas of immortality and the soul) to become not a constitutive but a regulative ideal of reason. God's existence remains a necessary postulate specifically for the moral law. God functions as the sources for the *summum bonum*. Only God can guarantee an ideal conformity of virtue and happiness, which is required to fulfill the principle that "ought implies can." This grounded what Kant called a faith distinct from knowledge or comprehension, but nonetheless rational. Rational faith involves reliance neither upon God's word nor the person of Christ, but only upon the recognition of God as the source of how we subjectively realize our duties. God is cause of our moral purposes as rational beings in nature. Yet faith is "free belief": it is the permanent principle of the mind to assume as true, on account of the obligation in reference to it, that which is necessary to presuppose as condition of the possibility of the highest moral purpose. Like Spinoza, Kant makes all theology moral theology.

Since faith transcends the world of experience, it is neither doubtful nor merely probable. Thus Kant's view of faith is complex: it has no theoretical grounds, yet it has a rational basis that provides more or less stable conviction for believers. He provided a religion grounded without revelation or grace. It ushered in new immanentism in rational views of belief.

G.W.F. Hegel, at the peak of German Idealism, took up Kant's immanentism but moved it in a more radical direction. He claimed that in Kant, "philosophy has made itself the handmaid of a faith once more" though one not externally imposed but autonomously constituted. Hegel approved of the way Kant helped to modify the Enlightenment's dogmatic emphasis on the empirical world, particularly as evidenced in the way Locke turned philosophy into empirical psychology. But though Kant held to an "idealism of the finite," Hegel thought that Kant did not extend his idealism far enough. Kant's regulative view of reason was doomed to regard faith and knowledge as irrevocably opposed. Hegel argued that a further development of idealism shows have faith and knowledge are related and synthesized in the Absolute.

Hegel reinterpreted the traditional proofs for God's existence, rejected by Kant, as authentic expressions of the need of finite spirit to elevate itself to oneness with God. In religion this attempt to identify with God is accomplished through feeling. Feelings are, however, subject to conflict and opposition. But they are not merely subjective. The content of God enters feeling such that the feeling derives its determination from

this content. Thus faith, implanted in one's heart, can be defended by the testimony of the indwelling spirit of truth.

Hegel's thoroughgoing rationalism ultimate yields a form of panentheism in which all finite beings, though distinct from natural necessity, have no existence independent from it. "There is only one Being... and things by their very nature form part of it." God is the being in whom spirit and nature are united. Thus faith is merely an expression of a finitude comprehensible only from the rational perspective of the infinite. Faith is merely a moment in our transition to absolute knowledge.

6. The Nineteenth Century

Physics and astronomy were the primary scientific concerns for theologians in the seventeenth and eighteenth centuries. But in the nineteenth and twentieth centuries the sciences of geology, sociology, psychology, and biology became more pronounced.

Kant's understanding of God as a postulate of practical reason - and his dismissal of metaphysical and empirical support for religion -- soon led to the idea that God could be a mere projection of practical feeling or psychological impulse. Such an idea echoed Hobbes's claim that religion arises from fear and superstition. Sigmund Freud claimed, for example, that religious beliefs were the result of the projection of a protective father figure onto our life situations. Although such claims about projection seem immune from falsification, the Freudian could count such an attempt to falsify itself simply as rationalization: a masking of a deeper unconscious drive.

The nineteenth century biological development most significant for theology was Charles Darwin's theory of natural selection. It explained all human development on the basis simply of progressive adaptation or organisms to their physical environment. No reference to a mind or rational will was required to explain any human endeavor. Darwin himself once had believed in God and the immortality of the soul. But later he found that these could not count as evidence for the existence of God. He ended up an agnostic. On the one hand he felt compelled to affirm a First Cause of such an immense and wonderful universe and to reject blind chance or necessity, but on the other hand he remained skeptical of the capacities of humans "developed from a mind as low as that possessed by the lowest animals." Such naturalistic views made it difficult to support any argument for God's existence, particularly a design argument.

Not all nineteenth century scientific thinking, however, yielded skeptical conclusions. Emilé Durkheim, in his sociological study *The Elementary Forms of Religious Life,* took the scientific critiques of religion seriously, but gave them a much different interpretation. He concluded that the cultic practices of religion have the non-illusory quality of producing measurable good consequences in their adherents. Moreover, he theorized that the fundamental categories of thought, and even of science, have religious origins. Almost all the great social institutions were born of religion. He was lead to claim that "the idea of society is the soul of religion": society derived from religious forces.

In the context of these various scientific developments, philosophical arguments about faith and reason developed in several remarkable directions in the nineteenth century.

a. Romanticism

Friedrich Schleiermacher was a liberal theologian who was quite interested in problems of biblical interpretation. He claimed that religion constituted its own sphere of experience, unrelated to scientific knowledge. Thus religious meaning is independent of scientific fact. His Romantic fideism would have a profound influence on Kierkegaard.

b. Socialism

Karl Marx is well known as an atheist who had strong criticisms of all religious practice. Much of his critique of religion had been derived from **Ludwig Feuerbach,** who claimed that God is merely a psychological projection meant to compensate for the suffering people feel. Rejecting wholesale the validity of such wishful thinking, Marx claimed not only that all sufferings are the result of economic class struggle but that they could be alleviated by means of a Communist revolution that would eliminate economic classes altogether. Moreover, Marx claimed that religion was a fundamental obstacle to such a revolution, since it was an "opiate" that kept the masses quiescent. Religious beliefs thus arise from a cognitive malfunction: they emerge from a "perverted world consciousness." Only a classless communist society, which Marx thought would emerge when capitalism met its necessary demise, would eliminate religion and furnish true human emancipation.

c. Existentialism

Søren Kierkegaard, arguably the father of existentialism, was a profound religious thinker. He came up with an unequivocal view of faith and reason much like Tertullian's strong incompatibilism. If Kant argued for religion within the limits of reason alone, Kierkegaard called for reason with the limits of religion alone. Faith requires a leap. It demands risk. All arguments that reason derives for a proof of God are in fact viciously circular: one can only reason about the existence of an object that one already assumes to exist. Hegel tried to claim that faith could be elevated to the status of objective certainty. Seeking such certainly, moreover, Kierkegaard considered a trap: what is needed is a radical trust. The radical trust of faith is the highest virtue one can reach.

Kierkegaard claimed that all essential knowledge intrinsically relates to an existing individual. In *Either/Or*, he outlined three general forms of life individuals can adopt: the aesthetic, ethical, and ethico-religious. The aesthetic is the life that seeks pleasure. The ethical is that which stresses the fulfillment of duties. Neither of these attains to the true individuality of human existence. But in the ethico-religious sphere, truth emerges in the authenticity of the relationship between a person and the object of his attention. With authenticity, the importance is on the "how," not the "what," of knowledge. It attains to a subjective truth, in which the sincerity and intensity of the commitment is key. This authenticity is equivalent to faith understood as "an objective uncertainty held fast in an appropriation-process of the most passionate inwardness." The coexistence of this "objective uncertainty" with "passionate inwardness" is strikingly paradoxical. Kierkegaard makes a similarly paradoxical claim in holding that "nothing historical can become infinitely certain for me except the fact of my own existence (which again cannot become infinitely certain for any other individual, who has infinite certainty only of his own existence) and this is not something historical." Thus faith can never be a matter of objective certainty; it involves no reckoning of probabilities, it is not an intellectual acceptance of a doctrine at all. Faith involves a

submission of the intellect. It is not only hostile to but also completely beyond the grasp of reason.

Though he never read Kierkegaard, Friedrich Nietzsche came up with remarkable parallels to his thought. Both stressed the centrality of the individual, a certain disdain for public life, and a hatred of personal weakness and anonymity. They also both attacked certain hypocrisies in Christendom and the overstated praise for reason in Kant and Hegel. But Nietzsche had no part of Kierkegaard's new Christian individual, and instead defended the aesthetic life disdained by Kierkegaard against both morality and Christianity. So he critique religion not from Kierkegaard's epistemological perspective, but from a highly original moral perspective.

Nietzsche claimed that religion breeds hostility to life, understood broadly as will to power. Religion produces two types of character: a weak servile character that is at the same time strongly resentful towards those in power, and an *Übermensch*, or superman, who creates his own values. In *The Joyful Wisdom* Nietzsche proclaims that God as a protector of the weak, though once alive, is now dead, and that we have rightly killed him. Now, instead, he claims that we instead need to grasp the will to power that is part of all things and guides them to their full development completely within the natural world. For humans Nietzsche casts the will to power as a force of artistic and creative energy.

d. Catholic Apologists

Roman Catholics traditionally claimed that the task of reason was to make faith intelligible. In the later part of the nineteenth century, John Cardinal Newman worked to defend the power of reason against those intellectuals of his day who challenged its efficacy in matters of faith. Though maintaining the importance of reason in matters of faith, he reduces its ability to arrive at absolute certainties.

In his *Grammar of* Assent, Newman argued that one assents to God on the basis of one's experience and principles. And one can do this by means of a kind of rational demonstration. And yet this demonstration is not actually reproducible by others; each of us has a unique domain of experience and expertise. Some are just given the capacity and opportunities to make this assent to what is demonstrated others are not. Drawing for Aristotle's *Nicomachean Ethics*, Newman argues that "a special preparation of mind is required for each separate department of inquiry and discussion." He stressed the continuity between religious belief and other kinds of belief that involve complex sets of phenomena. He claims that Locke, for example, overlooked how human nature actually works, imposing instead his own idea of how the mind is to act on the basis of deduction from evidence. If Locke would have looked more closely at experience, he would have noticed that much of our reasoning is tacit and informal. It cannot usually be reconstructed for a set of premises. Rather it is the accumulation of probabilities, independent of each other, arising out of the circumstances of the particular case. No specific consideration usually suffices to generate the required conclusion, but taken together, they may converge upon it. This is usually what is called a moral proof for belief in a proposition. In fact, we are justified in holding the beliefs even after we have forgotten what the warrant was. This probabilistic approach to religious assent continued in the later thinking of Basil Mitchell.

e. Pragmatism

William James followed in the pragmatist tradition inaugurated by Charles Sanders Peirce. Pragmatists held that all beliefs must be tested, and those that failed to garner sufficient practical value ought to be discarded.

In his *Will to Believe*, James was a strong critic of W.K. Clifford's uncompromising empiricism. Clifford, like Hume, had argued that acting on beliefs or convictions alone, unsupported by evidence, was pure folly. He likened such acting to that of an irresponsible shipowner who allows an untrustworthy ship to be ready to set sail, merely thinking it safe, and then gives "benevolent wishes" for those who would set sail in it. Clifford concluded that we have a duty to act only on well founded beliefs. If we have no grounds for belief, we must suspend judgment. This provided the basis for an ethics of belief quite different than Newman's. Clifford's evidentialism inspired subsequent philosophers such as Bertrand Russell and Michael Scriven.

James argued, *pace* Clifford, that life would be severely impoverished if we acted only on completely well founded beliefs. Like Newman, James held that belief admits of a wide spectrum of commitment: from tentative to firm. The feelings that attach to a belief are significant. He defended the need we have, at times, to allow our "passional tendencies" to influence our judgments. Thus, like Pascal, he took up a voluntarist argument for religious belief, though one not dependent solely upon a wager. There are times, admittedly few, when we *must* act on our beliefs passionately held but without sufficient supporting evidence. These rare situations must be both momentous, once in a lifetime opportunities, and forced, such that the situation offers the agent only two options: to act or not to act on the belief. Religious beliefs often take on both of these characteristics. Pascal had realized the forced aspect of Christian belief, regarding salvation: God would not save the disbeliever. As a result, religion James claimed that a religious belief could be a genuine hypothesis for a person to adopt.

James does, however, also give some evidential support for this choice to believe. We have faith in many things in life -- in molecules, conversation of energy, democracy, and so forth -- that are based on evidence of their usefulness for us. But even in these cases "Our faith is faith in some one else's faith." Our mental life effectively comprises a constant interplay between volitions and beliefs. Nonetheless, James believed that while philosophers like Descartes and Clifford, not wanting to ever be dupes, focused primarily on the need to avoid error, even to the point of letting truth take its chance, he as an empiricist must hold that the pursuit of truth is paramount and the avoidance of error is secondary. His position entailed that that dupery in the face of hope is better than dupery in the face of fear.

In "The Sentiment of Rationality" James concludes that faith is "belief in something concerning which doubt is still theoretically possible; and as the test of belief is willingness to act, one may say that faith is the readiness to act in a cause the prosperous issue of which is not certified to us in advance." So, faith is not only compatible with doubt, but it requires its possibility. Faith is oriented towards action: it is a kind of "working hypothesis" needed for practical life.

7. The Twentieth Century

Darwins's scientific thesis of natural selection and Freud's projective views of God continued to have a profound impact on many aspects of the philosophy of religion in the twentieth century. In fact the interplay between faith and reason began to be cast, in many cases, simply as the conflict between science and religion.

Not all scientific discoveries were used to invoke greater skepticism about the validity of religious claims, however. For example, in the late twentieth century some

physicists endorsed what came to be called the anthropic principle. The principle derives from the claim of some physicists that a number of factors in the early universe had to coordinate in a highly statistically improbable way to produce a universe capable of sustaining advanced life forms. Among the factors are the mass of the universe and the strengths of the four basic forces (electromagnetism, gravitation, and the strong and weak nuclear forces). It is difficult to explain this fine tuning. Many who adhere to the anthropic principle, such as Holmes Rolston, John Leslie, and Stephen Hawking, argue that it demands some kind of extra-natural explanation. Some think it suggests possibilities for a new design argument for God's existence. However, one can hold the anthropic principle and still deny that it has religious implications. It is possible to argue that it indicates not a single creator creating a single universe, but indeed many universes, either contemporaneous with our own or in succession to it.

The twentieth century witnessed numerous attempts to reconcile religious belief with new strands of philosophical thinking and with new theories in science.

a. Logical Positivism and Its Critics

Many philosophers of religion in the twentieth century took up a new appreciation for the scope and power of religious language. This was prompted to a large extent by the emphasis on conceptual clarity that dominated much Western philosophy, particularly early in the century.

This emphasis on conceptual clarity was evidenced especially in logical positivism. A.J. Ayer and Antony Flew, for example, argued that all metaphysical language fails to meet a standard of logical coherence and is thus meaningless. Metaphysical claims are not in principle falsifiable. As such, their claims are neither true nor false. They make no verifiable reference to the world. Religious language shares these characteristics with metaphysical language. Flew emphasized that religious believers generally cannot even state the conditions under which they would give up their faith claims. Since their claims then are unfalsifiable, they are not objects for rational determination.

One response by compatibilists to these arguments of logical positivists was to claim that religious beliefs, though meaningless in the verificational sense, are nonetheless important in providing the believer with moral motivations and self-understanding. This is an anti-realist understanding of faith. An example of this approach is found in R.M. Hare. Responding to Flew, he admitted that religious faith consists of a set of unfalsifiable assumptions, which he termed "bliks." But Hare argued that our practical dealings with the everyday world involve numerous such "bliks." Though some of these principles are faulty, we cannot but have some in order to live in the world.

Basil Mitchell responded to Flew's claim that religious beliefs cannot be falsified. Mitchell argued that although rational and scientific considerations can and ought at times to prompt revisions of one's religious belief, no one can give a general determination of exactly at what point a set of evidence ought to count decisively against a faith claim. It is up to each believer to decide when this occurs. To underscore this claim, Mitchell claimed that the rationality of religious beliefs ought to be determined not foundationally, as deductions from rational first principles, but collectively from the gathering of various types of evidence into a pattern. Nonetheless, he realized that this accumulation of evidence, as the basis for a new kind of natural

theology, might not be strong enough to counter the skeptic. In the spirit of Newman, Mitchell concluded by defending a highly refined cumulative probabilism in religious belief.

Another reaction against logical positivism stemmed from **Ludwig Wittgenstein**. In his "Lectures on Religious Belief," he argued that there is something unique about the linguistic framework of religious believers. Their language makes little sense to outsiders. Thus one has to share in their form of life in order to understand the way the various concepts function in their language games. The various language games form a kind of "family resemblance." Wittgenstein concluded that those who demand a nonperspectival impartial way of assessing the truth value of a religious claim are asking for something impossible. From Wittgenstein's perspective, science and religion are just two different types of language games. This demand to take on an internal perspective in order to assess religious beliefs commits Wittgenstein to a form of incompatibilism between faith and reason. Interpreters of Wittgenstein, like Norman Malcolm, claimed that although this entails that religious beliefs are essentially groundless, so are countless other everyday beliefs, such as in the permanence of our objects of perception, in the uniformity of nature, and even in our knowledge of our own intentions.

Wittgenstein, like Kierkegaard, claimed that proofs for God's existence have little to do with actual belief in God. He did think that life itself could "educate" us about God's existence. In *Culture and Value* he claims that sufferings can have a great impact on one's beliefs. "These neither show us God in the way a sense impression shows us an object, nor do they give rise to *conjectures* about him. Experiences, thoughts--life can force this concept on us." D.Z. Phillips also holds the view that religion has its own unique criteria for acceptable belief.

John Hick, in *Faith and Knowledge*, modifies the Wittgensteinian idea of forms of life to analyze faith claims in a novel manner. Hick claimed that this could shed light upon the epistemological (*fides*) analysis of faith. From such an analysis follows the non-epistemological thinking (*fiducia*) that guides actual practice.

Taking up the epistemological analysis, Hick first criticizes the voluntarisms of Pascal and James as "remote from the state of mind of such men as the great prophets." He criticizes James in particular for reducing truth to utility. Hick argues instead for the importance of rational certainty in faith. He posits that there are as many types of grounds for rational certainty as there are kinds of objects of knowledge. He claims that religious beliefs share several crucial features with any empirical claim: they are propositional; they are objects of assent; an agent can have dispositions to act upon them; and we feel convictions for them when they are challenged. Nonetheless, Hick realizes that there are important ways in which sense beliefs and religious beliefs are distinct: sense perception is coercive, while religious perception is not; sense perception is universal, while religious is not; and sense perception is highly coherent within space and time, while religious awareness among different individuals is not. In fact, it may in fact be rational for a person who has not had experiences that compel belief to withhold belief in God.

From these similarities and differences between faith claims and claims of reason, Hick concludes that religious faith is the noninferential and unprovable basic interpretation either of a moral or religious "situational significance" in human experience. Faith is not the result of logical reasoning, but rather a profession that God "as a living being" has entered into the believer's experience. This act of faith situates

itself in the person's material and social environment. Religious faith *interprets*reality in terms of the divine presence within the believer's human experience. Although the person of faith may be unable to prove or explain this divine presence, his or her religious belief still acquire the status of knowledge similar to that of scientific and moral claims. Thus even if one could prove God's existence, this fact alone would be a form of knowledge neither necessary nor sufficient for one's faith. It would at best only force a notional assent. Believers live by not by confirmed hypotheses, but by an intense, coercive, indubitable experience of the divine.

Sallie McFague, in *Models of God*, argues that religious thinking requires a rethinking of the ways in which religious language employs metaphor. Religious language is for the most part neither propositional nor assertoric. Rather, it functions not to render strict definitions, but to give accounts. To say, for example, "God is mother," is neither to define God as a mother nor to assert an identity between them, but rather to suggest that we consider what we do not know how to talk about--relating to God - through the metaphor of a mother. Moreover, no single metaphor can function as the sole way of expressing any aspect of a religious belief.

b. Philosophical Theology

Many Protestant and Roman Catholic theologians in the twentieth century responded to the criticisms of religious belief, leveled by atheistic existentialists, naturalists, and linguistic positivists, by forging a new understanding of Christian revelation.

Karl Barth, a Reformed Protestant, provided a startlingly new model of the relation between faith and reason. He rejected Schleiermacher's view that the actualization of one's religious motivation leads to some sort of established union between man and God. Barth argued instead that revelation is aimed at a believer who must receive it before it is a revelation. This means that one cannot understand a revelation without already, in a sense, believing it. God's revelation of Himself, His very communication of that self, is not distinct from Himself. "In God's revelation God's Word is identical with God Himself" (in *Church Dogmatics* ii, I). Moreover, Barth claimed that God's revelation has its reality and truth wholly and in every respect, both ontically and noetically, within itself. Revelation cannot be *made true* by anything else. The fullness of the "original self-existent being of God's Word" reposes and lives in revelation. This renders the belief in an important way immune from both critical rational scrutiny and the reach of arguments from analogy.

Barth held, however, that relative to the believer, God remains "totally other" (*totaliter aliter*). Our selfhood stands in contradiction to the divine nature. Religion is, in fact, "unbelief": our attempts to know God from our own standpoint are wholly and entirely futile. This was a consistent conclusion of his dialectical method: the simultaneous affirmation and negation of a given theological point. Barth was thus an incompatibilist who held that the ground of faith lies beyond reason. Yet he urged that a believer is nonetheless always to seek knowledge and that religious beliefs have marked consequences for daily life.

Karl Rahner, arguably the most influential Catholic theologian of the twentieth century, was profoundly influenced by Barth's dialectical method. But Rahner argued that God's mystical self-revelation of Himself to us through an act of grace is not predestined for a few but extends to all persons: it constitutes the "supernatural existential" that grounds all intelligibility and action. It lies beyond proof or demonstration. Thus all persons, living in this prior and often unthematized state of God's gift, are "anonymous Christians." All humans can respond to God's self-communication in history. Rahner held thus that previous religions embodied a various forms of knowledge of God and thus were lawful religions. But now God has

revealed his fullness to humans through the Christian Incarnation and word. This explicit self-realization is the culmination of the history of the previously anonymous Christianity. Christianity now understands itself as an absolute religion intended for all. This claim itself is basic for its understanding of itself.

Rahner's claim about the gratuitous gifts of grace in all humans reaches beyond a natural theology. Nonetheless one form of evidence to which he appeals for its rational justification is the stipulation that humans, social by nature, cannot achieve a relationship to God "in an absolutely private interior reality." The individual must encounter the natural divine law, not in his role as a "private metaphysician" but according to God's will in a religious and social context. Rahner thus emphasized the importance of culture as a medium in which religious faith becomes understood. He thus forged a new kind of compatibilism between faith and rationality.

c. Neo-Existentialism

Paul Tillich, a German Protestant theologian, developed a highly original form of Christian apologetics. In his *Systematic Theology*, he laid out a original method, called correlation, that explains the contents of the Christian faith through existential questions and theological answers in mutual interdependence. Existential questions arise from our experiences of transitoriness, finitude, and the threat of nonbeing. In this context, faith is what emerges as our thinking about our "ultimate concern." Only those who have had these kinds of experiences can raise the questions that open them to understand the meaning of the Christian message. Secular culture provides numerous media, such as poetry, drama, and novels, in which these questions are engendered. In turn, the Christian message provides unique answers to these questions that emerge from our human existence. Tillich realized that such an existentialist method - with its high degree of correlation between faith and everyday experience and thus between the human and the divine -- would evoke protest from thinkers like Barth.

Steven Cahn approaches a Christian existentialism from less sociological and a more psychological angle than Tillich. Cahn agrees with Kierkegaard's claim that most believers in fact care little about proofs for the existence of God. Neither naturalist nor supernaturalist religion depend upon philosophical proofs for God's existence. It is impossible to prove definitely the testimony of another's supposedly self-validating experience. One is always justified in entertaining either philosophical doubts concerning the logical possibility of such an experience or practical doubts as to whether the person has undergone it. Moreover, these proofs, even if true, would furnish the believer with no moral code. Cahn concludes that one must undergo a self-validating experience personal experience in which one senses the presence of God. All moral imperatives derive from learning the will of God. One may, however, join others in a communal effort to forge a moral code.

d. Neo-Darwinism

The Darwinistic thinking of the nineteenth century continued to have a strong impact of philosophy of religion. Richard Dawkins in his *Blind Watchmaker,* uses the same theory of natural selection to construct an argument against the cogency of religious faith. He argues that the theory of evolution by gradual but cumulative natural selection is the only theory that is in principle capable of explaining the existence of organized complexity in the world. He admits that this organized complexity is highly

improbable, yet the best explanation for it is still a Darwinian worldview. Dawkins even claims that Darwin effectively solved the mystery of our own existence. Since religions remain firm in their conviction that God guides all biological and human development, Dawkins concludes that religion and science are in fact doomed rivals. They make incompatible claims. He resolves the conflict in favor of science.

e. Contemporary Reactions Against Naturalism and Neo-Darwinism

Contemporary philosophers of religion respond to the criticisms of naturalists, like Dawkins, from several angles.

Alvin Plantinga thinks that natural selection demonstrates only the function of species survival, not the production of true beliefs in individuals. Yet he rejects traditional Lockean evidentialism, the view that a belief needs adequate evidence as a criterion for its justification. But he refuses to furnish a fideist or existentialist condition for the truth of religious beliefs. Rather he claims that religious beliefs are justified without reasons and are, as such, "properly basic." These he sets in contrast to the claims of natural theology to form the basis of his "Reformed epistemology." Other Reformed epistemologists are W.P Alston and Nicholas Wolterstorff.

Plantinga builds his Reformed epistemology by means of several criticisms of evidentialism. First, the standards of evidence in evidentialism are usually set too high. Most of our reliable everyday beliefs are not subject to such strict standards. Second, the set of arguments that evidentialists attack is traditionally very narrow. Plantinga suggest that they tend to overlook much of what is internally available to the believer: important beliefs concerning beauty and physical attributes of creatures, play and enjoyment, morality, and the meaning of life. Third, those who employ these epistemological criticisms often fail to realize that the criticisms themselves rest upon auxiliary assumptions that are not themselves epistemological, but rather theological, metaphysical, or ontological. Finally, and more importantly, not all beliefs are subject to such evidence. Beliefs in memories or other minds, for example, generally appeal to something properly basic beyond the reach of evidence. What is basic for a religious belief can be, for example, a profound personal religious experience. In short, being self-evident, incorrigible, or evident to the senses is not a necessary condition of proper basicality. We argue to what is basic from below rather than from above. These claims are tested by a relevant set of "internal markers." Plantinga does admit that in fact no widespread acceptance of the markers can be assumed. He concludes, though, that religious believers cannot be accused of shirking some fundamental epistemic duty by relying upon this basic form of evidence.

Epistemological views such as Plantinga develops entail that there is an important distinction between determining whether or not a religious belief is true (*de facto*) and whether or not one ought to hold or accept it (*de jure*). On *de jure* grounds, for example, one can suggest that beliefs are irrational because they are produced either by a errant process or by an proper process aimed at the wrong aim or end. Theism has been criticized on both of these grounds. But since Christianity purports to be true, the *de jure* considerations must reduce ultimately to *de facto* considerations.

J.J. Haldane criticizes the scientific critiques of religion on the grounds that they themselves make two unacknowledged assumptions about reality: the existence of regular patterns of interaction, and the reality of stable intelligences in humans. These

assumptions themselves cannot be proven by scientific inquiry. Thus it seems odd to oppose as rivals scientific and religious ways of thinking about reality. Science itself is faith-like in resting upon these assumptions; theology carries forward a scientific impulse in asking how the order of the world is possible. But what do we make of the fact that scientific models often explain the world better than religious claims? What troubles Haldane is the explanatory reductionism physical sciences employ is often thought to be entailed by the ontological reduction it assumes. For example, the fact that one can give a complete description of human action and development on a biological level alone is often thought to mean that all action and development can be explained according to biological laws. Haldane rejects this thesis, arguing that certain mental events might be ontologically reducible to physical events, but talk of physical events cannot be equally substituted for mental events in the order of explanation. Such argumentation reflects the general direction of the anomological monism proposed by Donald Davidson. Haldane concludes that language can be a unique source of explanatory potential for all human activity.

Like Haldane, Nancey Murphy also holds for a new form of compatibilism between religion and science. In *Science and Theology* she argues that the differences between scientific and theological methodologies are only of degree, not kind. She admits that scientific methodology has fundamentally changed the way we think about the world. Consequently, theology in the modern period has been preoccupied with the question of theological method. But she thinks that theological method can develop to meet the same standard of criteria as scientific method has.

Scientific thinking in the twentieth century in particular has been developing away from foundationalism: the derivation of theories from indubitable first principles. Willard van Orman Quine and others urged that scientific methodologists give up on foundationalism. He claimed that knowledge is like a web or net of beliefs: some beliefs are simply more apt to be adopted or rejected in certain situations than others are. Murphy sees that theology, too, is developing away from the foundationalism that literal interpretations of Scripture used to provide. Now it tends to emphasize the importance of religious experience and the individual interpretation of beliefs. But two problems await the move from theology away from foundationalism: subjectivism and circularity. The subjectivism emerges from the believer's inability to make the leap from his or her private inner experience to the real world. The circularity emerges from the lack of any kind of external check on interpretation. Alasdair MacIntyre is concerned with the latter problem. He claims that evidence for belief requires a veridical experience for each subsequent belief that arises from it. But Murphy finds this approach still close to foundationalism. Instead she develops two non-foundational criteria for the interpretation of a religious belief: that several related but differing experiences give rise to the belief, and that the belief have publicly observable consequences emanating from it.

To illustrate this approach to interpretation of beliefs, Murphy considers Catherine of Siena's claim that a true "verification" of a revelation from God requires that the believer subsequently engage in publicly observable acts of humility and charity. The verification also requires what Murphy calls discernment. Discernment reveals analogous experiences and interpretations in other believers and a certain reliability in the actions done. It functions the same way that a theory of instrumentation does in science. Discernment often takes place within a community of some sort.

But are these beliefs, supported by this indirect verification and communal discernment, still in any sense falsifiable? Murphy notes that religious experience has

clashed with authoritative theological doctrine numerous times. But it has also ended up correcting it, for example in the way that Catherine of Siena's writings eventually changed the Roman Catholic tradition in which she was writing.

Murphy claims, however, that until theology takes on the status as a kind of knowledge of a reality independent of the human subject it is unlikely that theology and science will have a fruitful dialogue. But she thinks that turning from the subjectivization of the liberal turn in theology to discourse about human religiosity will help this dialogue.

A strong critic of the negative impact of scientific naturalism on faith is the Canadian philosopher Charles Taylor. Taylor finds in all naturalisms a kind of "exclusive humanism" that not only puts humans at the center of the universe, but denies them any authentic aspirations to goals or states beyond the world in which they live. In modernity naturalism has led inexorably to *secularization*. In *Sources of the Self,* Taylor argues that secularization, inspired by both Luther and Calvin, first resulted in the prioritizing of "ordinary life" of marriage and family over that of contemplative lives in the vowed or clerical state. In later phases it led to the transformation of cultural practices into forms that are neutral with regard to religious affiliation. But secularization is not a prima facie problem for any religious believer, since it does not preclude the possibility of religious faith or practices per se. Moreover, secularization has made possible the development of legal and governmental structures, such as human rights, better fit for pluralistic societies containing persons of a number of different religious faiths. Thus it has made it easier for Christians to accept full rights for atheists or violators of the Christian moral code. Nonetheless, Taylor sees problems that secularism poses for the Christian faith. It can facilitate a marriage between the Christian faith and a particular form of culture.

In contrast to naturalism, Taylor urges the adoption of a unique transcendental point of view. Such a view does not equate a meaningful life with a full or good life. Instead, a transcendental view finds in suffering and death not only something that matters beyond life, but something from which life itself originally draws. Thus natural life is to be subordinated to the "abundant life" that Jesus advocates in his Good Shepherd discourse (John 10:10). This call of the transcendental requires, ultimately, a conversion or a change of identity. This is a transition from self-centeredness, a kind of natural state, to God-centeredness. Unable to find value in suffering and death, those who focus on ordinary life try assiduously to avoid them. The consequences of this resistance to the transcendent, found in this uncritical embrace of ordinary life, are not so much epistemic as moral and spiritual. Ordinary life virtues emphasize benevolence and solidarity. But modern individuals, trying to meet these demands, experience instead a growing sense of anger, futility, and even contempt when confronted with the disappointments of actual human performance. This is ordinary life's "dialectics of reception." A transcendental vision, on the other hand, opens up a future for humans that is not a matter of guarantee, but only faith. It is derived from "standing among others in the stream" of God's unconditional love. The theological principle by which Taylor buttresses this vision is that "Redemption happens through Incarnation." The incarnational and natural "ordinary" requires always the call of a redemptive "beyond" that is the object of our endeavors inspired by faith and hope.

f. Liberation Theology

Liberation theologians, such as Juan Segundo and Leonardo Boff, have drawn their inspiration from the plight of the poverty and injustice of peoples in the Third World, particularly Latin American. Drawing from Marx's distinction between theory and practice, Gustavo Gutiérrez, in *A Theology of Liberation*, argues that theology is critical reflection on the socio-cultural situation in which belief takes place. Ultimately theology is reactive: it does not produce pastoral practice, but it finds the Spirit either present or absent in current practices. The reflection begins by examining the faith of a people is expressed through their acts of charity: their life, preaching, and historical commitment of the Church. The reflection also draws from the totality of human history. In a second moment, the reflection provides resources for new practices. Thus it protects the faith of the people from uncritical practices of fetishism and idolatry. Theology thus plays a prophetic role, by interpreting historical events with the intention of revealing and proclaiming their profound meaning.

8. References and Further Reading

- Alston, William. "History of Philosophy of Religion." *The Routledge Encyclopedia of Philosophy*. Vol. 8. Ed. E. Craig. New York: Routledge, 1998. Pp. 238-248.
  - This article provides a good basic outline of the problem of faith and reason.
- Asimov, Isaac. *Asimov's Biographical Encyclopedia of Science and Technology.* Garden City NY: Doubleday, 1964.
  - Much of the above section of Galileo comes from this text.
- Copleston, Frederick. *Medieval Philosophy*. New York: Harper, 1952.
- Helm, Paul, ed. *Faith and Reason*. Oxford: Oxford University Press, 1999.
  - This text has an excellent set of readings and good introductions to each section. Some of the above treatment of the introductions to each period are derived from it.
- McInerny, Ralph. *St. Thomas Aquinas*. Boston: Twayne, 1977.
- McGrath, Alister, ed. *The Christian Theology Reader*. Oxford: Basil Blackwell, 1995.
  - This text provided some of the above material on early Christian philosophers.
- Meagher, Paul, Thomas O'Brien and Consuelo Aherne, eds. *Encyclopedic Dictionary of Religion.* 3 Vols. Washington DC: Corpus Publications, 1979.
- Murphy, Nancey. "Religion and Science." *The Routledge Encyclopedia of Philosophy*. Vol. 8. Ed. E. Craig.. New York: Routledge, 1998. Pp. 230-236
- Murphy, Nancey. *Theology in the Age of Scientific Reasoning*. Ithaca NY: Cornell University Press, 1990.
- Peterson, Michael, William Hasker, Bruce Reichenback, David Basinger. *Philosophy of Religion: Selected Readings*. Oxford: Oxford University Press, 2001.
  - This text was helpful for the above treatments of Richard Dawkins and Nancey Murphy.
- Plantinga, Alvin. "Religion and Epistemology." *The Routledge Encyclopedia of Philosophy*. Vol. 8. Ed. E. Craig. London/New York: Routledge, 1998. Pp. 209-218.
- Pojman, Louis, ed. *Philosophy of Religion: An Anthology*. 2nd ed. Belmont CA.: Wadsworth, 1994.
  - This text provides a good introduction to the philosophy of religion. Some of the above treatments of Kant, Pascal, Plantinga, Cahn, Leibniz, Flew, Hare, Mitchell, Wittgenstein, and Hick are derived from its summaries.
- Pomerleau, Wayne. *Western Philosophies of Religion*. New York, Ardsley House, 1998.
  - This text serves as the basis for much of the above summaries of Augustine, Aquinas, Descartes, Locke, Leibniz, Hume, Kant, Hegel, Kierkegaard, James, Wittgenstein, and Hick.
- Rolston, Holmes III. *Science and Religion: A Critical Survey*. New York: Random House, 1987.
  - This has a good section on the anthropic principle.
- Solomon, Robert, ed. *Existentialism*. New York: The Modern Library, 1974.
- Taylor, Charles. *A Catholic Modernity?* Oxford: Oxford University Press, 1999.
- Taylor, Charles. *Sources of the Self.* Cambridge MA.: Harvard University Press, 1989.
- Wolterstoff, Nicholas. "Faith." *The Routledge Encyclopedia of Philosophy*. Vol. 3. Ed. E. Craig. London: Routledge, 1998. Pp. 538-544.

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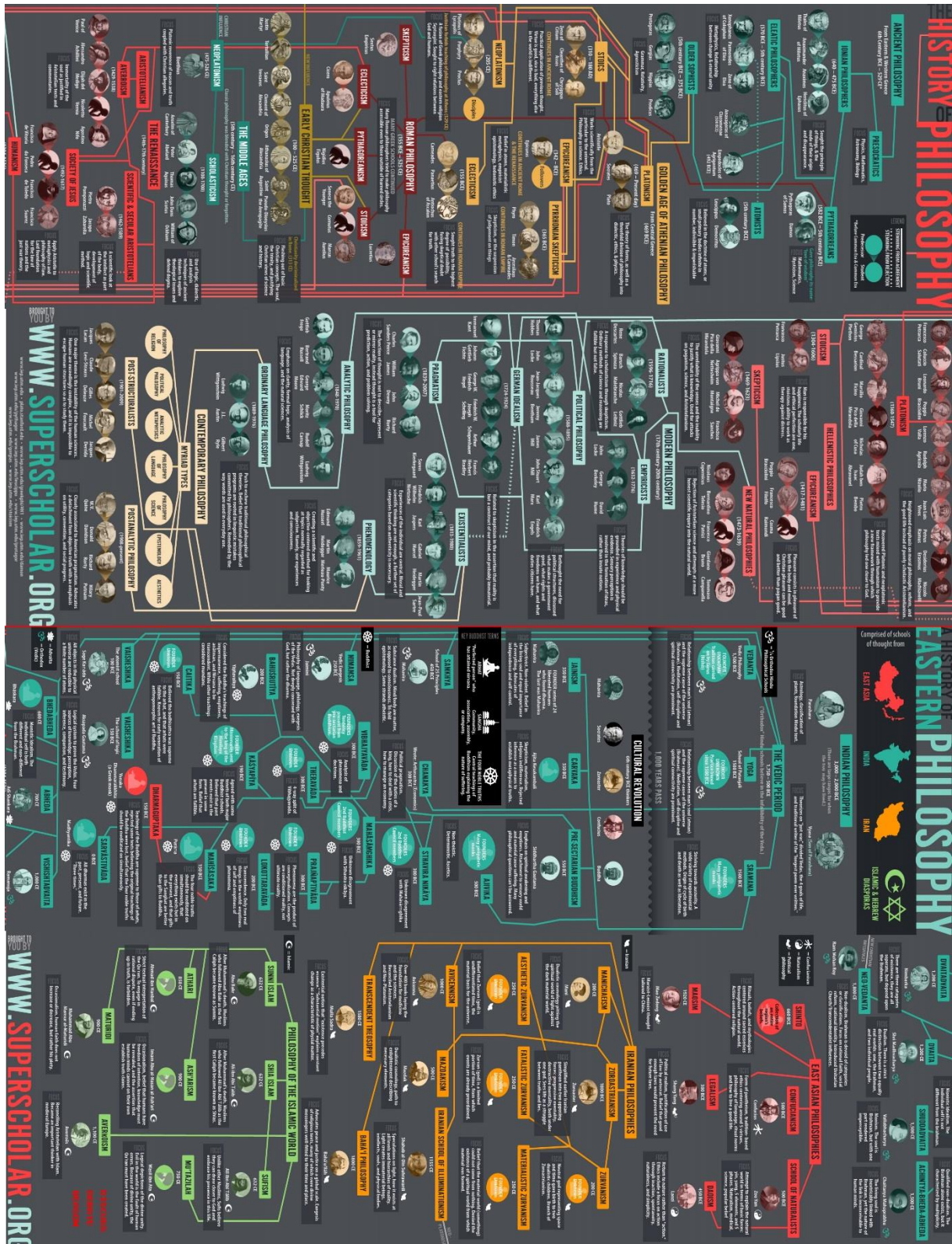
Religious Epistemology

Belief in God, or some form of transcendent Real, has been assumed in virtually every culture throughout human history. The issue of the reasonableness or rationality of belief in God or particular beliefs about God typically arises when a religion is confronted with religious competitors or the rise of atheism or agnosticism. In the West, belief in God was assumed in the dominant Jewish, Christian and Islamic religions. God, in this tradition, is the omnipotent, omniscient, perfectly good and all-loving Creator of the universe (such a doctrine is sometimes called 'bare theism'). This article considers the following epistemological issues: reasonableness of belief in the Judeo-Christian-Muslim God ("God," for short), the nature of reason, the claim that belief in God is not rational, defenses that it is rational, and approaches that recommend groundless belief in God or philosophical fideism.

Is belief in God rational? The evidentialist objector says "No" due to the lack of evidence. Theists who say "Yes" fall into two main categories: those who claim that there is sufficient evidence and those who claim that evidence is not necessary. Theistic evidentialists contend that there is enough evidence to ground rational belief in God, while Reformed epistemologists contend that evidence is not necessary to ground rational belief in God (but that belief in God is grounded in various characteristic religious experiences). Philosophical fideists deny that belief in God belongs in the realm of the rational. And, of course, all of these theistic claims are widely and enthusiastically disputed by philosophical non-theists.

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1. Reason/Rationality

Reason is a fallible human tool for discovering truth or grasping reality. Although reason aims at the truth, it may fall short. In addition, rationality is more a matter of *how* one believes than *what* one believes. For example, one might irrationally believe something that is true: suppose one believed that the center of the earth is molten metal because one believes that he or she travels there every night (while it's cool). And one might rationally believe what is false: it was rational for most people twenty centuries ago to believe that the earth is flat. And finally, rationality is person

and situation specific: what is rational for one person at a particular socio-historical time and place might not be rational for another person at a different time and place; or, for that matter, what is rational for a person in the same time and place may be irrational for another person in the same time and place. This has relevance for a discussion of belief in God because "the rationality of religious belief" is typically discussed abstractly, independent of any particular believer and often believed to be settled once and for all either positively or negatively (say, by Aquinas or Hume respectively). The proper question should be, "Is belief in God rational for this person in that time and place?"

Rationality is a normative property possessed by a belief or a believer (although I've given reasons in the previous paragraph to suggest that rationality applies more properly to believers than to beliefs). Just precisely what this normative property is is a matter of great dispute. Some believe that we have intellectual duties (for example, to acquire true beliefs and avoid false beliefs, or to believe only on the basis of evidence or argument). Some deny that we have intellectual duties because, by and large, beliefs are not something we freely choose (e.g., look outside at a tree, consider the tree and try to choose not to believe that there's a tree there; or, close your eyes and if you believe in God, decide not to believe or vice versa and now decide to believe in God again). Since we only have duties when we are free to fulfill or to not fulfill them ("Ought implies can"), we cannot have intellectual duties if we aren't free to directly choose our beliefs. So, the normative property espoused by such thinkers might be intellectual permissibility rather than intellectual duty.

Since the time of the Enlightenment, reason has assumed a huge role for (valid or strong) inference: rationality is often a matter of assembling available (often empirical, typically propositional) evidence and assessing its deductive or inductive support for other beliefs; although some beliefs may and must be accepted without inference, the vast majority of beliefs or, more precisely, the vast majority of philosophical, scientific, ethical, theological and even common-sensical beliefs rationally require the support of evidence or argument. This view of reason is often taken ahistorically: rationality is simply a matter of timeless and non-person indexed propositional evidence and its logical bearing on the conclusion. If it can be shown that an argument is invalid or weak, belief in its conclusion would be irrational for every person in every time and place. This violates the viable intuition that rationality is person- and situation-specific. Although one argument for belief in God might be invalid, there might be other arguments that support belief in God. Or, supposing all of the propositional evidence for God's existence is deficient, a person may have religious experience as the grounds of her belief in God.

Following Thomas Reid, we shall argue that 'rationality' in many of the aforementioned important cases need not, indeed cannot, require (valid or strong) inference. Our rational cognitive faculties include a wide variety of belief-producing mechanisms, few of which could or should pass the test of inference. We will let this view, and its significance for belief in God, emerge as the discussion proceeds.

2. The Evidentialist Objection to Belief in God

Belief in God is considered irrational for two primary reasons: lack of evidence and evidence to the contrary (usually the problem of evil, which won't be discussed in this essay). Note that both of these positions reject the rationality of belief in God on the

basis of an inference. Bertrand Russell was once asked, if he were to come before God, what he would say to God. Russell replied, "Not enough evidence God, not enough evidence." Following Alvin Plantinga, we will call the claim that belief in God lacks evidence and is thus irrational the *evidentialist objection* to belief in God.

The roots of evidentialism may be found in the Enlightenment demand that all beliefs be subjected to the searching criticism of reason; if a belief cannot survive the scrutiny of reason, it is irrational. Kant's charge is clear: "Dare to use your own reason." Given increasing awareness of religious options, Hobbes would ask: "If one prophet deceive another, what certainty is there of knowing the will of God, by any other way than that of reason?" Although the Enlightenment elevation of Reason would come to be associated with a corresponding rejection of rational religious belief, many of the great Enlightenment thinkers were themselves theists (including, for example, Kant and Hobbes).

The evidentialist objection may be formalized as follows:

(1) Belief in God is rational only if there is sufficient evidence for the existence of God.

(2) There is not sufficient evidence for the existence of God.

(3) Therefore, belief in God is irrational.

The evidentialist objection is not offered as a disproof of the existence of God—that is, the conclusion is not "God does not exist." Rather the conclusion is, even if God were to exist, it would not be reasonable to believe in God. According to the evidentialist objection, rational belief in God hinges on the success of theistic arguments. Prominent evidentialist objectors include David Hume, W. K. Clifford, J. L. Mackie, Bertrand Russell and Michael Scriven. This view is probably held by a large majority of contemporary Western philosophers. Ironically, in most areas of philosophy and life, most philosophers are not (indeed could not be) evidentialists. We shall treat this claim shortly.

The claim that there is not sufficient evidence for belief in God is usually based on a negative assessment of the success of theistic proofs or arguments. Following Hume and Kant, the standard arguments for the existence of God—cosmological, teleological and ontological—are judged to be defective in one respect or another.

The claim that rational belief in God requires the support of evidence or argument is usually rooted in a view of the structure of knowledge that has come to be known as 'classical foundationalism.' Classical foundationalists take a pyramid or a house as metaphors for their conceptions of knowledge or rationality. A secure house or pyramid must have secure foundations sufficient to carry the weight of each floor of the house and the roof. A solid, enduring house has a secure foundation with each of the subsequent floors properly attached to that foundation. Ultimately, the foundation carries the weight of the house. In a classical foundationalist conception of knowledge, the foundational beliefs must likewise be secure, enduring and adequate to bear "the weight" of all of the non-foundational or higher-level beliefs. These foundational beliefs are characterized in such a manner to ensure that knowledge is built on a foundation of certitudes (following Descartes). The candidates for these foundational certitudes vary from thinker to thinker but, broadly speaking, reduce to three: if a

belief is self-evident, evident to the senses, or incorrigible, it is a proper candidate for inclusion among the foundations of rational belief.

What sorts of beliefs are self-evident, evident to the senses, or incorrigible? A self-evident belief is one that, upon understanding it, you see it to be true. While this definition is probably not self-evident, let's proceed to understand it by way of example. Read the following fairly quickly:

(4) When equals are added to equals you get equals.

Do you think (4) is true? False? Not sure? Let me explain it. When equals (2 and 1+1) are added to equals (2 and 1+1) you get equals (4). Or, to make this clear $2 + 2 = 1 + 1 + 1 + 1$. Now that you understand (4), you *see* it to be true. I didn't argue for (4), I simply helped you to understand it, and upon understanding it, you saw it to be true. That is, (4) is self-evident. Typical self-evident beliefs include the laws of logic and arithmetic and some metaphysical principles like "An object can't be red all over and blue all over at the same time." A proposition is evident to the senses in case it is properly acquired by the use of one's five senses. These sorts of propositions include "The grass is green," "The sky is blue," "Honey tastes sweet," and "I hear a mourning dove." Some epistemologists exclude propositions that are evident to the senses from the foundations of knowledge because of their lack of certainty [the sky may be colorless as a piece of glass but simply refracts blue light waves; we may be sampling artificial (and not real) honey; or someone may be blowing a bird whistle; etc.]. In order to ensure certainty, some have shifted to incorrigibility as the criterion of foundational beliefs. Incorrigible beliefs are first-person psychological states (seeming or appearance beliefs) about which I cannot be wrong. For example, I might be mistaken about the color of the grass or sky but I cannot be mistaken about the following: "The grass seems green to me" or "The sky appears to me to be blue." I might be mistaken about the color of grass, and so such a belief is not certain for me, but I can't be wrong about what the color of grass seems to be to me.

Now let us return to belief in God. Why do evidentialists hold (1), the claim that rational belief in God requires the support of evidence or argument? This is typically because they subscribe to classical foundationalism. A belief can be held without argument or evidence only if it is self-evident, evident to the senses, or incorrigible. Belief in God is not self-evident—it is not such that upon understanding the notion of God, you see that God exists. For example, Bertrand Russell understands the proposition "God exists" but does not see it to be true. So, belief in God is not a good candidate for self-evidence. Belief in God is not evident to the senses because God, by definition, transcends the sensory world. God cannot be seen, heard, touched, tasted or smelled. When people make claims such as "God spoke to me" or "I touched God," they are using "spoke" and "touched" in a metaphorical sense, not a literal sense; literally, God is beyond the senses. So God's existence is not evident to the senses. And finally, a person might be wrong about God's existence and so belief in God cannot be incorrigible. Of course, "it seems to me that God exists" could be incorrigible but God's seeming existence is a long way from God's existence!

So, belief in God is neither self-evident, evident to the senses, nor incorrigible. Therefore, belief in God, according to classical foundationalism, cannot properly be included among the foundations of one's rational beliefs. And, if it is not part of the foundations, it must be adequately supported by the foundational beliefs—that is,

belief in God must be held on the basis of other beliefs and so must be argued to, not from. According to classical foundationalism, belief in God is not rational unless it is supported by evidence or argument. Classical foundationalism, as assumed in the Enlightenment, elevated theistic arguments to a status never held before in the history of Western thought. Although previous thinkers would develop theistic arguments, they seldom assumed that they were necessary for rational belief in God. After the period of the Enlightenment, thinkers in the grips of classical foundationalism would now hold belief in God up to the demand of rigorous proof.

3. The Reasonableness of Belief in God

There are two main strategies theists employ when responding to the evidentialist objection to belief in God. The first strategy is to argue against the second premise, the claim that there is insufficient evidence for the existence of God. The second strategy is to argue against the first premise, the claim that belief in God is rational only if it is supported by sufficient evidence.

a. Theistic Evidentialism

Consider first the claim that there is not sufficient evidence for the existence of God. This view has been historically rejected by Aristotle, Augustine, Anselm, Thomas Aquinas, John Duns Scotus, John Locke, William Paley and C. S. Peirce, to name but a few. But suppose we all agreed that the arguments offered by Aristotle and others for the existence of God were badly flawed. ("We know better now.") Does that imply that earlier theists were irrational? Does the evidence have to support, in some timeless way—irrespective of any particular person—belief in God? Aristotle, Augustine, Aquinas, et al., were brilliant people doing the best they could with the most sophisticated belief-set available to them and judged, on the basis of their best lights, that the evidence supported belief in God. Are they nonetheless irrational? For example, suppose that, ignorant of the principle of inertia, Aquinas believed that God must be actively involved in the continual motion of the planets. That is, suppose that, using the best physics of his day, Aquinas believed in the scientific necessity of belief in God. According to his best lights, Aquinas thought that the evidence clearly supported belief in God. Would Aquinas be irrational? Evidentialist objectors might concede that Aquinas was not irrational, in spite of his bad arguments and, therefore, might not view rationality as being timeless. But, they would argue, it is no longer reasonable for anyone to believe in God because now we all see or should see that the evidence is clearly insufficient to support the conclusion that God exists. (This 'we' tends toward the princely philosophical.)

Some theists reject this conclusion, judging that there is adequate evidence to support God's existence. Rejecting the idea that theistic arguments died along with Kant and Hume, these thinkers offer new evidence or refashion the old evidence for the existence of God. William Lane Craig (Craig and Smith 1993), for example, has developed a new version of the old Islamic Kalaam cosmological argument for the existence of God. This argument attempts to demonstrate the impossibility that time could have proceeded infinitely into the past so the universe must have had a beginning in time. In addition, both physicists and philosophers have argued that the apparent fine-tuning of the cosmological constants to permit human life is best explained by God's intelligent superintendence. And some argue that irreducibly complex biological phenomena such as cells or kidneys could not have arisen by

chance. Robert Merrihew Adams (1987) has revived moral arguments for the existence of God. Alvin Plantinga (1993b) has argued that naturalism and evolution are self-refuting. William Alston (1991) has defended religious experience as a source of justified belief in the existence of God. In addition, theistic arguments have been developed that are based on the existence of flavors, colors and beauty. And some thinkers, such as Richard Swinburne (1979, 1984), contend that the cumulative forces of these various kinds of evidence mutually reinforce the likelihood of God's existence. Thus, there is an ample lot defending the claim that belief in God is rational based on the evidence (and an equal and opposite force opposing them). So the project of securing belief in God on the basis of evidence or argument is ongoing.

Many theists, then, concur with the evidentialist demand for evidence and seek to meet that demand by offering arguments that support the existence of God. Of course, these arguments have been widely criticized by atheistic evidentialists. But for better or for worse, many theistic philosophers have hitched the rationality of belief in God to the wagon of evidence.

Now suppose, as is the case, that the majority of philosophers believes that these attempts to prove God's existence are feeble failures. Would that perforce make religious believers irrational? If one, by the best of one's lights, judges that God exists given the carefully considered evidence, is one nonetheless irrational if the majority of the philosophical community happen to disagree? These questions suggest that judgments of rationality and irrationality are difficult to make. And, it suggests that rationality and irrationality may be more complicated than classical foundationalism assumes.

b. Sociological Digression

Very few philosophical positions (and this is an understatement) enjoy the kind of evidential support that classical foundationalism demands of belief in God; yet most of these are treated as rational. No philosophical position—belief in other minds, belief in the external world, the correspondence theory of truth or Quine's indeterminacy of translation thesis—is properly based on beliefs that are self-evident, evident to the senses, or incorrigible. Indeed, we may question whether there is a single philosophical position that has been so amply justified (or could be). Why is belief in God held to a higher evidential standard than other philosophical beliefs? Some suggest that this demand is simply arbitrary at best or intellectually imperialist at worst.

c. Moral Analogy

Consider your moral beliefs. None of these beliefs will be self-evident, evident to the senses, or incorrigible. Now suppose you hold a moral belief that is not the philosophical fashion these days. Would you be irrational if the majority of contemporary philosophers disagreed with you? Perhaps you'd be irrational if moral beliefs contrary to yours could be established on the basis of widely known arguments from premises that are self-evident, evident to the senses, or incorrigible. But there may be no such arguments in the history of moral theory. Moral beliefs are not well-justified on the basis of argument or evidence in the classical foundationalist sense (or probably in any sense of "well-justified"). So, the fact that the majority of contemporary philosophers reject your moral beliefs (or belief in God for that matter) may have little or no bearing on the rationality of your beliefs. The sociological

digression and moral analogy suggest that the philosophical emphasis on argument, certainty, and consensus for rationality might be misguided.

d. Reformed Epistemology

Let us now turn to those who reject the first premise of the evidentialist objection to belief in God, the claim that rational belief in God requires the support of evidence or argument. Recent thinkers such as Alvin Plantinga, Nicholas Wolterstorff and William Alston, in their so called *Reformed Epistemology*, have argued that belief in God does not require the support of evidence or argument in order for it to be rational (cf. Plantinga and Wolterstorff 1983). In so doing, they reject the evidentialist objector's assumptions about rationality.

Reformed epistemologists argue that the first problem with the evidentialist objection is that the universal demand for evidence simply cannot be met in a large number of cases with the cognitive equipment that we have. No one has ever been able to offer proofs for the existence of other persons, inductive beliefs (e.g., that the sun will rise in the future), or the reality of the past (perhaps, as Bertrand Russell cloyingly puzzled, we were created five minutes ago with our memories intact) that satisfy classical foundationalist requirements for proof. So, according to classical foundationalism, belief in the past and inductive beliefs about the future are irrational. This list could be extended indefinitely.

There is also a limit to the things that human beings can prove. If we were required to prove everything, there would be an infinite regress of provings. There must be some truths that we can just accept and reason from. Thus, we can't help but trust our cognitive faculties. Moreover, it seems that we will reach the limit of proof very quickly if, as classical foundationalism insists, the basis for inference includes only beliefs that are self-evident, evident to the senses, or incorrigible. For these reasons, reformed epistemologists doubt that classical foundationalists are correct in claiming that the proper starting point of reason is self-evidence, evidence to the senses, and incorrigibility.

A second criticism of classical foundationalism, first offered by Plantinga, is that it is *self-referentially inconsistent*. That is, classical foundationalism must be rejected by its own account. Recall classical foundationalism (CF):

A proposition p is rational if and only if p is self-evident, evident to the senses or incorrigible or if p can be inferred from a set of propositions that are self-evident, evident to the senses, or incorrigible.

Consider CF itself. Is it rational, given its own conditions, to accept classical foundationalism? Classical foundationalism is not self-evident: upon understanding it many people believe it false. If one can understand a proposition and reject it, that proposition cannot be self-evident. CF is also not a sensory proposition—one doesn't see, taste, smell, touch or hear it. So, classical foundationalism is not evident to the senses. And even if one should accept classical foundationalism, one might be wrong; so classical foundationalism is not incorrigible. Since classical foundationalism is neither self-evident, evident to the senses nor incorrigible, it can only be rationally maintained if it can be inferred from propositions that (ultimately) are self-evident, evident to the senses or incorrigible. Is that possible? Consider a representative set of evidential propositions, E, that are self-evident, evident to the senses or incorrigible:

Evidence (E):

- *When equals are added to equals you get equals.*
- *2 + 2 = 4*
- *Grass is green.*
- *The sky is blue.*
- *Grass seems green to me.*
- *The sky appears to me to be blue.*

Limiting yourself to propositions that are self-evident, evident to the senses or incorrigible, you can expand this list as exhaustively as you like. We have enough in E to make our case. Given E as evidence, can CF be inferred? Is E adequate evidence for CF? It's hard to imagine how it could be. Indeed all of the propositions in E are irrelevant to the truth of CF. E simply cannot logically support CF. So, CF is not self-evident, evident to the senses or incorrigible, nor can CF be inferred from a set of propositions that are self-evident, evident to the senses or incorrigible. So, CF, by its own account, is irrational. If CF were true, it would be irrational to accept it. Better simply to reject it!

Thomas Reid (1710-1796), whom Plantinga and Wolterstorff follow, was an early critic of classical foundationalism. Reid argued that we have been outfitted with a host of cognitive faculties that produce beliefs that we can reason from (the foundations of believings). Plantinga calls these *basic beliefs*. The kinds of beliefs that we do and must reason *to* is a small subset of the kinds of beliefs that we do and must reason *from*. The latter must be accepted without the aid of proof. In most cases we must rely on our intellectual equipment to produce beliefs in the appropriate circumstances, without evidence or argument. For example, we simply find ourselves believing in other persons. A person is a center of self-conscious thoughts and feelings and first-person experience. While we can see a human face or a body, we can't see another's thoughts or feelings. Consider a person, Emily, whose leg is poked with a needle. We can see Emily recoil and her face screw up, and we can hear her yelp. So we can see Emily's pain-behavior, but we cannot see her pain. The experience of pain is just the sort of inner experience that is typical of persons. For all we can know from Emily's pain-behavior, she might be a cleverly constructed automaton (like Data of Star Trek fame or an exact human replica all the way down to the neurons). Or, for all we know, Emily might be a person just like us with the characteristic interior life and experience of persons. The point is, you can't tell, just from Emily's pain behavior, if she has any inner experience of pain. So you can't tell by the things to which you have evidential access if Emily is a person. No one has ever been able to develop a successful argument to prove that there are other persons. So if classical foundationalism were true, it would not be reasonable to believe in the existence of other persons. But surely there are other persons whose existence it is reasonable to accept. So much the worse for classical foundationalism, Reidians say. Similar problems arise for classical foundationalism concerning beliefs in the past, the future, and the external world. No justification-conferring inference is or could be involved. Yet, the Reidian claims, we are perfectly within our epistemic rights in holding these basic beliefs. Thus, we should

conclude that these beliefs are *properly basic* (that is, non-inferential but justified beliefs) and should reject classical foundationalism's claim to the contrary.

Granting that a great many of our important beliefs are non-inferential, could one reasonably find oneself believing in God without evidence or argument? 'Evidence' is to be understood here as most evidentialists understand it, namely as the kind of propositional evidence one might find in a theistic argument and not the kind of experiential evidence typically thought to ground religious belief. Could belief in God be properly basic?

There are at least two reasons to believe that it might be rational for a person to accept belief in God without the support of an argument. The first is a parity argument. We must, by our nature, accept the deliverances of our cognitive faculties, including those that produce beliefs in the external world, other persons, that the future will be like the past, the reality of the past, and what other people tell us—just to name a few. For the sake of parity, we should trust the deliverances of the faculty that produces in us belief in the divine (what Plantinga (2000), following John Calvin, calls the *sensus divinitatus,* the sense of the divine). Of course, some philosophers deny that we have a *sensus divinitatus* and so reject the parity argument. The second reason is that belief in God is more like belief in a person than belief in a scientific hypothesis. Human relations demand trust, commitment, and faith. If belief in God is more like belief in other persons than belief in atoms, then the trust that is appropriate to persons will be appropriate to God. William James offers a similar argument in "The Will to Believe." Reformed epistemologists hold that one can reasonably believe in God—immediately and basically—without the support of an argument. One's properly functioning cognitive faculties can produce belief in God in the appropriate circumstances with or without argument or evidence.

e. Religious Experience

Although Plantinga contends that belief in God does not require the support of propositional evidence or argument (like a theistic proof) in order to be rational, he does contend that belief in God is not groundless. According to Plantinga, belief in God is grounded in characteristic religious experiences such as beholding the divine majesty on the top of a mountain or the divine creativity when noticing the articulate beauty of the flower. Other sorts of alleged religious experiences involve a sense of guilt (and forgiveness), despair, the inner testimony of the Holy Spirit, or direct contact with the divine (mysticism). The experience of many believers is so vivid that they describe it with sensory metaphors: they claim to see, hear or be touched by God.

It is important to note that people who believe on the basis of religious experience do not typically construe their belief in God as based on an argument (any more than belief in other persons is based on an argument). They believe they have seen or heard God directly and find themselves overwhelmed by belief in God. Religious experience is typically taken as self-authenticating. In good Reidian fashion, one might simply take it that one has a cognitive faculty that can be trusted when it produces belief in God when induced by the appropriate experiences; that is, one is permitted to trust one's initial alleged religious experience as veridical, just as one must trust that others of one's cognitive faculties are veridical. (It should be noted that Reid himself does not make this claim. He believes that God's existence can and should be supported by argument.) Richard Swinburne alleges that it is also reasonable to trust what others

tell us unless and until we have good reason to believe otherwise. So, it would be reasonable for someone who did not have a religious experience to trust the veridicality of someone who did claim to have a religious experience. That is, it would be reasonable for everyone, not just the subject of the alleged religious experience, to believe in God on the basis of that alleged religious experience.

Some philosophers reject religious experience as a proper ground for religious belief. While not denying that some people have had powerful, so-called mystical experiences, they deny that one can reliably infer from that experience that the source or cause of that experience was God. Even the most enthusiastic mystics contend that some mystical experiences are illusory. So, how does one sort out the veridical from the illusory without begging the question? And if other evidence must be brought in to assess the validity of religious experience, is not then religious belief based more on that evidence than on the immediate experience? William Alston (1991) responds to these sorts of challenges by noting that perceptual experience, which is seldom questioned, is afflicted with precisely the same problems. Yet we do not take perceptual beliefs to be suspect. Alston argues that if religious experiences and the beliefs they produce relevantly resemble perceptual experiences and the beliefs they produce, then we should not hold beliefs based upon religious experience to be suspect either.

f. Internalism/Externalism

Some of the most important issues concerning the rationality of religious belief are framed in terms of the distinction between internalism and externalism in epistemology. Philosophers who are internalists with respect to rationality argue that we can tell, from the inside so to speak, if our beliefs are rationally justified. The language used by the classical foundationalist to describe basic beliefs is thoroughly internalist. 'Self-evident' and 'evident to the senses' are suggestive of beliefs that have a certain inner, compelling and unquestionable luminosity; one can simply inspect one's beliefs and "see" if they are evident in the appropriate respects. And since deductive inference transfers rational justification from lower levels to higher levels, by carefully checking the inferential relations among one's beliefs, one can see this luminosity passing from basic to non-basic beliefs. So internalists believe that rationality is something that can be discerned by the mental inspection of one's own beliefs, items to which one has direct cognitive access.

Plantinga, on the other hand, argues that modern foundationalism has misunderstood the nature of rational justification. Plantinga calls the special property that turns true belief into knowledge "warrant." According to Plantinga, a belief has warrant for one if and only if that belief is produced by one's properly functioning cognitive faculties in circumstances to which those faculties are designed to apply; in addition, those faculties must be designed for the purpose of producing true beliefs. So, for instance, my belief that 'there is a computer screen in front of me' is warranted only if it is produced by my properly functioning perceptual faculties (and not by weariness or dreaming), if no one is tricking me, say, by having removed my computer and replaced it with an exact painting of my computer (thereby messing up my cognitive environment), and if my perceptual faculties have been designed (by God) for the purpose of producing true beliefs. Only if all of these conditions are satisfied is my belief that there is a computer screen in front of me warranted.

Note the portions of Plantinga's definition which are not within one's internal or direct purview: whether or not one's faculties are functioning properly, whether or not one's faculties are designed by God, whether or not one's faculties are designed for the production of true beliefs, whether or not one is using one's faculties in the environment intended for their use (one might be seeing a mirage and taking it for real). According to Plantinga's externalism we cannot acquire warrant simply by attending to our beliefs. Warranted belief (knowledge) depends on circumstances external to the believing agent and so is not entirely up to us. Warrant depends crucially upon whether or not conditions that are not under our direct rational purview or conscious control are satisfied. If externalism is correct, then classical foundationalism has completely misunderstood the nature of epistemic warrant.

g. The Rational Stance

Because of the possibility of error, those who accept belief in God as a basic belief should nonetheless be concerned with evidence for and against belief in God. Following Reid, Reformed epistemologists contend that belief begins with trust (not suspicion, as the evidentialist apparently claims). Beliefs are, in their terms, innocent until proven guilty rather than guilty until proven innocent. In order to grasp reality, we must use and trust our cognitive faculties or capacities. But we also know that we get things wrong. The deliverances of our cognitive faculties are not infallible. Reid, Plantinga and Wolterstorff are keenly aware of human fallibility and recognize the need for a deliberative (reasoning) faculty that helps us adjudicate apparent conflicts among beliefs delivered innocently by our cognitive faculties. Reid's general approach to rational belief is this: trust the beliefs produced by your cognitive faculties in the appropriate circumstances, unless you have good reason to reject them.

Let's press the problem of error. As shown by widespread disagreement, our cognitive faculties seem less reliable in matters of fundamental human concern such as the nature of morality, the nature of persons, social and political thought, and belief in God. Given that rationality is truth-aimed, Reformed epistemologists should be willing to do two things to make the attainment of that goal more likely. First, they ought to seek, as best they can, supporting evidence for immediately produced beliefs of fundamental human concern. Because evidence is truth-conducive, it can lend credence to a basic belief. It doesn't follow that basic beliefs about morality, God, etc. are irrational until such evidence is adduced; but perhaps one's epistemic status on these matters can be improved by obtaining confirming evidence. This would make Reformed epistemology a paradigmatic example of the Augustinian view of faith and reason: *fides quaerens intellectum* (faith seeking understanding). Second, they ought to be open to contrary evidence to root out false beliefs. Given the likelihood that they could be wrong about these matters, they ought not close themselves off to the possibility of epistemic correction. If Reformed epistemologists are sincere truth-seekers, they should take the following stance:

The Rational Stance: *Trust* the deliverances of reason, *seek* supporting evidence, and be *open* to contrary evidence.

According to Reformed epistemology, evidence may not be required for belief in God to be rational. But, given the problem of error, it should nonetheless continue to play an important role in the life of the believer. *Fides quaerens intellectum*.

h. Objections to Reformed Epistemology

Reformed epistemology has been rejected for three primary reasons. First, some philosophers deny that we have a *sensus divinitatus* and so reject the parity argument. Second, some philosophers argue that Reformed epistemology is too latitudinarian, permitting the rational acceptability of virtually any belief. Gary Gutting calls this 'the Great Pumpkin Objection' because Charlie Brown could have written a defense of the *sensus pumpkinus* that is parallel to Plantinga's defense of the *sensus divinitatus*. Finally, Reformed epistemology has been rejected because it has been perceived to be a form of fideism. Fideism is the view that belief in God should be held in the absence of or even in opposition to reason. According to this traditional definition of fideism, Reformed epistemology does not count as a form of fideism because it goes to great lengths to show that belief in God is rational. However, if one defines fideism as the view that belief in God may be rightly held in the absence of evidence or argument, then Reformed epistemology will be a kind of fideism.

4. Groundless Believing

With their emphasis on reason, very few philosophers aspire to fideism. Nonetheless, some major thinkers have denied that reason plays any significant role in the life of the religious believer. Tertullian's rhetorical question, "What has Jerusalem to do with Athens?", is meant to elicit the view that faith (the Jerusalem of Jesus) has little or nothing to do with reason (the Athens of Socrates, Plato and Aristotle). Tertullian would go on to say, "I believe because it's absurd." Pascal (1623-1662), Kierkegaard (1813-1855) and followers of Wittgenstein (late 20th C.) have all been accused of fideism (which is the philosophical equivalent of calling a US citizen a "commie" in the 1950s). Let us consider their positions.

Pascal's wager brings costs and benefits into the analysis of the rationality of religious belief. Given the possibility that God exists and that the unbeliever will be punished with eternal damnation and the believer rewarded with eternal bliss, Pascal argues that it is rational to wager that God exists. Using a rational, prudential decision procedure he asks us to consider placing a bet on God's existence. If one bets on God, then either God exists and one enjoys an eternity of bliss or God does not exist and one loses very little. On the other hand, if one bets against God and wins, one gains very little, but if one loses that bet, then the one will suffer in hell forever. Prudence demands that one should believe in God's existence. Pascal concludes: "Wager, then, that God exists."

Pascal's wager has been widely criticized, but we shall only consider here the relevance of the wager to Pascal's view of faith and reason. The wager is just one of his many tools for shocking people into caring about their eternal destinies. After arguing that our desires affect our abilities to discern the truth, he tries to get our desires appropriately oriented toward the truth. The wager can stimulate the desire to seek the truth about God and, after one's desires are changed, the ability to judge the evidences for Christianity properly. So, in spite of the prominence of the wager and its apparent disregard for evidence, Pascal appears to be a kind of evidentialist after all (but not a classical foundationalist).

Søren Kierkegaard's emphasis on the role of inwardness or subjective appropriation has played a role in his being understood as a fideist. His reaction against both rationalism and dogmatism led him to view faith as a certain madness, a "leap" one makes beyond what is reasonable (a leap into the absurd). Some philosophers argue that Kierkegaard is simply emphasizing that faith is more than rational assent to the

truth of a proposition, involving more fundamentally the passionate commitment of the heart.

Finally, followers of the enigmatic [Ludwig Wittgenstein](#) have defended the groundlessness of belief in God, a view that has been called "Wittgensteinian fideism." Wittgenstein's later works both noticed and affirmed the tremendous variety of our beliefs that are not held because of reasons—such beliefs are, according to Wittgenstein, groundless. Many of Wittgenstein's most prominent students are religious believers, some of whom took his general insights into the structure of human belief and applied them to religious belief. Norman Malcolm, for example, favorably compares belief in God to the belief that things don't vanish into thin air. Both are part of the untested and untestable framework of human belief. These frameworks form the system of beliefs within which testing of other beliefs can take place. While we can justify beliefs within the framework, we cannot justify the framework itself. The giving of reasons must come to an end. And then we believe, groundlessly.

5. Conclusion

Is belief in God rational? The evidentialist objector says "No" due to the lack of evidence. Theists who say "Yes" fall into two main categories: those who claim that there is sufficient evidence and those who claim that evidence is not necessary. Theistic evidentialists contend that there is enough evidence to ground rational belief in God, while Reformed epistemologists contend that evidence is not necessary to ground rational belief in God (but that belief in God is grounded in various characteristic religious experiences). Philosophical fideists deny that belief in God belongs in the realm of the rational. And, of course, all of these theistic claims are widely and enthusiastically disputed by philosophical non-theists.

In Western European countries, religious belief has waned since the time of the Enlightenment. Yet there are counter trends. Today over 90% of Americans profess belief in a higher power. In China, after decades of institutionally enforced atheism, religious belief is dramatically on the rise. And even though religious belief has waned among professional Anglo-American philosophers since the Enlightenment, many prominent Anglo-American philosophers are theists. What conclusions can be drawn from these sociological observations? That Reason will eventually triumph over superstition as all countries eventually follow Western Europe's lead? That irrational religious belief is so stubbornly tenacious that Reason is incapable of wiping it out? That the natural tendency to believe in God is overlaid by various forms of sin (such as greed in the West or wicked Communism in the East)? That once the evidence is made clear to a deprived peoples, rational belief in God will flourish? Of course, these sociological facts are irrelevant to discussions of rational belief in God. Yet they are relevant to this: the persistence of religious belief in various contexts will continue to spur discussions of and developments in the epistemology of the religious for succeeding generations.

6. References and Further Reading

- Adams, Robert Merrihew. *The Virtue of Faith and Other Essays*. Oxford: Oxford University Press, 1987.
- Adams, Marilyn McCord and Robert Merrihew Adams, eds. *The Problem of Evil*. Oxford: Oxford University Press, 1990.
- Alston, William. *Perceiving God*. Ithaca: Cornell University Press, 1991.
- Brockelman, Paul T. *Cosmology and Creation: The Spiritual Significance of Contemporary Cosmology*. New York: Oxford University Press, 1999.
- Clark, Kelly James. *Return to Reason: A Critique of Enlightenment Evidentialism and a Defense of Reason and Belief in God*. Grand Rapids: Eerdmans, 1990.
- Craig, William Lane, and Quentin Smith. *Theism, Atheism, and Big Bang Cosmology*. Oxford: Oxford University Press, 1993.
- Davis, Stephen. *God, Reason and Theistic Proofs*. Edinburgh: Edinburgh University Press, 1997.
- Gutting, Gary. *Religious Belief and Religious Skepticism*. Notre Dame: University of Notre Dame Press, 1982.
- Helm, Paul. *Faith and Understanding*. Edinburgh: Edinburgh University Press, 1997.
- Hume, David. *Dialogues Concerning Natural Religion*. New York: Routledge, 1779/1991.
- Huxley, T. H. *Agnosticism and Christianity, and Other Essays*. Buffalo, NY: Prometheus Books, 1931/1992.
- Jordan, Jeff, ed. *Gambling on God*, Lanham MD: Rowman & Littlefield, 1994.
- Le Poidevin, Robin. *Arguing for Atheism: An Introduction to the Philosophy of Religion*. New York: Routledge, 1996.
- Murray, Michael, ed. *Reason for the Hope Within*. Grand Rapids: Eerdmans, 1999.
- Plantinga, Alvin, and Nicholas Wolterstorff, eds. *Faith and Rationality: Reason and Belief in God*. Notre Dame: University of Notre Dame Press, 1983.
- Plantinga, Alvin.. *Warrant: The Current Debate*. New York: Oxford University Press, 1993.
- Plantinga, Alvin. *Warranted Christian Belief*. New York: Oxford University Press, 2000.
- Plantinga, Alvin. *Warrant and Proper Function*. New York: Oxford University Press, 1993.
- Russell, Bertrand. *Why I Am Not a Christian, and Other Essays on Religion and Related Subjects*. New York: Simon and Schuster, 1957. Swinburne, Richard. *The Existence of God*. New York: Clarendon Press, 1979.
- Swinburne, Richard. *Faith and Reason*. New York: Oxford University Press, 1984.
- Wainwright, William. *Reason and the Heart: A Prolegomenon to a Critique of Passional Reason*. Ithaca: Cornell University Press, 1995.Wolterstorff, Nicholas. *Reason within the Bounds of Religion*. Grand Rapids: Eerdmans, 1976.
- Wolterstorff, Nicholas. *Thomas Reid and the Story of Epistemology*. New York: Cambridge University Press, 2001.
- Zagzebski, Linda, ed. *Rational Faith: Catholic Responses to Reformed Epistemology*. Notre Dame: University of Notre Dame Press, 1993.

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KNOW THYSELF

anchoring
The first thing you judge influences your judgment of all that follows.

Human minds are associative in nature, so the order in which we receive information helps determine the course of our judgments and perceptions.

Be especially mindful of this bias during financial negotiations such as houses, cars, and salaries. The initial price offered is proven to have a significant effect.

confirmation bias
You favor things that confirm your existing beliefs.

We are primed to see and agree with ideas that fit our preconceptions, and to ignore and dismiss information that conflicts with them. Think of your ideas and beliefs as software you're actively trying to find problems with rather than things to be defended.

"The first principle is that you must not fool yourself – and you are the easiest person to fool."
– Richard Feynman

backfire effect
When your core beliefs are challenged, it can cause you to believe even more strongly.

We can experience being wrong about some ideas as an attack upon our very selves, or our tribal identity. This can lead to motivated reasoning which causes us to double-down, despite disconfirming evidence.

"It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so."
– Mark Twain

declinism
You remember the past as better than it was, and expect the future to be worse than it will likely be.

Despite living in the most peaceful and prosperous time in history, many people believe things are getting worse. The 24 hour news cycle, with its reporting of overtly negative and violent events, may account for some of this effect.

Instead of relying on nostalgic impressions of how great things used to be, use measurable metrics such as life expectancy, levels of crime and violence, and prosperity statistics.

just world hypothesis
Your preference for a just world makes you presume that it exists.

A world in which people don't always get what they deserve, hard work doesn't always pay off, and injustice happens is an uncomfortable one that threatens our preferred narrative. However, it is also the reality.

A more just world requires understanding rather than blame. Remember that everyone has their own life story, we're all fallible, and bad things happen to good people.

sunk cost fallacy
You irrationally cling to things that have already cost you something.

When we've invested our time, money, or emotion into something, it hurts us to let it go. This aversion to pain can distort our better judgment and cause us to make unwise investments.

To regain objectivity, ask yourself: had I not already invested something, would I still do so now? What would I counsel a friend to do if they were in the same situation?

dunning-kruger effect
The more you know, the less confident you're likely to be.

Because experts know just how much they don't know, they tend to underestimate their ability; but it's easy to be over-confident when you only have a simple idea of how things are.

"The whole problem with the world is that fools and fanatics are so certain of themselves, yet wiser people so full of doubts."
– Bertrand Russell

barnum effect
You see personal specifics in vague statements by filling in the gaps.

Because our minds are given to making connections, it's easy for us to take nebulous statements and feel ways to interpret them so that they seem specific and personal.

Psychics, astrologers and others use this bias to make it seem like they're telling you something relevant. Consider how things might be interpreted to apply to anyone, not just you.

framing effect
You allow yourself to be unduly influenced by context and delivery.

We all like to think that we think independently, but the truth is that all of us are, in fact, influenced by delivery, framing and subtle cues. This is why the ad industry is a thing, despite almost everyone believing they're not affected by advertising messages.

Only when we have the intellectual humility to accept the fact that we can be manipulated, can we hope to limit how much we are. Try to be mindful of how things are being put to you.

in-group bias
You unfairly favor those who belong to your group.

We presume that we're fair and impartial, but the truth is that we automatically favor those who are most like us, or belong to our groups.

Try to imagine yourself in the position of those in out-groups, whilst also attempting to be dispassionate when judging those who belong to your in-groups.

fundamental attribution error
You judge others on their character, but yourself on the situation.

If you haven't had a good night's sleep, you know why you're being a bit slow; but if you observe someone else being slow you don't have such knowledge and so might presume them to just be a slow person.

It's not only kind to view others' situations with charity, it's more objective too. Be mindful to also err on the side of taking personal responsibility rather than justifying and blaming.

placebo effect
If you believe you're taking medicine it can sometimes 'work' even if it's fake.

The placebo effect can work for stuff that our mind influences (such as pain) but not so much for things like viruses or broken bones.

Homeopathy, acupuncture, and many other forms of natural 'medicine' have been proven to be no more effective than placebo. Keep a healthy body and hard balance by using evidence-based medicine from a qualified doctor.

availability heuristic
Your judgments are influenced by what springs most easily to mind.

How recent, emotionally powerful, or unusual your memories are can make them seem more relevant. This, in turn, can cause you to apply them too readily.

Try to gain different perspectives and relevant statistical information rather than relying purely on first judgments and emotive influences.

belief bias
If a conclusion supports your existing beliefs, you'll rationalize anything that supports it.

It's difficult for us to set aside our existing beliefs to consider the true merits of an argument. In practice this means that our ideas become impervious to criticism, and are perpetually reinforced.

A useful thing to ask is 'when and how did I get this belief?' We tend to automatically defend our ideas without ever really questioning them.

groupthink
You let the social dynamics of a group situation override the best outcomes.

Dissent can be uncomfortable and dangerous to one's social standing, and so often the most confident or first voice will determine group decisions.

Rather than openly contradicting others, seek to facilitate objective means of evaluation and critical thinking practices as a group activity.

optimism bias
You overestimate the likelihood of positive outcomes.

There can be benefits to a positive attitude, but it's unwise to allow such an attitude to adversely affect our ability to make rational judgments (they're not mutually exclusive).

If you make rational, realistic judgments you'll have a lot more to feel positive about.

reactance
You'd rather do the opposite of what someone is trying to make you do.

When we feel our liberty is being constrained, our inclination is to resist, however in doing so we can over-compensate.

Be careful not to lose objectivity when someone is being coercive/manipulative, or trying to force you do something. Wisdom springs from reflection, folly from reaction.

curse of knowledge
Once you understand something you presume it to be obvious to everyone.

Things make sense once they make sense, so it can be hard to remember why they didn't. We build complex networks of understanding and forget how intricate the path to our available knowledge really is.

When teaching someone something new, go slow and explain like they're ten years old (without being patronizing). Repeat key points and facilitate active practice to help embed knowledge.

self-serving bias
You believe your failures are due to external factors, yet you're personally responsible for your successes.

Many of us enjoy unearned privileges, luck and advantages that others do not. It's easy to tell ourselves that we deserve these things, whilst blaming circumstance when things don't go our way.

When judging others, be mindful of how this bias interacts with the just-world hypothesis, fundamental attribution error, and the in-group bias.

negativity bias
You allow negative things to disproportionately influence your thinking.

The pain of loss and hurt are more keenly and persistently than the fleeting gratification of pleasant things. We are primed for survival, and our aversion to pain can distort our judgment for a modern world.

Pro-and-con lists, as well as thinking in terms of probabilities, can help you evaluate things more objectively than relying on a cognitive impression.

pessimism bias
You overestimate the likelihood of negative outcomes.

Pessimism is often a defence mechanism against disappointment, or it can be the result of depression and anxiety disorders.

Perhaps the worst aspect of pessimism is that even if something good happens, you'll probably feel pessimistic about it anyway.

halo effect
How much you like someone, or how attractive they are, influences your other judgments of them.

Our judgments are associative and automatic, and so if we want to be objective we need to consciously control for irrelevant influences. This is especially important in a professional setting.

If you notice that you're giving consistently high or low marks across the board, it's worth considering that your judgment may be suffering from the halo effect.

bystander effect
You presume someone else is going to do something in an emergency situation.

When something terrible is happening in a public setting we can experience a kind of shock and mental paralysis that distracts us from a sense of personal responsibility. The problem is that everyone can experience this sense of deindividuation in a crowd.

If there's an emergency situation, presume to be the one who will help or call for help. Be the change you want to see in the world.

spotlight effect
You overestimate how much people notice how you look and act.

Most people are much more concerned about themselves than they are about you. Absent overt prejudices, people generally want to like and get along with you as it gives them validation too.

Instead of worrying about how you're being judged, consider how you make others feel. They'll remember this much more, and you'll make the world a better place.

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24 cognitive biases stuffing up your thinking

Cognitive biases make our judgments irrational. We have evolved to use shortcuts in our thinking, which are often useful, but a cognitive bias means there's a kind of misfiring going on causing us to lose objectivity. This poster has been designed to help you identify some of the most common biases and how to avoid falling victim to them. Help people become aware of their biases generally by sharing the website **yourbias.is** or more specifically e.g. **yourbias.is/confirmation-bias**

Download this poster at www.yourbias.is

PLATO   SOCRATES   ARISTOTLE

strawman
Misrepresenting someone's argument to make it easier to attack.

By exaggerating, misrepresenting, or just fabricating someone's argument, it's much easier to present your own position as being reasonable, but this kind of dishonesty serves to undermine rational debate.

After Will said that we should be nicer to kittens because they're fluffy and cute, Bill says that Will is a mean jerk who wants to be mean to poor defenceless puppies.

slippery slope
Asserting that if we allow A to happen, then Z will consequently happen too, therefore A should not happen.

The problem with this reasoning is that it avoids engaging with the issue at hand, and instead shifts attention to baseless extreme hypotheticals. The merits of the original argument are then tainted by unsubstantiated conjecture.

Colin asserted that if we allow children to play video games, then the next thing you know we'll be living in a post-apocalyptic zombie wasteland with no money for grandchildren to protect people from slippery slopes.

special pleading
Moving the goalposts or making up exceptions when a claim is shown to be false.

Humans are fiarly creatures and have a foolish aversion to being wrong. Rather than appreciate the benefits of being able to change one's mind through better understanding, many will invent ways to cling to old beliefs.

Edward Johns claimed to be psychic, but when his 'abilities' were tested under proper scientific conditions, they magically disappeared. Edward explained this saying that one had to have faith in his abilities for them to work.

the gambler's fallacy
Believing that 'runs' occur to statistically independent phenomena such as roulette wheel spins.

This commonly believed fallacy can lead to false hope and false hope in the desert of Nevada USA. Though the overall odds of a 'big run' happening may be low, each spin of the wheel is itself entirely independent from the last.

Red had come up six times in a row on the roulette wheel, so Greg knew that it was close to certain that black would be next up. Suffering an economic form of natural selection with this thinking, he soon lost all of his savings.

black-or-white
Where two alternative states are presented as the only possibilities, when in fact more possibilities exist.

Also known as the false dilemma, this insidious tactic has the appearance of forming a logical argument, but under closer scrutiny it becomes evident that there are more possibilities than the either/or choice that is presented.

Whilst tallying support for his plan to fundamentally undermine citizens' rights, the Supreme Leader told the people they were either on his side, or else on the side of the enemy.

false cause
Presuming that a real or perceived relationship between things means that one is the cause of the other.

Many people confuse correlation (things happening together or in sequence) for causation (that one thing actually causes the other to happen). Sometimes correlation is coincidental, or it may be attributable to a common cause.

Pointing to a fancy chart, Roger shows how temperatures have been rising over the past few centuries, whilst at the same time the numbers of pirates have been decreasing; thus pirates cool the world and global warming is a hoax.

ad hominem
Attacking your opponent's character or personal traits in an attempt to undermine their argument.

Ad hominem attacks can take the form of overtly attacking somebody, or more subtly casting doubt on their character or personal attributes to undermine their argument. The result of an ad hominem attack can be to undermine someone without actually engaging with the substance of their argument.

After Sally presents an eloquent and compelling case for a more equitable taxation system, Sam asks the audience whether we should believe anything from a woman who isn't married and spends her evenings with her cats.

loaded question
Asking a question that has an assumption built into it so that it can't be answered without appearing guilty.

Loaded question fallacies are particularly effective at derailing rational debates because of their inflammatory nature – recipients of a loaded question are compelled to defend themselves and may appear flustered or on the back foot.

Grace and Helen were both romantically interested in Brad. One day with Brad sitting within earshot, Grace asked in an inquisitive tone whether Helen was having any problems with a fungal infection.

bandwagon
Appealing to popularity or the fact that many people do something as an attempted form of validation.

The flaw in this argument is that the popularity of an idea has absolutely no bearing on its validity. If it did, then the Earth would have made itself flat for most of history to accommodate this popular belief.

Shamus pointed a finger at Sean and asked him to explain how so many people could believe in leprechauns if they're only a silly old superstition. Sean won'dered how so many people could believe in things based on popularity.

begging the question
A circular argument in which the conclusion is included in the premise.

This logically incoherent argument often arises in situations where people have an assumption that is very ingrained, and therefore taken in their minds as a given. Circular reasoning is bad mostly because it's not very good.

The word of Zorbo the Great is flawless and perfect. We know this because it says so in The Great and Infallible Book of Zorbo's Best and Most Truest Things that are Definitely True and Should Not Ever Be Questioned.

appeal to emotion
Manipulating an emotional response in place of a valid or compelling argument.

Appeals to emotion include appeals to fear, envy, hatred, pity, guilt, and more. Through a valid, and reasoned, argument may sometimes have an emotional aspect, one must be careful that emotion doesn't obscure or replace reason.

Luke didn't want to eat his sheep brains with chopped liver and brussel sprouts, but his father told him to think about the poor, starving children in a third world country who weren't fortunate enough to have any food at all.

tu quoque
Avoiding having to engage with criticism by turning it back on the accuser – answering criticism with criticism.

Literally translating as 'you too' this fallacy is commonly employed as an effective red herring because it takes the heat off the accused having to defend themselves and shifts the focus back onto the accuser themselves.

Nicole identified that Hannah had committed a logical fallacy, but instead of addressing the substance of her claim, Hannah accused Nicole of committing a fallacy earlier on in the conversation.

no true scotsman
Making what could be called an appeal to purity as a way to dismiss relevant criticisms or flaws of an argument.

This fallacy is often employed as a means of last resort when a point has been lost. Seeing that a criticism is valid, yet not wanting to admit it, new criteria are invoked to dissociate oneself from the unwanted characteristic.

Angus declares that Scotsmen do not put sugar on their porridge, to which Lachlan points out that he is a Scotsman and puts sugar on his porridge. Furious, like a true Scot, Angus yells that no true Scotsman sugars his porridge.

the fallacy fallacy
Presuming a claim to be necessarily wrong because a fallacy has been committed.

It is entirely possible to make a claim that is false yet argue with logical coherency for that claim, just as it is possible to make a claim that is true and justify it with various fallacies and poor arguments.

Recognizing that Amanda had committed a fallacy in arguing that we should all eat healthy food because a nutritionist said it was popular, Alyse declared that we should therefore be eat bacon double-cheeseburgers every day.

personal incredulity
Saying that because one finds something difficult to understand, it's therefore not true.

Subjects such as biological evolution via the process of natural selection require a good amount of understanding before one is able to properly grasp them; this fallacy is usually used in place of that understanding.

Kirk drew a picture of a fish and a human on his notepad, then asked Richard if he really thought we were stupid enough to believe that a fish somehow turned into a human through 'magic', like, random things happening over time.

burden of proof
Saying that the burden of proof lies not with the person making the claim, but with someone else to disprove.

The burden of proof lies with someone who is making a claim, and is not upon anyone else to disprove. The inability, or disinclination, to disprove a claim does not make it valid (however one does not have to prove everything).

Bertrand declares that a teapot is, at this very moment, in orbit around the Sun between the Earth and Mars, and that because no one can prove him wrong his claim is therefore a valid one.

genetic
Judging something good or bad on the basis of where it comes from, or from whom it comes.

Accused on the 6 o'clock news of corruption and taking bribes, the senator said that we should all be very wary of the things we hear in the media, because we all know how very unreliable the media can be.

appeal to authority
Saying that because an authority thinks something, it must therefore be true.

It is important to note that this fallacy should not be used to dismiss the claims of experts, or scientific consensus. Appeals to authority are not valid arguments, but nor is it reasonable to disregard the claims of experts who have a demonstrated depth of knowledge unless one has a similar level of understanding.

Not able to defend his argument that the Earth is flat, Roland said that he was friends with a scientist and therefore knew more about the subject than many.

composition/division
Assuming that what's true about one part of something has to be applied to all, or other, parts of it.

Often when something is true for the part it does also apply to the whole, but because this isn't always the case it can't be presumed to be true. We must show evidence for why a consistency will exist.

Daniel was a precocious child and had a liking for logic. He reasoned that atoms are invisible, and that he was made of atoms and therefore invisible too. Unfortunately, despite his best efforts, Daniel ceased to be invisible no matter how hard he tried.

appeal to nature
Making the argument that because something is 'natural' it is therefore valid, justified, inevitable, good, or ideal.

Many 'natural' things are also considered 'good', and this can bias our thinking; but naturalness itself doesn't make something good or bad. For instance murder could be seen as very natural, but that doesn't mean it's justifiable.

The medicine man rolled into town on his bandwagon offering various natural remedies, such as very special plain water. He said that it was only natural that people should be wary of 'artificial' medicines like antibiotics.

ambiguity
Using double meanings or ambiguities of language to mislead or misrepresent the truth.

Politicians are often guilty of using ambiguity to mislead and will later point to how they were technically not outright lying if they come under scrutiny. It's a particularly tricky and premeditated fallacy to commit.

When the judge asked the defendant why he hadn't paid his parking fines, he said that he shouldn't have to pay them because the sign said 'Fine for parking here' and so he naturally presumed that it would be fine to park there.

anecdotal
Using personal experience or an isolated example instead of a valid argument, especially to dismiss statistics.

It's often much easier for people to believe someone's testimony as opposed to understanding complex data across a continuum. Scientific and statistical measures are almost always more accurate than individual perceptions and experiences.

Jason said that that was all cool and everything, but his grandfather smoked, like, 30 cigarettes a day and lived until 97 – so don't believe everything you read about meta analyses of sound studies showing proven causal relationships.

the texas sharpshooter
Cherry-picking data clusters to suit an argument, or finding a pattern to fit a presumption.

This false-cause fallacy is coined after a marksman shooting at barns and then painting a bullseye target around the spot where the most bullet holes appear. Clusters will naturally appear by chance, but don't necessarily indicate a cause.

The makers of Sugarette Candy Drinks point to research showing that of the five countries where Sugarette drinks sell the most, three of them are in the top ten healthiest countries on Earth, therefore Sugarette drinks are healthy.

middle ground
Saying that a compromise, or middle point, between two extremes must be the truth.

Much of the time the truth does indeed lie between two extreme points, but this can bias our thinking: sometimes a thing is simply untrue and a compromise of it is also untrue. Half way between truth and a lie, is still a lie.

Holly said that vaccinations caused autism in children, but her scientifically well-read friend Caleb said that this claim had been debunked and proven false. Their friend Alice offered a compromise that vaccinations cause some autism.

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thou shalt not commit logical fallacies

A logical fallacy is a flaw in reasoning. Strong arguments are void of logical fallacies, whilst arguments that are weak tend to use fallacies in place of cogent logic. They're like tricks or illusions of thought, and they're often very sneakily used by politicians, the media, and others to fool people. Don't be fooled! This poster has been designed to help you identify and call out dodgy logic wherever it may raise its ugly, incoherent head. If you see someone committing a logical fallacy online, link them to the relevant fallacy to school them in thinkiness e.g. **yourfallacy.is/strawman**

Download this poster at yourfallacy.is

Epistemology

Epistemology is the study of <u>knowledge</u>. Epistemologists concern themselves with a number of tasks, which we might sort into two categories.

First, we must determine the *nature* of knowledge; that is, what does it mean to say that someone knows, or fails to know, something? This is a matter of understanding what knowledge is, and how to distinguish between cases in which someone knows something and cases in which someone does not know something. While there is some general agreement about some aspects of this issue, we shall see that this question is much more difficult than one might imagine.

Second, we must determine the *extent* of human knowledge; that is, how much do we, or can we, know? How can we use our reason, our senses, the testimony of others, and other resources to acquire knowledge? Are there limits to what we can know? For instance, are some things unknowable? Is it possible that we do not know nearly as much as we think we do? Should we have a legitimate worry about <u>skepticism</u>, the view that we do not or cannot know anything at all?

While this article provides on overview of the important issues, it leaves the most basic questions unanswered; epistemology will continue to be an area of philosophical discussion as long as these questions remain.

Table of Contents

1. Kinds of Knowledge

The term "epistemology" comes from the Greek "episteme," meaning "knowledge," and "logos," meaning, roughly, "study, or science, of." "Logos" is the root of all terms ending in "-ology" – such as psychology, anthropology – and of "logic," and has many other related meanings.

The word "knowledge" and its cognates are used in a variety of ways. One common use of the word "know" is as an expression of psychological conviction. For instance, we might hear someone say, "I just knew it wouldn't rain, but then it did." While this may be an appropriate usage, philosophers tend to use the word "know" in a *factive* sense, so that one cannot know something that is not the case. (This point is discussed at greater length in section 2b below.)

Even if we restrict ourselves to factive usages, there are still multiple senses of "knowledge," and so we need to distinguish between them. One kind of knowledge is procedural knowledge, sometimes called competence or "know-how;" for example, one can know how to ride a bicycle, or one can know how to drive from Washington, D.C. to New York. Another kind of knowledge is acquaintance knowledge or familiarity; for instance, one can know the department chairperson, or one can know Philadelphia.

Epistemologists typically do not focus on procedural or acquaintance knowledge, however, instead preferring to focus on *propositional* knowledge. A proposition is something which can be expressed by a declarative sentence, and which purports to describe a fact or a state of affairs, such as "Dogs are mammals," "2+2=7," "It is wrong to murder innocent people for fun." (Note that a proposition may be true or false; that is, it need not *actually* express a fact.) Propositional knowledge, then, can be called knowledge-that; statements of propositional knowledge (or the lack thereof) are properly expressed using "that"-clauses, such as "He knows that Houston is in Texas," or "She does not know that the square root of 81 is 9." In what follows, we will be concerned only with propositional knowledge.

Propositional knowledge, obviously, encompasses knowledge about a wide range of matters: scientific knowledge, geographical knowledge, mathematical knowledge, self-knowledge, and knowledge about any field of study whatever. Any truth might, in principle, be knowable, although there might be unknowable truths. One goal of epistemology is to determine the criteria for knowledge so that we can know what can or cannot be known, in other words, the study of epistemology fundamentally includes the study of meta-epistemology (what we can know about knowledge itself).

We can also distinguish between different types of propositional knowledge, based on the source of that knowledge. Non-empirical or *a priori* knowledge is possible independently of, or prior to, any experience, and requires only the use of reason; examples include knowledge of logical truths such as the law of non-contradiction, as well as knowledge of abstract claims (such as ethical claims or claims about various conceptual matters). Empirical or *a posteriori* knowledge is possible only subsequent, or posterior, to certain sense experiences (in addition to the use of reason); examples include knowledge of the color or shape of a physical object or knowledge of geographical locations. (Some philosophers, called rationalists, believe that all knowledge is ultimately grounded upon reason; others, called empiricists, believe that all knowledge is ultimately grounded upon experience.) A thorough epistemology should, of course, address all kinds of knowledge, although there might be different standards for *a priori* and *a posteriori* knowledge.

We can also distinguish between individual knowledge and collective knowledge. Social epistemology is the subfield of epistemology that addresses the way that groups, institutions, or other collective bodies might come to acquire knowledge.

2. The Nature of Propositional Knowledge

Having narrowed our focus to propositional knowledge, we must ask ourselves what, exactly, constitutes knowledge. What does it mean for someone to know something? What is the difference between someone who knows something and someone else who does not know it, or between something one knows and something one does not know? Since the scope of knowledge is so broad, we need a general characterization of knowledge, one which is applicable to any kind of proposition whatsoever. Epistemologists have usually undertaken this task by seeking a correct and complete analysis of the concept of knowledge, in other words a set of individually necessary and jointly sufficient conditions which determine whether someone knows something.

a. Belief

Let us begin with the observation that knowledge is a mental state; that is, knowledge exists in one's mind, and unthinking things cannot know anything. Further, knowledge is a specific kind of mental state. While "that"-clauses can also be used to describe desires and intentions, these cannot constitute knowledge. Rather, knowledge is a kind of *belief*. If one has no beliefs about a particular matter, one cannot have knowledge about it.

For instance, suppose that I desire that I be given a raise in salary, and that I intend to do whatever I can to earn one. Suppose further that I am doubtful as to whether I will indeed be given a raise, due to the intricacies of the university's budget and such. Given that I do not believe that I will be given a raise, I cannot be said to know that I will. Only if I am inclined to believe something can I come to know it. Similarly, thoughts that an individual has never entertained are not among his beliefs, and thus cannot be included in his body of knowledge.

Some beliefs, those which the individual is actively entertaining, are called occurrent beliefs. The majority of an individual's beliefs are non-occurrent; these are beliefs that the individual has in the background but is not entertaining at a particular time. Correspondingly, most of our knowledge is non-occurrent, or background, knowledge; only a small amount of one's knowledge is ever actively on one's mind.

b. Truth

Knowledge, then, requires belief. Of course, not all beliefs constitute knowledge. Belief is necessary but not sufficient for knowledge. We are all sometimes mistaken in what we believe; in other words, while some of our beliefs are true, others are false. As we try to acquire knowledge, then, we are trying to increase our stock of *true* beliefs (while simultaneously minimizing our false beliefs).

We might say that the most typical purpose of beliefs is to describe or capture the way things actually are; that is, when one forms a belief, one is seeking a match between one's mind and the world. (We sometimes, of course, form beliefs for other reasons – to create a positive attitude, to deceive ourselves, and so forth – but when we seek knowledge, we are trying to get things right.) And, alas, we sometimes fail to achieve such a match; some of our beliefs do not describe the way things actually are.

Note that we are assuming here that there is such a thing as objective truth, so that it is possible for beliefs to match or to fail to match with reality. That is, in order for someone to know something, there must be something one knows *about*. Recall that

we are discussing knowledge in the factive sense; if there are no facts of the matter, then there's nothing to know (or to fail to know). This assumption is not universally accepted – in particular, it is not shared by some proponents of relativism – but it will not be defended here. However, we can say that truth is a *condition* of knowledge; that is, if a belief is not true, it cannot constitute knowledge. Accordingly, if there is no such thing as truth, then there can be no knowledge. Even if there is such a thing as truth, if there is a domain in which there are no truths, then there can be no knowledge within that domain. (For example, if beauty is in the eye of the beholder, then a belief that something is beautiful cannot be true or false, and thus cannot constitute knowledge.)

c. Justification

Knowledge, then, requires factual belief. However, this does not suffice to capture the nature of knowledge. Just as knowledge requires successfully achieving the objective of true belief, it also requires success with regard to the formation of that belief. In other words, not all true beliefs constitute knowledge; only true beliefs arrived at in the right way constitute knowledge.

What, then, is the right way of arriving at beliefs? In addition to truth, what other properties must a belief have in order to constitute knowledge? We might begin by noting that sound reasoning and solid evidence seem to be the way to acquire knowledge. By contrast, a lucky guess cannot constitute knowledge. Similarly, misinformation and faulty reasoning do not seem like a recipe for knowledge, even if they happen to lead to a true belief. A belief is said to be *justified* if it is obtained in the right way. While justification seems, at first glance, to be a matter of a belief's being based on evidence and reasoning rather than on luck or misinformation, we shall see that there is much disagreement regarding how to spell out the details.

The requirement that knowledge involve justification does not necessarily mean that knowledge requires absolute certainty, however. Humans are fallible beings, and fallibilism is the view that it is possible to have knowledge even when one's true belief might have turned out to be false. Between beliefs which were necessarily true and those which are true solely by luck lies a spectrum of beliefs with regard to which we had some defeasible reason to believe that they would be true. For instance, if I heard the weatherman say that there is a 90% chance of rain, and as a result I formed the belief that it would rain, then my true belief that it would rain was not true purely by luck. Even though there was some chance that my belief might have been false, there was a sufficient basis for that belief for it to constitute knowledge. This basis is referred to as the justification for that belief. We can then say that, to constitute knowledge, a belief must be both true and justified.

Note that because of luck, a belief can be unjustified yet true; and because of human fallibility, a belief can be justified yet false. In other words, truth and justification are two independent conditions of beliefs. The fact that a belief is true does not tell us whether or not it is justified; that depends on how the belief was arrived at. So, two people might hold the same true belief, but for different reasons, so that one of them is justified and the other is unjustified. Similarly, the fact that a belief is justified does not tell us whether it's true or false. Of course, a justified belief will presumably be more likely to be true than to be false, and justified beliefs will presumably be more likely or more probable to be true than unjustified beliefs. (As we will see in section 3 below, the exact nature of the relationship between truth and justification is contentious.)

d. The Gettier Problem

For some time, the justified true belief (JTB) account was widely agreed to capture the nature of knowledge. However, in 1963, [Edmund Gettier](#) published a short but widely influential article which has shaped much subsequent work in epistemology. Gettier provided two examples in which someone had a true and justified belief, but in which we seem to want to deny that the individual has knowledge, because luck still seems to play a role in his belief having turned out to be true.

Consider an example. Suppose that the clock on campus (which keeps accurate time and is well maintained) stopped working at 11:56pm last night, and has yet to be repaired. On my way to my noon class, exactly twelve hours later, I glance at the clock and form the belief that the time is 11:56. My belief is true, of course, since the time is indeed 11:56. And my belief is justified, as I have no reason to doubt that the clock is working, and I cannot be blamed for basing beliefs about the time on what the clock says. Nonetheless, it seems evident that I do not know that the time is 11:56. After all, if I had walked past the clock a bit earlier or a bit later, I would have ended up with a false belief rather than a true one.

This example and others like it, while perhaps somewhat far-fetched, seem to show that it is possible for justified true belief to fail to constitute knowledge. To put it another way, the justification condition was meant to ensure that knowledge was based on solid evidence rather than on luck or misinformation, but Gettier-type examples seem to show that justified true belief can still involve luck and thus fall short of knowledge. This problem is referred to as "the Gettier problem." To solve this problem, we must either show that all instances of justified true belief do indeed constitute knowledge, or alternatively refine our analysis of knowledge.

i. The No-False-Belief Condition

We might think that there is a simple and straightforward solution to the Gettier problem. Note that my reasoning was tacitly based on my belief that the clock is working properly, and that this belief is false. This seems to explain what has gone wrong in this example. Accordingly, we might revise our analysis of knowledge by insisting that to constitute knowledge, a belief must be true and justified *and* must be formed without relying on any false beliefs. In other words, we might say, justification, truth, and belief are all necessary for knowledge, but they are not jointly sufficient for knowledge; there is a fourth condition – namely, that no false beliefs be essentially involved in the reasoning that led to the belief – which is also necessary.

Unfortunately, this will not suffice; we can modify the example so that my belief is justified and true, and is not based on any false beliefs, but still falls short of knowledge. Suppose, for instance, that I do not have any beliefs about the clock's current state, but merely the more general belief that the clock usually is in working order. This belief, which is true, would suffice to justify my belief that the time is now 11:56; of course, it still seems evident that I do not know the time.

ii. The No-Defeaters Condition

However, the no-false-belief condition does not seem to be completely misguided; perhaps we can add some other condition to justification and truth to yield a correct characterization of knowledge. Note that, even if I didn't actively form the belief that the clock is currently working properly, it seems to be implicit in my reasoning, and the fact that it is false is surely relevant to the problem. After all, if I were asked, at the

time that I looked at the clock, whether it is working properly, I would have said that it is. Conversely, if I believed that the clock wasn't working properly, I wouldn't be justified in forming a belief about the time based on what the clock says.

In other words, the proposition that the clock is working properly right now meets the following conditions: it is a false proposition, I do not realize that it is a false proposition, and if I had realized that it is a false proposition, my justification for my belief that it is 11:56 would have been undercut or defeated. If we call propositions such as this "defeaters," then we can say that to constitute knowledge, a belief must be true and justified, and there must not be any defeaters to the justification of that belief. Many epistemologists believe this analysis to be correct.

iii. Causal Accounts of Knowledge

Rather than modifying the JTB account of knowledge by adding a fourth condition, some epistemologists see the Gettier problem as reason to seek a substantially different alternative. We have noted that knowledge should not involve luck, and that Gettier-type examples are those in which luck plays some role in the formation of a justified true belief. In typical instances of knowledge, the factors responsible for the justification of a belief are also responsible for its truth. For example, when the clock is working properly, my belief is both true and justified because it's based on the clock, which accurately displays the time. But one feature that all Gettier-type examples have in common is the lack of a clear connection between the truth and the justification of the belief in question. For example, my belief that the time is 11:56 is justified because it's based on the clock, but it's true because I happened to walk by at just the right moment. So, we might insist that to constitute knowledge, a belief must be both true and justified, and its truth and justification must be connected somehow.

This notion of a connection between the truth and the justification of a belief turns out to be difficult to formulate precisely, but causal accounts of knowledge seek to capture the spirit of this proposal by more significantly altering the analysis of knowledge. Such accounts maintain that in order for someone to know a proposition, there must be a causal connection between his belief in that proposition and the fact that the proposition encapsulates. This retains the truth condition, since a proposition must be true in order for it to encapsulate a fact. However, it appears to be incompatible with fallibilism, since it does not allow for the possibility that a belief be justified yet false. (Strictly speaking, causal accounts of knowledge make no reference to justification, although we might attempt to reformulate fallibilism in somewhat modified terms in order to state this observation.)

While causal accounts of knowledge are no longer thought to be correct, they have engendered reliabilist theories of knowledge, which shall be discussed in section 3b below.

3. The Nature of Justification

One reason that the Gettier problem is so problematic is that neither Gettier nor anyone who preceded him has offered a sufficiently clear and accurate analysis of justification. We have said that justification is a matter of a belief's having been formed

in the right way, but we have yet to say what that amounts to. We must now consider this matter more closely.

We have noted that the goal of our belief-forming practices is to obtain truth while avoiding error, and that justification is the feature of beliefs which are formed in such a way as to best pursue this goal. If we think, then, of the goal of our belief-forming practices as an attempt to establish a match between one's mind and the world, and if we also think of the application or withholding of the justification condition as an evaluation of whether this match was arrived at in the right way, then there seem to be two obvious approaches to construing justification: namely, in terms of the believer's mind, or in terms of the world.

a. Internalism

Belief is a mental state, and belief-formation is a mental process. Accordingly, one might reason, whether or not a belief is justified – whether, that is, it is formed in the right way – can be determined by examining the thought-processes of the believer during its formation. Such a view, which maintains that justification depends solely on factors internal to the believer's mind, is called internalism. (The term "internalism" has different meanings in other contexts; here, it will be used strictly to refer to this type of view about epistemic justification.)

According to internalism, the only factors that are relevant to the determination of whether a belief is justified are the believer's other mental states. After all, an internalist will argue, only an individual's mental states – her beliefs about the world, her sensory inputs (for example, her sense data) and her beliefs about the relations between her various beliefs – can determine what new beliefs she will form, so only an individual's mental states can determine whether any particular belief is justified. In particular, in order to be justified, a belief must be appropriately based upon or supported by other mental states.

This raises the question of what constitutes the basing or support relation between a belief and one's other mental states. We might want to say that, in order for belief A to be appropriately based on belief B (or beliefs B1 and B2, or B1, B2, and…Bn), the truth of B must suffice to establish the truth of A, in other words, B must entail A. (We shall consider the relationship between beliefs and sensory inputs below.) However, if we want to allow for our fallibility, we must instead say that the truth of B would give one good reason to believe that A is also true (by making it likely or probable that A is true). An elaboration of what counts as a good reason for belief, accordingly, is an essential part of any internalist account of justification.

However, there is an additional condition that we must add: belief B must itself be justified, since unjustified beliefs cannot confer justification on other beliefs. Because belief B be must also be justified, must there be some justified belief C upon which B is based? If so, C must itself be justified, and it may derive its justification from some further justified belief, D. This chain of beliefs deriving their justification from other beliefs may continue forever, leading us in an infinite regress. While the idea of an infinite regress might seem troubling, the primary ways of avoiding such a regress may have their own problems as well. This raises the "regress problem," which begins from observing that there are only four possibilities as to the structure of one's justified beliefs:

1. The series of justified beliefs, each based upon the other, continues infinitely.
2. The series of justified beliefs circles back to its beginning (A is based on B, B on C, C on D, and D on A).
3. The series of justified beliefs begins with an unjustified belief.
4. The series of justified beliefs begins with a belief which is justified, but not by virtue of being based on another justified belief.

These alternatives seem to exhaust the possibilities. That is, if one has any justified beliefs, one of these four possibilities must describe the relationships between those beliefs. As such, a complete internalist account of justification must decide among the four.

i. Foundationalism

Let us, then, consider each of the four possibilities mentioned above. Alternative 1 seems unacceptable because the human mind can contain only finitely many beliefs, and any thought-process that leads to the formation of a new belief must have some starting point. Alternative 2 seems no better, since circular reasoning appears to be fallacious. And alternative 3 has already been ruled out, since it renders the second belief in the series (and, thus, all subsequent beliefs) unjustified. That leaves alternative 4, which must, by process of elimination, be correct.

This line of reasoning, which is typically known as the regress argument, leads to the conclusion that there are two different kinds of justified beliefs: those which begin a series of justified beliefs, and those which are based on other justified beliefs. The former, called basic beliefs, are able to confer justification on other, non-basic beliefs, without themselves having their justification conferred upon them by other beliefs. As such, there is an asymmetrical relationship between basic and non-basic beliefs. Such a view of the structure of justified belief is known as "foundationalism." In general, foundationalism entails that there is an asymmetrical relationship between any two beliefs: if A is based on B, then B cannot be based on A.

Accordingly, it follows that at least some beliefs (namely basic beliefs) are justified in some way other than by way of a relation to other beliefs. Basic beliefs must be self-justified, or must derive their justification from some non-doxastic source such as sensory inputs; the exact source of the justification of basic beliefs needs to be explained by any complete foundationalist account of justification.

ii. Coherentism

Internalists might be dissatisfied with foundationalism, since it allows for the possibility of beliefs that are justified without being based upon other beliefs. Since it was our solution to the regress problem that led us to foundationalism, and since none of the alternatives seem palatable, we might look for a flaw in the problem itself. Note that the problem is based on a pivotal but hitherto unstated assumption: namely, that justification is *linear* in fashion. That is, the statement of the regress problem assumes that the basing relation parallels a logical argument, with one belief being based on one or more other beliefs in an asymmetrical fashion.

So, an internalist who finds foundationalism to be problematic might deny this assumption, maintaining instead that justification is the result of a *holistic* relationship among beliefs. That is, one might maintain that beliefs derive their justification by

inclusion in a set of beliefs which cohere with one another as a whole; a proponent of such a view is called a coherentist.

A coherentist, then, sees justification as a relation of mutual support among many beliefs, rather than a series of asymmetrical beliefs. A belief derives its justification, according to coherentism, not by being based on one or more other beliefs, but by virtue of its membership in a set of beliefs that all fit together in the right way. (The coherentist needs to specify what constitutes coherence, of course. It must be something more than logical consistency, since two unrelated beliefs may be consistent. Rather, there must be some positive support relationship – for instance, some sort of explanatory relationship – between the members of a coherent set in order for the beliefs to be individually justified.)

Coherentism is vulnerable to the "isolation objection". It seems possible for a set of beliefs to be coherent, but for all of those beliefs to be isolated from reality. Consider, for instance, a work of fiction. All of the statements in the work of fiction might form a coherent set, but presumably believing all and only the statements in a work of fiction will not render one justified. Indeed, any form of internalism seems vulnerable to this objection, and thus a complete internalist account of justification must address it. Recall that justification requires a match between one's mind and the world, and an inordinate emphasis on the relations between the beliefs in one's mind seems to ignore the question of whether those beliefs match up with the way things actually are.

b. Externalism

Accordingly, one might think that focusing solely on factors internal to the believer's mind will inevitably lead to a mistaken account of justification. The alternative, then, is that at least some factors external to the believer's mind determine whether or not she is justified. A proponent of such a view is called an externalist.

According to externalism, the only way to avoid the isolation objection and ensure that knowledge does not include luck is to consider some factors other than the individual's other beliefs. Which factors, then, should be considered? The most prominent version of externalism, called reliabilism, suggests that we consider the *source* of a belief. Beliefs can be formed as a result of many different sources, such as sense experience, reason, testimony, memory. More precisely, we might specify which sense was used, who provided the testimony, what sort of reasoning is used, or how recent the relevant memory is. For every belief, we can indicate the cognitive process that led to its formation. In its simplest and most straightforward form, reliabilism maintains that whether or not a belief is justified depends upon whether that process is a reliable source of true beliefs. Since we are seeking a match between our mind and the world, justified beliefs are those which result from processes which regularly achieve such a match. So, for example, using vision to determine the color of an object which is well-lit and relatively near is a reliable belief-forming process for a person with normal vision, but not for a color-blind person. Forming beliefs on the basis of the testimony of an expert is likely to yield true beliefs, but forming beliefs on the basis of the testimony of compulsive liars is not. In general, if a belief is the result of a cognitive process which reliably (most of the time – we still want to leave room for human fallibility) leads to true beliefs, then that belief is justified.

The foregoing suggests one immediate challenge for reliabilism. The formation of a belief is a one-time event, but the reliability of the process depends upon the long-term performance of that process. (This can include counterfactual as well as actual events. For instance, a coin which is flipped only once and lands on heads nonetheless has a

50% chance of landing on tails, even though its actual performance has yielded heads 100% of the time.) And this requires that we specify which process is being used, so that we can evaluate its performance in other instances. However, cognitive processes can be described in more or less general terms: for example, the same belief-forming process might be variously described as sense experience, vision, vision by a normally-sighted person, vision by a normally-sighted person in daylight, vision by a normally-sighted person in daylight while looking at a tree, vision by a normally-sighted person in daylight while looking at an elm tree, and so forth. The "generality problem" notes that some of these descriptions might specify a reliable process but others might specify an unreliable process, so that we cannot know whether a belief is justified or unjustified unless we know the appropriate level of generality to use in describing the process.

Even if the generality problem can be solved, another problem remains for externalism. Keith Lehrer presents this problem by way of his example of Mr. Truetemp. Truetemp has, unbeknownst to him, had a tempucomp – a device which accurately reads the temperature and causes a spontaneous belief about that temperature – implanted in his brain. As a result, he has many true beliefs about the temperature, but he does not know why he has them or what their source is. Lehrer argues that, although Truetemp's belief-forming process is reliable, his ignorance of the tempucomp renders his temperature-beliefs unjustified, and thus that a reliable cognitive process cannot yield justification unless the believer is aware of the fact that the process is reliable. In other words, the mere fact that the process is reliable does not suffice, Lehrer concludes, to justify any beliefs which are formed via that process.

4. The Extent of Human Knowledge
a. Sources of Knowledge
Given the above characterization of knowledge, there are many ways that one might come to know something. Knowledge of empirical facts about the physical world will necessarily involve perception, in other words, the use of the senses. Science, with its collection of data and conducting of experiments, is the paradigm of empirical knowledge. However, much of our more mundane knowledge comes from the senses, as we look, listen, smell, touch, and taste the various objects in our environments.

But all knowledge requires some amount of reasoning. Data collected by scientists must be analyzed before knowledge is yielded, and we draw inferences based on what our senses tell us. And knowledge of abstract or non-empirical facts will exclusively rely upon reasoning. In particular, intuition is often believed to be a sort of direct access to knowledge of the *a priori*.

Once knowledge is obtained, it can be sustained and passed on to others. Memory allows us to know something that we knew in the past, even, perhaps, if we no longer remember the original justification. Knowledge can also be transmitted from one individual to another via testimony; that is, my justification for a particular belief could amount to the fact that some trusted source has told me that it is true.

b. Skepticism
In addition to the nature of knowledge, epistemologists concern themselves with the question of the extent of human knowledge: how much do we, or can we, know? Whatever turns out to be the correct account of the nature of knowledge, there remains

the matter of whether we actually have any knowledge. It has been suggested that we do not, or cannot, know anything, or at least that we do not know as much as we think we do. Such a view is called skepticism.

We can distinguish between a number of different varieties of skepticism. First, one might be a skeptic only with regard to certain domains, such as mathematics, morality, or the external world (this is the most well-known variety of skepticism). Such a skeptic is a local skeptic, as contrasted with a global skeptic, who maintains that we cannot know anything at all. Also, since knowledge requires that our beliefs be both true and justified, a skeptic might maintain that none of our beliefs are true or that none of them are justified (the latter is much more common than the former).

While it is quite easy to challenge any claim to knowledge by glibly asking, "How do you know?", this does not suffice to show that skepticism is an important position. Like any philosophical stance, skepticism must be supported by an argument. Many arguments have been offered in defense of skepticism, and many responses to those arguments have been offered in return. Here, we shall consider two of the most prominent arguments in support of skepticism about the external world.

c. Cartesian Skepticism

In the first of his *Mations*, René Descartes offers an argument in support of skepticism, which he then attempts to refute in the later Mations. The argument notes that some of our perceptions are inaccurate. Our senses can trick us; we sometimes mistake a dream for a waking experience, and it is possible that an evil demon is systematically deceiving us. (The modern version of the evil demon scenario is that you are a brain-in-a-vat, because scientists have removed your brain from your skull, connected it to a sophisticated computer, and immersed it in a vat of preservative fluid. The computer produces what seem to be genuine sense experiences, and also responds to your brain's output to make it seem that you are able to move about in your environment as you did when your brain was still in your body. While this scenario may seem far-fetched, we must admit that it is at least possible.)

As a result, some of our beliefs will be false. In order to be justified in believing what we do, we must have some way to distinguish between those beliefs which are true (or, at least, are likely to be true) and those which are not. But just as there are no signs that will allow us to distinguish between waking and dreaming, there are no signs that will allow us to distinguish between beliefs that are accurate and beliefs which are the result of the machinations of an evil demon. This indistinguishability between trustworthy and untrustworthy belief, the argument goes, renders all of our beliefs unjustified, and thus we cannot know anything. A satisfactory response to this argument, then, must show either that we are indeed able to distinguish between true and false beliefs, or that we need not be able to make such a distinction.

d. Humean Skepticism

According to the indistinguishability skeptic, my senses can tell me how things *appear*, but not how they actually are. We need to use reason to construct an argument that leads us from beliefs about how things appear to (justified) beliefs about how they are. But even if we are able to trust our perceptions, so that we know that they are accurate, David Hume argues that the specter of skepticism remains. Note that we only perceive a very small part of the universe at any given moment, although we think that we have knowledge of the world beyond that which we are currently perceiving. It

follows, then, that the senses alone cannot account for this knowledge, and that reason must supplement the senses in some way in order to account for any such knowledge. However, Hume argues, reason is incapable of providing justification for any belief about the external world beyond the scope of our current sense perceptions. Let us consider two such possible arguments and Hume's critique of them.

i. Numerical vs. Qualitative Identity

We typically believe that the external world is, for the most part, stable. For instance, I believe that my car is parked where I left it this morning, even though I am not currently looking at it. If I were to go peek out the window right now and see my car, I might form the belief that my car has been in the same space all day. What is the basis for this belief? If asked to make my reasoning explicit, I might proceed as follows:

I have had two sense-experiences of my car: one this morning and one just now. The two sense-experiences were (more or less) identical. Therefore, it is likely that the objects that caused them are identical. Therefore, a single object – my car – has been in that parking space all day.

Similar reasoning would undergird all of our beliefs about the persistence of the external world and all of the objects we perceive. But are these beliefs justified? Hume thinks not, since the above argument (and all arguments like it) contains an equivocation. In particular, the first occurrence of "identical" refers to qualitative identity. The two sense-experiences are not one and the same, but are distinct; when we say that they are identical we mean that one is similar to the other in all of its qualities or properties. But the second occurrence of "identical" refers to numerical identity. When we say that the objects that caused the two sense-experiences are identical, we mean that there is one object, rather than two, that is responsible for both of them. This equivocation, Hume argues, renders the argument fallacious; accordingly, we need another argument to support our belief that objects persist even when we are not observing them.

ii. Hume's Skepticism about Induction

Suppose that a satisfactory argument could be found in support of our beliefs in the persistence of physical objects. This would provide us with knowledge that the objects that we have observed have persisted even when we were not observing them. But in addition to believing that these objects have persisted up until now, we believe that they will persist in the future; we also believe that objects we have never observed similarly have persisted and will persist. In other words, we expect the future to be roughly like the past, and the parts of the universe that we have not observed to be roughly like the parts that we have observed. For example, I believe that my car will persist into the future. What is the basis for this belief? If asked to make my reasoning explicit, I might proceed as follows:

My car has always persisted in the past. Nature is roughly uniform across time and space (and thus the future will be roughly like the past). Therefore, my car will persist in the future.

Similar reasoning would undergird all of our beliefs about the future and about the unobserved. Are such beliefs justified? Again, Hume thinks not, since the above argument, and all arguments like it, contain an unsupported premise, namely the second premise, which might be called the Principle of the Uniformity of Nature (PUN). Why should we believe this principle to be true? Hume insists that we provide some reason in support of this belief. Because the above argument is an inductive rather than a deductive argument, the problem of showing that it is a good argument is typically referred to as the "problem of induction." We might think that there is a simple and straightforward solution to the problem of induction, and that we can indeed provide support for our belief that PUN is true. Such an argument would proceed as follows:

PUN has always been true in the past.
Nature is roughly uniform across time and space (and thus the future will be roughly like the past).
Therefore, PUN will be true in the future.

This argument, however, is circular; its second premise is PUN itself! Accordingly, we need another argument to support our belief that PUN is true, and thus to justify our inductive arguments about the future and the unobserved.

5. Conclusion

The study of knowledge is one of the most fundamental aspects of philosophical inquiry. Any claim to knowledge must be evaluated to determine whether or not it indeed constitutes knowledge. Such an evaluation essentially requires an understanding of what knowledge is and how much knowledge is possible. While this article provides on overview of the important issues, it leaves the most basic questions unanswered; epistemology will continue to be an area of philosophical discussion as long as these questions remain.

6. References and Further Reading

- Alston, William P., 1989. *Epistemic Justification: Essays in the Theory of Knowledge*. Ithaca, NY: Cornell University Press.
- Armstrong, David, 1973. *Belief, Truth, and Knowledge*. Cambridge: Cambridge University Press.
  - A defense of reliabilism.
- BonJour, Laurence, 1985. *The Structure of Empirical Knowledge*. Cambridge, MA: Harvard University Press.
  - A defense of coherentism.
- Chisholm, Roderick, 1966. *Theory of Knowledge*, Englewood Cliffs, NJ: Prentice-Hall.
- Chisholm, Roderick, 1977. *Theory of Knowledge*, 2nd ion. Englewood Cliffs, NJ: Prentice-Hall.
- Chisholm, Roderick, 1989. *Theory of Knowledge*, 3rd ion. Englewood Cliffs, NJ: Prentice-Hall.
  - Chisholm was one of the first authors to provide a systematic analysis of knowledge. His account of justification is foundationalist.
- Descartes, Rene, 1641. *Mations on First Philosophy.* Reprinted in *The Philosophical Writings of Descartes* (3 volumes). Cottingham, Stoothoff and Murdoch, trans. Cambridge: Cambridge University Press.
  - Descartes presents an infallibilist version of foundationalism, and attempts to refute skepticism.
- Dancy, Jonathan and Ernest Sosa (eds.), 1993. *A Companion to Epistemology*. Oxford: Blackwell.
- DeRose, Keith, 1995. "Solving the Skeptical Problem" Philosophical *Review*, 104, pp. 1-52.

- DeRose Keith and Ted Warfield (eds.), 1999. *Skepticism: A Contemporary Reader*. Oxford: Oxford University Press.
- Feldman, Richard and Earl Conee, 1985. "Evidentialism." *Philosophical Studies*, 48, pp. 15-34.
  - The authors present and defend an (internalist) account of justification according to which a belief is justified or unjustified in virtue of the believer's evidence.
- Gettier, Edmund, 1963. "Is Justified True Belief Knowledge?" *Analysis*, 23, pp. 121-123.
  - In which the Gettier problem is introduced.
- Goldman, Alvin, 1976. "A Causal Theory of Knowing." *Journal of Philosophy*, 64, pp. 357-372.
- Goldman, Alvin, 1986. *Epistemology and Cognition*. Cambridge: Harvard University Press.
  - Perhaps the most important defense of reliabilism.
- Haack, Susan, 1991. "A Foundherentist Theory of Empirical Justification," In *Theory of Knowledge: Classical and Contemporary Sources* (3rd ed.), Pojman, Louis (ed.), Belmont, CA: Wadsworth.
  - An attempt to combine coherentism and foundationalism into an internalist account of justification which is superior to either of the two.
- Hume, David, 1739. *A Treatise on Human Nature*. Oxford: Oxford University Press.
- Hume, David, 1751. *An Enquiry Concerning Human Understanding*. Indianapolis: Hackett.
- Lehrer, Keith, 2000. *Theory of Knowledge* (2nd ed.). Boulder, CO: Westview.
  - A defense of coherentism. This is also where we find the Truetemp example.
- Lehrer, Keith and Stewart Cohen, 1983. "Justification, Truth, and Coherence." *Synthese*, 55, pp. 191-207.
- Lewis, David, 1996. "Elusive Knowledge" Australasian *Journal of Philosophy*, 74, pp. 549-567.
- Locke, John, 1689. *An Essay Concerning Human Understanding.* Oxford: Clarendon.
- Plato, *Meno* and *Theaetetus*. In *Complete Works*. J. Cooper, ed. Indianapolis: Hackett.
  - Plato presents and defends a version of the JTB analysis of knowledge.
- Pollock, John and Joseph Cruz, 1999. *Contemporary Theories of Knowledge* (2nd ed.). Lanham, MD: Rowman and Littlefield.
  - A defense of non-doxastic foundationalism, in which the basic states are percepts rather than beliefs.
- Russell, Bertrand, 1912. *Problems of Philosophy.*
  - Russell presents a Gettier-type example, which was largely overlooked for many years.

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STRAWMAN
Misrepresenting someone's argument to make it easier to attack.

SLIPPERY SLOPE
You said that if we allow A to happen, then Z will eventually happen too, therefore A should not happen.

BANDWAGON
You appealed to popularity or the fact that many people do something as an attempted form of validation.

BEGGING THE QUESTION
You presented a circular argument in which the conclusion was included in the premise.

BURDEN OF PROOF
You said that the burden of proof lies not with the person making the claim, but with someone else to disprove.

NO TRUE SCOTSMAN
You made what could be called an appeal to purity as a way to dismiss relevant criticisms or flaws of your argument.

LOGICAL FALLACIES - REASONING RENDERED INVALID BY A FLAW

SPECIAL PLEADING
You moved the goalposts or made up an exception when your claim was shown to be false.

THE GAMBLER'S FALLACY
You said that 'runs' occur to statistically independent phenomena such as roulette wheel spins.

APPEAL TO AUTHORITY
You said that because an authority thinks something, it must therefore be true.

APPEAL TO NATURE
You argued that because something is 'natural' it is therefore valid, justified, inevitable, good or ideal.

THE TEXAS SHARPSHOOTER
You cherry-picked a data cluster to suit your argument, or found a pattern to fit a presumption.

THE FALLACY FALLACY
You presumed that because a claim has been poorly argued, or a fallacy has been made, that the claim itself must be wrong.

TRUTH, LOGIC AND DEBATE - KEEP ON THINKING CRITICALLY..

BLACK-OR-WHITE
You presented two alternative states as the only possibilities, when in fact more possibilities exist.

FALSE CAUSE
You presumed that a real or perceived relationship between thing means that one is the cause of the other.

COMPOSITION/DIVISION
You assumed that one part of something has to be applied to all, or other, parts of it; or that the whole must apply to its parts.

ANECDOTAL
You used a personal experience or an isolated example instead of a sound argument or compelling evidence.

PERSONAL INCREDULITY
Because you found something difficult to understand, or are unaware of how it works, you made out like it's probably not true.

AMBIGUITY
You used a double meaning or ambiguity of language to mislead or misrepresent the truth.

HTTPS://YOURLOGICALFALLACYIS.COM/

AD HOMINEM
You attacked your opponent's character or personal traits in an attempt to undermine their argument.

LOADED QUESTION
You asked a question that had a presumption built into it so that it couldn't be answered without appearing guilty.

APPEAL TO EMOTION
You attempted to manipulate an emotional response in place of a valid or compelling argument.

TU QUOQUE
You avoided having to engage with criticism by turning it back on the accuser-you answered criticism with criticism.

GENETIC
You judged something as either good or bad on the basis of where it comes from, or from whom it came.

MIDDLE GROUND
You claimed that a compromise, or middle point, between two extremes must be the truth.

Evidentialism

Evidentialism in [epistemology](#) is defined by the following thesis about epistemic justification:

(EVI) Person S is justified in believing proposition p at time t if and only if S's evidence for p at t supports believing p.

As evidentialism is a thesis about *epistemic* justification, it is a thesis about what it takes for one to believe justifiably, or reasonably, in the sense thought to be necessary for knowledge. Particular versions of evidentialism can diverge in virtue of their providing different claims about what sorts of things count as [evidence](#), what it is for one to have evidence, and what it is for one's evidence to support believing a proposition. Thus, while (EVI) is often referred to as *the theory* of epistemic justification known as evidentialism, it is more accurately conceived as a *kind* of epistemic theory. In this light, (EVI) can be seen as the central, guiding thesis of evidentialism. All evidentialist theories conform to (EVI), but various divergent theories of evidentialism can be formulated.

Before turning to these issues, it is worth noting that evidentialism is also a prominent theory in the [philosophy of religion](#). Evidentialism in the philosophy of religion has its own set of controversies, but this entry will not cover them. On evidentialism in the philosophy of religion, see Alvin Plantinga's classic article, "Reason and Belief in God." For a more extended discussion, see Plantinga's *Warranted Christian Belief*.

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1. A Brief Prima Facie Case

When we think about what it takes for one to believe reasonably or justifiably, we think that one has to have good reasons (or, more accurately, adequate reason for thinking the proposition in question is true). We think that one is not believing as one should when one believes something for no reason whatsoever or for very weak reasons. This dependence on reasons seems to be central to the very *concept* of justified belief. It

should be no surprise, then, that the traditional view holds that one is justified only if one has adequate reasons for belief. Thus, evidentialism can be thought of as the default, or commonsense, conception of epistemic justification. Indeed, we can see the centrality of this conception of justification throughout the history of philosophy, especially in its grappling with the problem of skepticism. In order to justify denying skeptical claims, we want to know what reason we have for believing that skepticism is false. Traditional accounts have looked to one's available evidence or reasons for an answer.

Naturally, then, we see this traditional conception reflected in the writings of many influential philosophers. David Hume, for example, writes that the "wise man. . . proportions his belief to the evidence," and he proceeds with this as his epistemic ideal (73). Bertrand Russell endorses the view that "[p]erfect rationality consists . . . in attaching to every proposition a degree of belief corresponding to its degree of credibility," credibility functionally depending on evidence (397-398). W.K. Clifford writes that "*it is wrong always, everywhere, and for anyone to believe anything upon insufficient evidence*" (518). Such quotations help to illustrate the dominance of the view that justified belief depends upon one's having good reasons or evidence. Though this by no means settles the issue, it does provide reason to try to work out a theory of justification that appeals *solely* to evidence. The remainder of this entry turns toward a detailed consideration of the theory itself.

2. Developing the Theory

Richard Feldman and Earl Conee, two leading defenders of evidentialism, have explicitly defined evidentialism as a thesis about the justificatory status of all of the doxastic attitudes: belief, disbelief, and suspension of judgment. They write that doxastic attitude, d, toward p is justified for one at t if and only if one's evidence at t supports one's taking d towards p (15). So understood, evidentialism is not just a thesis about justified belief, it is also a thesis about justified *dis*belief and the justified *withholding* of belief. Only one doxastic attitude towards a proposition is justified for a person at a time, and this is a function of one's evidence. Here, I focus on the core of evidentialism—the thesis about justified belief given in (EVI)—both for simplicity and because most treatments and criticisms of evidentialism focus on it. What is said about (EVI) can be extended naturally to the rest of the doxastic attitudes and thereby applied to Feldman and Conee's explicit thesis.

a. The Justification of Propositions v. The Justification of Beliefs

Before proceeding, it is crucial to nail down more exactly what evidentialism is a theory of. As I have defined it in (EVI), evidentialism is the thesis that one is justified in believing a proposition at a time if and only if one's evidence at that time supports believing that proposition. (EVI) does not entail that whenever one has adequate evidence for p one believes p *justifiably.* This is for two reasons. First, one can be justified in believing p even if one fails to believe it. For example, one might not believe p simply because one fails to consider whether or not p is true, yet one may nevertheless have good enough reason to think p is true and so be justified in believing p.

Second, one can have good enough reason to believe p and still believe it as a result of something other than this good reason. One might believe it as a result of wishful thinking, for example. In such a case, the evidentialist holds that the person is justified in believing the proposition in question but, nevertheless, believes it unjustifiably. One believes it *for* or *because of* the wrong reasons. One way of putting the difference here

is by saying that evidentialism is a thesis regarding *propositional justification*, not a thesis about *doxastic justification*. That is, evidentialism is a thesis about when one is *justified in believing* a proposition, not a thesis about when *one's believing* is justified. The latter requires not just that one *have* good reason to believe but also that one believe *for* those good reasons.

b. Evidence

As introduced above, evidentialism is a *kind* of theory of epistemic justification; one can formulate various divergent evidentialist theories by providing different analyses of its constituent concepts. The present section focuses on the central notion of evidence and explicates the various ways that one can restrict the sorts of things that count as evidence. Sections 2c. and 2d. turn to complexities in other parts of (EVI). Together, these three sections illustrate the diversity of possible evidentialist theories. Evidence for or against p is, roughly, any information relevant to the truth or falsity of p. This is why we think that fingerprints and DNA left at the scene of the crime, eye-witness testimony, and someone's whereabouts at the time the crime was committed all count as evidence for or against the hypothesis that the suspect committed the crime. The sort of evidence that interests the evidentialist, however, is not just anything whatsoever that is relevant to the truth of the proposition in question. The evidentialist denies that such facts about mind-independent reality are evidence in the sense relevant to determining justification. According to (EVI) only facts that one *has* are relevant to determining what one is justified in believing, and in order for one to *have* something in the relevant sense, one has to be aware of, to know about, or to, in some sense, "mentally possess" it. The sort of evidence the evidentialist is interested in, therefore, is restricted to mental entities (or, roughly, to mental "information"). In addition, it is only *one's own* mental information that is relevant to determining whether one is justified in believing that p. For example, *my* belief that Jones was in Buffalo at the time the crime was committed is not relevant to determining whether *you* are justified in believing that Jones committed the crime.

Evidentialist theories can agree on this much while still providing differing accounts of evidence. For example, one might think that only one's own *beliefs* can provide one with reason to believe something, as many coherentists do. An evidentialist might then hold that *only* belief states are evidential states. One's experiences (that is, experiential states) then would not be evidentially or justificatorily relevant. The standard view of evidentialism, however, is that *at least* beliefs *and* perceptual states are evidential states. Not only what you believe but also what you experience can provide you with reason to believe that something is the case. Yet one does not have to stop there. One, for example, might also count memories, apparent memories, or seemings-to-be-true as kinds of evidence. In the end, what sorts of states one takes to be evidential will depend both on one's intuitions about what sorts of things can provide one with genuine reason to believe and also on one's strategy for responding to objections.

It is worth noting that while evidentialists have available many options about what to count as kinds of evidence, not just anything mental can properly be classified as evidence. In general, only those states or properties that are themselves informational (or at least can directly and on their own "communicate" information to the subject) can properly be classified as evidential states or properties. Regardless of whether one's feeling of pain is an informational state, it does, so to speak, directly or on its own "communicate" information to one; so it is open to the evidentialist to classify it as an evidential state. By contrast, one's ability to, e.g., identify complex geometrical shapes in one's visual field is not *itself* a kind of evidence. (Even though this ability will undoubtedly provide one with evidence one would otherwise not possess.) The ability

to identify complex geometrical shapes in one's visual field is not a kind of evidence because it is neither an informational state, nor is it a state that directly and on its own "communicates" information to one. Instead, it is always something *else* that gets "communicated" to one *via* that ability. In general, therefore, cognitive *abilities* are not properly considered as part of one's evidence. As we will see below, though, this is not to say that one's cognitive abilities are completely irrelevant to justification on every evidentialist view.

c. Having Evidence

As alluded to above, not just any evidence whatsoever is relevant to determining whether one's belief is justified; it is only the evidence that one *has* that is so relevant. The obvious restriction this imposes is that one's evidence includes only one's own mental states. One option, then, is to hold that one's evidence at a time (or, alternatively, the evidence one has at a time) consists in all of the evidential mental states that obtain in the person at that time, including both occurrent and nonoccurrent mental states. On this view, one's evidence includes not only one's present experiences and those beliefs presently "before one's mind" but also stored or standing beliefs, even if one is not presently able to recall or consciously consider them. To see how this account of having evidence affects the consequences of the theory, consider the following example. Suppose that I believe that most television newscasters reliably report the day's news. I find that television newscasters almost always report the day's stories in ways consistent with that reported by other news outlets. For example, if the newscaster were to report that a fire occurred on Elm Street, I would also be able to find a report in the newspaper confirming that a fire did, indeed, occur on Elm Street. When I discuss this topic with people, they tend to agree that this is the case, and I have no strong evidence against this belief. It seems, then, that I justifiably believe that most television newscasters reliably report the news. Also suppose that fifteen years ago I heard reliable testimony that one newscaster, Mick Stuppagin, almost always provides incorrect reports. At the time, I believed that Mick was a very unreliable newscaster. Suppose, however, that although my belief that Mick's reports are unreliable and the testimony that such is the case are still stored in my long-term memory, I am presently unable to recall them. If someone mentions Mick Stuppagin and asks whether I think he is a reliable newscaster, I may form the belief that he *is* a reliable newscaster on the basis of my justified belief that most newscasters are reliable.

On the view developed above, I would be believing *un*justifiably, since I have outweighing evidence against p. I would not be justified in believing that Mick is a reliable newscaster even though I may be utterly unable to recall my evidence against this belief, even though my so believing may be completely blameless, and even though it may seem to me on deep reflection that I am believing as I should. Some may find this counterintuitive and, as a result, may want to formulate a more restricted account of having evidence.

One such option is to hold that the evidence one has at a time is restricted to one's *occurrent*evidential states—i.e., those states involving one's current assent, those presently "before one's mind," so to speak. On this account of having evidence, my stored memory belief that Mick Stuppagin is an unreliable newscaster is not evidence that I have at the present time. Furthermore, it is also not clearly true that I have as evidence my belief that most television newscasters reliably report the day's news, and it is doubtful that my testimonial and inductive evidence for this belief is properly considered evidence that I presently have. The justificatory status of my present belief about Mick Stuppagin will depend solely on my occurrent evidential states. (The

details of the case would need to be filled in order to determine whether or not the theory implies that belief is justified.)

The difficulty for this view is to show how such a restricted view of one's having evidence can account for the justification of all of the beliefs we think are justified. For instance, we *think* we have some non-occurrent beliefs that are justified. We need an explanation of this. Similarly, it seems that as soon as I occurrently entertain the proposition that George Washington was the first president of the United States, I am justified in believing it, and its being so justified does not depend upon my consciously recalling anything. Those who restrict the evidence one has to one's occurrent states need either to provide an explanation of this or to in some way explain away these common intuitions.

Other accounts of having evidence lie between these two extremes. A more typical "internalist" account might hold, for example, that the evidence one has at a time is that which is easily available to one upon reflection, so not all of one's beliefs count as evidence that one has at a time. On this account, I am presently justified in believing that Mick is a reliable newscaster if and only if my stored memory belief that Mick is an unreliable newscaster (and its supporting evidence) is not easily available to me upon reflection. Various other accounts of having evidence can be developed that allow for varying degrees of availability or varying amounts of reflection. Guiding each account of having evidence are intuitions regarding cases similar to that above and intuitions regarding the extent to which justification is deontological.

We can conclude from the above that evidentialist theories can be formulated so as to account for widely divergent intuitions regarding cases. Furthermore, without a specific account of what it is for one to have evidence, it is not clear which proposed cases are to count as counterexamples to the theory.

d. Support

Recall that on the evidentialist view, S is justified in believing p at t if and only if S's evidence for p at t supports believing p. We have already seen how evidentialists can provide different accounts of evidence and having evidence. The present section focuses on complexities with the notion of support.

Perhaps the most obvious issue that needs to be addressed in order to understand what it is for one's evidence to *support* believing a proposition is the *degree* to which one's evidence must support that proposition in order for one to be justified in believing it. Again, this will vary from account to account. One standard account understands it as follows: one is justified in believing a proposition only if the evidence that one has makes it more likely to be true than not. The likelihood of truth given one's evidence has to be greater than 0.5 in order for one to be justified in believing the proposition, but the threshold required for knowledge might be much higher. In order to *know* that p, one might not merely have to justifiably believe that p; one might have to justifiably believe it to a certain degree.

This way of understanding the degree of support required in order for one to be justified in believing p is absolute, or we might say *non-contextual*. The degree required is the same across all possible cases. By contrast, Stewart Cohen presents a [contextualist](#) version of evidentialism. On his account, the degree to which one's evidence must support a proposition in order for one to be justified in believing it will fluctuate with the conversationally determined standards that govern attributions of

justification and knowledge. An immediate result is that one's evidence for p may be enough to make believing p justified in one context (where the conversationally-determined standards for justification are relatively low) while failing to make believing p justified in another context (where the standards for justification are much higher). Evidentialism is, therefore, consistent with both contextualist theories of justification and non-contextualist theories of justification.

A further, more central epistemological issue regarding support has to do with the *structure* of justification. Evidentialism may be combined with foundationalism, coherentism, a "mixed" view such as Susan Haack's foundherentism, or any other theory of the structure of justification. Each theory may be incorporated into evidentialism by understanding them as providing an account of the proper nature of epistemic support. Since foundationalism is far more dominant than the other theories, in what follows I will present *one* way of developing evidentialism with regard to it.

According to foundationalism, a belief is justified if and only if: either it is a foundational belief or it is supported by beliefs which either are themselves foundational beliefs or are ultimately supported by foundational beliefs. From the previous section, we have seen that it is only the evidence one has that is relevant to determining whether a belief is justified. Of all of this, foundationalism implies that only that evidence which is non-doxastic, foundational, or ultimately supported by a foundational belief is capable of supporting (or conferring positive justificatory status on) a belief. (Non-doxastic evidential states may include appearance states, direct apprehensions, rational intuitions, and seemings-to-be-true. For the foundationalist, some such evidential states are crucial as only they can justify the foundational beliefs.)

Assuming this framework, we can proceed as follows. In order to determine whether one is justified in believing that p, first isolate the portion of the evidence that is non-doxastic, foundational, or ultimately supported by a foundational belief. Only this is capable of justifying a proposition. Next, if the proposition under consideration is believed, subtract that belief and anything else whose support essentially depends on (or traces back to) that belief. (This last modification is intended to accommodate the foundationalist thesis that only the more basic can justify the less basic. See, for example, the discussion in section 3e. below.) Finally, determine whether *this portion* of one's evidence makes the proposition more likely true than not. If so, then it is *prima facie* supported by one's evidence (and thus *prima facie* justified). If not, it is unjustified, for it is not supported by the evidence one has that is able to justify one's believing the proposition.

Note that I have had to add a *prima facie* qualification here. This is due to the, at least, apparent possibility of one's support for a belief being *defeated* by other evidence one has that is *neither* non-doxastic, *nor* foundational, *nor* ultimately supported by foundational beliefs. An unjustified belief may be able to defeat the positive justification one has for believing p, but such unjustified beliefs have so far been excluded from consideration. In such a case, we may want to say that one would *not* be justified in believing p.

3. Objections

The aim in this section is to provide a sampling of objections that have been raised against evidentialist theories of justification. The aim is not to respond to these objections on behalf of the evidentialist nor to evaluate their strength. While the following are not objections to all possible versions of evidentialism, together they

illustrate the difficulty in formulating a complete and adequate evidentialist theory. The chief difficulty for the evidentialist is to develop the theory in a way that avoids *all* such objections and does so in an independently motivated and principled way.

a. Forgotten Evidence

One kind of objection stems from the widespread occurrence of one's forgetting the evidence that one once had for some proposition. We can distinguish between two sorts of cases here. According to the first sort, though one once had good evidence for believing, one has since forgotten it. Nevertheless, one may continue to believe justifiably, even without coming to possess any additional evidence. Evidentialism appears unable to account for this. According to the second sort of case, when one originally came to believe p, one had no evidence to support believing p. Perhaps one originally came to believe p for very bad reasons. Consequently, just after one formed the belief, one was not believing justifiably as one's total evidence did not support believing that p. Suppose, though, that one has since forgotten why it is that one originally formed the belief and also has forgotten all of the evidence one had against it. Since it doesn't seem as though in the interim one *has* to have gained some additional evidence *for* p, one might think that the subject of the second case remains unjustified in believing p. The relevant beliefs in both cases appear to be on an evidential par: neither belief seems to be supported by adequate evidence. The objection is that there, nevertheless, is a justificatory difference between the two cases, and evidentialism is unable to account for this.

The details of the cases proposed along these lines are crucial, for evidentialists may be able to motivate a denial of the critic's justificatory assessment of one of the cases. This, however, is only of help when combined with an explanation for the justification of memory beliefs in general and memory beliefs involving forgotten evidence in particular.

Here evidentialists can appeal to the notion of evidence and to what sorts of states or properties are properly classified as evidential. For example, one may argue that the "felt impulse" to believe the proposition recalled from memory or its "seeming to be true" is itself a kind of evidence. On this account, in the first case one is justified in believing p because one *does* have evidence that supports believing p. The supporting evidence is the proposition's "seeming to be true" or the "felt impulse" that accompanies the belief, but this very same evidence is present in the second case as well. Furthermore, this "felt impulse" or "seeming to be true" will necessarily accompany any memory belief, so there will be no cases along the lines of the second sort in which one has no evidence to support believing p. As a result, the critic's appraisal of the second case is mistaken. In the absence of overriding counter-evidence, one's memory belief is justified, so the correct appraisal of the second case holds that one *is* justified in believing p. In short, the critic's justificatory assessment of the second case is mistaken.

b. Against a Probabilistic-Deductive Understanding of Support

A second objection targets the notion of one's evidence *supporting* a proposition. As I have developed the notion of support above, part of it is given by some theory of probability. A body of evidence, e, supports believing some proposition p only if e makes p probable. If we suppose for simplicity that all of the beliefs that constitute e are themselves justified, we can say that e supports believing p if and only if e makes p

probable. However, one might argue that, even with this assumption, one's evidence e can make p probable without one being justified in believing that p. If this is so, the resulting evidentialist thesis is false.

Alvin Goldman, for example, has argued that the possession of reasons that make p probable, all things considered, is not sufficient for p to be justified (*Epistemology and Cognition*, 89-93). The crux of the case he considers is as follows. Suppose that while investigating a crime a detective has come to know a set of facts. These facts do establish that it is overwhelmingly likely that Jones has committed the crime, but it is only an extremely complex statistical argument that shows this. Perhaps the detective is utterly unable to understand how the evidence he has gathered supports this proposition. In such a case, it seems wrong to say that the detective is justified in believing the proposition, since he does not even have available to him a way of reasoning from the evidence to the conclusion that Jones did it. He has no idea *how* the evidence makes the proposition that Jones did it likely. Thus, the evidentialist thesis, so understood, is false.

The appeal to probability and statistics here is not essential to this sort of objection, so it would be a mistake to focus solely on this feature of the case in attempting to respond. Richard Feldman has presented an example which is supposed to demonstrate exactly this point. His example of the beginning logic student is supposed to show that being *necessitated* by one's evidence is not sufficient for one's evidence to support believing a proposition ("Authoritarian Epistemology," 150). Feldman asks us to consider a logic student who is just learning to identify valid arguments. She has learned a set of rules by which one can distinguish between valid arguments and invalid arguments, but she has not yet become proficient at applying them to particular argument forms. She looks at an exercise in her text that asks her to determine whether some argument forms are valid. She looks at one problem and comes to believe that it is, indeed, a valid argument. As the argument is valid, she believes exactly as her evidence entails she should believe, but she is presently unable to see *how it is* that the rules show the argument is, indeed, valid. Despite her evidence necessitating the proposition that the argument is valid, it seems she is not justified in believing it.

Various responses are available to the evidentialist. One may here appeal to the distinction between propositional justification and doxastic justification in an effort to motivate the claim that the detective *is* justified in believing that Jones did it and the student *is* justified in believing that the argument is valid. When combined with a fully developed and well-motivated theory of evidential support, this may provide a response to these examples. Note, however, that this reply depends crucially on being able to hold that the logic student is *justified in* believing p but not *justifiably* believing p. This is a tenuous position, at least for standard accounts of the basing relation—i.e., for standard accounts of that which, when added to an instance of propositional justification, yields an instance of doxastic justification. The dominant view is that the basing relation is *causal*, and the student's evidence for believing that the argument is valid *is* causing her belief, and it is not doing so in some non-standard, deviant way. The reply to the objection that appeals to the distinction between propositional and doxastic justification demands, therefore, that one also provide a satisfactory account of the basing relation, and none have so far been formulated.

An alternative response to these examples is simply to accept their lesson. One might just accept that such examples show that we need to develop a notion of evidential support that does not appeal solely to logical relations between one's evidence and those propositions under consideration. For example, one might hold that one must, in some sense, grasp or appreciate the logical or probabilistic connection between

one's evidence and the proposition in question in order for that evidence to support it. Evidentialism allows for such possibilities.

c. Essential Appeals to Deontology

The view that justification is, in some substantive way, a *deontological* concept motivates the following three objections. According to a deontological conception of epistemic justification, one has an intellectual *duty*, *requirement*, or *obligation* to believe justifiably. Deontologists commonly hold that people are rightly praised for believing or blamed for failing to believe in accordance with this duty or obligation.

i. Ought Implies Can

Many believe that this deontological conception of epistemic justification entails that one *ought* to believe a proposition only if one *can* believe it. Put differently, one might think that one has to be *able* to believe p in order for one to be justified in believing p. (This second statement of the issue is more perspicuous, as I here set aside issues regarding doxastic voluntarism.) Some propositions are too complicated and complex for a given person to entertain given his or her actual abilities, and other propositions are too complex for humans to even possibly entertain. It seems wrong to say that one is justified in believing that these extremely complex propositions are true. (EVI), however, appears to imply that one can be justified in believing such extremely complex propositions, especially given the theories of evidence and evidential support sketched in section 2d. above. If, however, (EVI) does have this consequence, then one might conclude that evidentialism is false.

The argument here has two main premises. The first premise is that (EVI) entails that one can be justified in believing a proposition that it is impossible for one to entertain. The second premise is that if this first premise is true, then (EVI) is false. Because evidentialism neither rules out nor entails the motivating deontological conception of epistemic justification, evidentialists can plausibly deny either premise.

Standard accounts of evidentialism deny the first premise. According to these accounts, the proper nature of evidential support rules out the possibility that one's evidence can support a proposition that one cannot entertain. Evidential support is, in this sense, restricted. Whether or not such evidentialist theories are acceptable depends crucially on whether evidentialism is able to accommodate this restriction in a principled way. Here evidentialists can appeal to meta-epistemological considerations regarding the nature of epistemic justification, as well as to intuitions about a sufficiently varied set of cases. For instance, the deontological conception of justification itself can motivate and help explain a companion deontological conception of evidential support. In addition, one can appeal to cases like Feldman's logic student example (in section 3b. above) in order to illustrate how the notion of evidential support should be restricted. Together, these considerations can help to motivate one's evidentialist theory. In this way, one can formulate a version of evidentialism that clearly does not have the consequence that one can be justified in believing a proposition that one cannot entertain.

By contrast, an evidentialist who rejects a deontological conception of justification may accept that one can be justified in believing propositions too complex even to consider and as a result may reject the second premise of the argument. Again, the theory of evidentialism itself allows this. This second response to the argument would need to be strengthened by considerations against the motivating deontological

conception of epistemic justification, but considering these in this entry would take us too far astray. The crucial point to emphasize here is that evidentialism neither rules out nor entails this conception of epistemic justification, so both responses are consistent with the theory.

ii. An Evidence-Gathering Requirement

Some argue that the justification of a belief depends, at least in part, on the inquiry that led to the belief. Two ways this can get fleshed out are as follows. One might argue that only beliefs that result from "epistemically responsible behavior" can be justified. In order to be justified on such a view, one must not only follow one's evidence but also gather evidence in an epistemically responsible way. Alternatively, one might argue that one is not justified in believing a proposition if one could have easily discovered (or should have discovered) evidence that defeated one's present justification for it. Here, we focus primarily on the latter.

When developing evidentialism in his introductory textbook, *Epistemology*, Richard Feldman presents the following example.

A professor and his wife are going to the movies to see *Star Wars, Episode 68*. The professor has in his hand today's newspaper which contains the listings of movies at the theater and their times. He remembers that yesterday's paper said that *Star Wars, Episode 68* was showing at 8:00. Knowing that movies usually show at the same time each day, he believes that it is showing today at 8:00 as well. He does not look in today's paper. When they get to the theater, they discover that the movie started at 7:30. When they complain at the box office about the change, they are told that the correct time was listed in the newspaper today. The professor's wife says that he should have looked in today's paper and he was not justified in thinking it started at 8:00. (47)

The professor has good evidence to believe that the movie starts at 8:00, but the claim is that he is not justified in believing this because he should have (and could have very easily) gathered defeating evidence. Evidentialism does not take into account one's evidence-*gathering* and, thus, cannot account for this intuition.

Evidentialism is a theory about the *present* justificatory status of propositions and beliefs for subjects. It provides an account of what one should *now* believe, given one's *actual* situation. Feldman claims that this is the central epistemological question; it alone determines the justificatory status of one's beliefs. There are other questions about when one ought to gather more evidence, but these, Feldman claims, should be carefully distinguished from questions regarding epistemic justification (*Epistemology*, 48). As it is, the professor is believing exactly as he ought to believe as he is driving to the theater. As a result, Feldman concludes, evidentialism provides the correct answer about this case.

iii. Duties Not to Follow One's Evidence

The previous objection to evidentialism attempted to demonstrate that having evidence that supports believing p is not sufficient for being justified in believing p. One might also attempt to demonstrate this by providing examples that do not appeal to evidence gathering requirements. The following is one such example.

Suppose that Bill comes to possess overwhelming evidence that his recently deceased wife was having multiple affairs throughout their marriage. If he were to come to believe what his evidence supports, he would blame his children and himself. We can further suppose that he is presently so unstable as a result of his loss that believing

that his wife was having affairs would cause him to seriously harm his children before committing suicide. In such a case, it is very clear that Bill ought *not* to believe that his wife was having affairs. Indeed, we might say that he has a duty *not* to believe exactly what his evidence supports. Since evidentialism implies that he really ought to believe that his wife was having affairs, evidentialism is false.

The standard response to these types of examples is to distinguish between different *kinds* of demands, oughts, and duties and to hold that sometimes these conflict. For example, we have an epistemic duty to follow our evidence, we have a practical duty to not always seek out more evidence for each of the propositions we consider, and we may also have moral duties to believe or disbelieve certain propositions. While these duties can conflict, nevertheless, the epistemic, moral, and practical demands on us remain. Thus, the response is that Bill *does* have an epistemic duty to believe what his evidence supports, even though he has overriding moral and prudential duties to believe that his wife was *not* having affairs. While this response is fairly uncontroversial, the crucial point to emphasize here is that such a move is itself a substantial thesis that is in need of support. We need to be shown *in an independently motivated way* why we should believe that matters should be understood in this way rather than in some other.

d. A Pragmatic Reply

William James has famously argued that having adequate evidence is not *necessary* for one to believe justifiably. James notes that our fears, hopes, and desires (in short, our "passions") do influence what we believe. We do not proceed in conformance with Clifford's evidentialist thesis, nor should we. Furthermore, when we are confronted with an option to do or not to do something, we cannot help but choose one or the other; the choice is *forced*. By failing to decide, we embrace one of the options. In such situations, it can be permissible for one to believe a proposition in the *absence* of sufficient evidence. More specifically, James argues that whenever we are confronted with a live, forced, momentous option to believe or not to believe a proposition that cannot be decided on "intellectual grounds" alone, it is permissible for us to decide on the basis of our "passional nature" (522).

Consider, for example, the proposition that God exists. Believing or failing to believe that God exists is a forced and momentous option. It is *forced* because we cannot help but choose one or the other; a failure to decide is, in effect, to choose to not believe that God exists. It is *momentous* since it is a unique opportunity to gain something supremely significant and only one of the options, belief, will deliver this supreme good. Contrary to the evidentialist, James argues that one can justifiably believe that God exists in the *absence* of supporting evidence *if* both believing that God exists and failing to believe that God exists are *live* options for one.

Here, again, evidentialists can respond by appealing to a distinction between different kinds of justification. One may be *pragmatically* or *morally* justified in believing against one's evidence, but this is not to say that one is *epistemically* justified in so believing. For example, evidentialists can begin by noting that it is in some sense very reasonable to let our "passions" influence our actions and beliefs. It may be in one's own interest to believe that one's wife is not having an affair, for instance. We might put this point by saying that one is *pragmatically* justified in believing that one's wife is not having an affair. Furthermore, the stakes might be so high that such pragmatic considerations outweigh any epistemic considerations we might have. Hence, even though one's evidence does not support believing p (and one is therefore not epistemically justified in believing p), it *may* be, all things considered, more rational for one to believe p than to not believe p. Of course, nothing here turns on the content

of the belief in question. Similar cases can be constructed for religious beliefs as well, and some evidentialists might want to focus on the particular nature of religious beliefs in order to directly respond to the religious case James considers. In summary, while it is true that non-epistemic considerations can outweigh epistemic considerations, the epistemic considerations remain. While it is not *epistemically* permissible to flout our evidentialist duties, we do think that in certain cases it is *in some sense* permissible to violate them. In this way, evidentialists can try to utilize a distinction between different kinds of justification in order to try to explain away the intuitions that appear to support James' general thesis, as well as his claims about religious belief in particular.

e. Rationally Believing Skepticism is False

Keith DeRose has presented a more recent objection that has its roots in the philosophical challenge posed by skepticism. Two separate arguments are distinguishable here. First, DeRose argues that evidentialism appears unable to account for the degree to which he is justified in believing that particular skeptical scenarios are false (703-706). The *specific* argument DeRose presents makes reference to his contextualist intuitions. In the context of discussing theories of evidentialism *in general*, it is important to note this contextualist dimension of his argument, and I'll make reference to it below.

DeRose thinks people are justified in believing, to a fairly substantial degree, that they are not brains in vats, and he thinks that any correct theory of epistemic justification must account for the *substantial* degree to which people are so justified in believing. In order to be an adequate theory of justification, therefore, evidentialism must show how the evidence people normally possess substantially supports believing that they are not brains in vats. DeRose claims that this has not yet been done, and he doubts that evidentialism can accomplish it adequately.

Second, DeRose claims that this difficulty highlights a fundamental complexity in the notion of evidence. In short, he thinks that at any given time we don't have "one simple body of evidence that constitutes" the evidence that we have (704). For instance, it seems as though my belief that I have hands is evidence that I have and can use to support various other propositions—the proposition that I did not lose them in recent combat, for example. If, though, it is good evidence that I in fact have and can use, then it seems I should be able to appeal to it in order to argue that I am not a (handless) brain in a vat. It seems it should be uncontroversial that one's evidence justifies one in believing that this skeptical scenario is false, yet justifying the denial of such skeptical scenarios is much more difficult than this implies. My belief that I have hands appears not to be able to justify the proposition that I am not a (handless) brain in a vat. In summary, when some issues are being discussed, my belief that I have hands is evidence I can appeal to, but when other issues are being discussed it appears not to be evidence that I can use. Evidentialism owes us an explanation of this.

As with most of the objections here considered, the force of DeRose's points will vary with each proposed version of evidentialism. The central notions of evidence and evidential support do have to be explained, and they have to be explained in a way that allows reasonable conclusions about people's typical appraisals of skeptical scenarios. As I have developed evidentialism in section 2 above, one can develop both contextualist and non-contextualist versions. This is especially important to note because exactly the sorts of considerations regarding skepticism DeRose invokes motivate contextualism in general and contextualist versions of evidentialism in particular. A *contextualist* version of evidentialism will hold that when skeptical scenarios are not being discussed, people are justified in believing to a *very* high degree

that skeptical scenarios do not obtain. As a result, DeRose's first argument is much more interesting and intuitively plausible when applied to *non*-contextualist versions of evidentialism.

The traditional responses to skepticism are exactly the responses that non-contextualist evidentialists have available. For example, non-contextualist evidentialists can utilize some closure principle or inference to the best explanation to try to account for the degree to which we think we are justified in believing that skeptical hypotheses are false. Whether these strategies succeed is controversial, but the problem of skepticism is a difficult and serious one, and *no* proposed solution is *un*controversial. It should be no surprise, then, that one may object to the consequences any version of evidentialism has for the skeptical challenge. The fundamental lesson here is that the evidentialist needs to develop these consequences and defend them.

The second of DeRose's arguments is best understood as a demand for a fully developed and adequate theory of evidential support. We want to know how it is that evidence works so as to justify beliefs. This demand is wholly appropriate, of course, since evidence and evidential support are concepts *central* to evidentialism. On one standard account, I can appeal to the proposition that I have hands in order to come to believe justifiably that I did not lose them in combat precisely because I am justified in believing propositions about the external world (including, of course, the proposition that I have hands). Although, when one is trying to show how it is that one is justified in believing that one has hands, one obviously cannot appeal to the fact that one is justified in believing the proposition that one has hands. One needs to appeal to *other* propositions, propositions whose justification is prior to (or does not depend on) the justification of the proposition in question. All of this seems to be uncontroversial, but this is just to explain how evidence works so as to justify one in believing that certain propositions are true. The structure of justification is part of evidential support, and it is because some propositions are more basic than other propositions that we cannot appeal to those less basic propositions in order to justify the more basic ones. There is no unclarity here, but the explanation does help to illustrate why a response to DeRose's first argument is so crucial. The story depends on one's already being justified in believing some fundamental external world propositions. It is here that the evidentialist has to confront the skeptic and somehow explain how it is that we are justified in believing that skeptical hypotheses are false.

4. Conclusion

This brief treatment of evidentialism explains it as a *type* of theory of epistemic justification. All evidentialist theories are united in understanding justification as being a function of one's present evidence as formalized in (EVI), yet many widely divergent options are available to one who seeks to develop the theory. There are competing ideas about which mental states count as evidence, different understandings of the notion of having evidence, various ways of understanding the crucial notion of support, and also various ways of relating these three central concepts. Many of the objections developed above apply only to some of these ways of developing the theory. This highlights the role they can play in one's attempting to develop a complete evidentialist thesis. As is the case with theories in all areas of philosophy, objections such as those developed above help to guide philosophers towards more promising formulations of the theory. It remains to be seen whether evidentialism can be formulated in a way that not only overcomes each of these objections but also helps us to provide reasonable answers to other central epistemological questions.

5. References and Further Reading

- W. K. Clifford. "The Ethics of Belief." *The Theory of Knowledge*. 3rd. ed. Ed. Louis P. Pojman. Belmont, CA: Wadsworth, 2003. 515-518.
- Cohen, Stewart. "How to be a Fallibilist." *Philosophical Perspectives*, 2. Ed. James E. Tomberlin. Atascadero, CA: Ridgeview Publishing Co., 1988. 91-123.
- DeRose, Keith. "Ought We to Follow Our Evidence?" *Philosophy and Phenomenological Research* 60 (2000): 697-706.
- Feldman, Richard. "Authoritarian Epistemology." *Philosophical Topics* 23.1 (1995): 147-169.
- Feldman, Richard. *Epistemology*. Upper Saddle River, NJ: Prentice Hall, 2003.
- Feldman, Richard and Earl Conee. "Evidentialism." *Philosophical Studies* 48 (1985): 15-34.
- Goldman, Alvin. *Epistemology and Cognition*. Cambridge, MA: Harvard University Press, 1986.
- Hume, David. *An Enquiry Concerning Human Understanding*. 2nd ed. Ed. Eric Steinberg. Indianapolis, IN: Hackett Publishing Co., 1993.
- James, William. "The Will To Believe." *The Theory of Knowledge*. 3rd. ed. Ed. Louis P. Pojman. Belmont, CA: Wadsworth, 2003. 519-526.
- Plantinga, Alvin. "Reason and Belief in God." *Faith and Rationality*. Eds. Alvin Plantinga and Nicholas Wolterstorff. Notre Dame, IN: University of Notre Dame Press: 1983. 16-93.
- Plantinga, Alvin. *Warranted Christian Belief*. New York: Oxford University Press, 2000.
- Russell, Bertrand. *Human Knowledge: Its Scope and Limits*. New York: Simon and Schuster, 1948.

a. More Advanced Studies

While this list in no way approximates comprehensiveness, the following are some additional helpful works on evidentialism in epistemology.

- Conee, Earl and Richard Feldman. *Evidentialism: Essays in Epistemology*. Oxford: Clarendon Press, 2004.
  - This is, perhaps, the best single work available for exploring these issues in more detail, and it is by all accounts an excellent place to start. It includes their article, "Evidentialism," which has come to be viewed as the definitive article on the theory. It also contains other previously published articles that not only examine particular aspects of the theory but also defend favored versions as well as new, previously unpublished articles on the topic.
- Feldman, Richard and Earl Conee. "Internalism Defended." *Epistemology: Internalism and Externalism*. Ed. Hilary Kornblith. Malden, MA: Blackwell Publishers, 2001. 231-260.
  - Much that has been written on the internalism and externalism debate in epistemology is very relevant to evidentialism. I choose to include only one such article here. "Internalism Defended," argues that evidentialism is one internalist theory of justification that is able to overcome all of the common objections raised to internalist theories of justification. Both a version of this paper and an "afterward" is included in Conee and Feldman's book *Evidentialism: Essays in Epistemology*.
- Feldman, Richard. "Having Evidence." *Philosophical Analysis*. Ed. David Austin. Boston: Kluwer Academic Publishers: 1988. 83-104.
  - This is a sustained examination of the crucial notion of having evidence. Feldman demonstrates just how vital it is, clearly lays out the complications and difficulties involved, and defends one particular interpretation. Reprinted with an "afterward" in *Evidentialism: Essays in Epistemology*.
- Haack, Susan. *Evidence and Inquiry: Towards Reconstruction in Epistemology*. Cambridge, MA: Blackwell Publishers, 1993.
  - This is a sustained explication and defense of a novel evidentialist theory of the structure of epistemic justification. Haack terms this theory, "foundherentism," as it blends elements of coherentism and foundationalism. This book is helpful reading for those who want to gain a more complete understanding of competing theories of the nature of evidential support.

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THE GOLDEN RULE

BAHA'I FAITH
Lay not on any soul a load that you would not wish to be laid upon you, and desire not for anyone the things you would not desire for yourself
Baha'u'llah, Gleanings

HINDUISM
This is the sum of duty:
do not do to others what would cause pain if done to you
Mahabharata 5:1517

BUDDHISM
Treat not others in ways that you yourself would find hurtful
Udana-Varga 5.18

CONFUCIANISM
One word which sums up the basis of all good conduct... loving kindness. Do not do to others what you do not want done to yourself
Confucius, Analects 15.23

ISLAM
Not one of you truly believes until you wish for others what you wish for yourself
The Prophet Muhammad, Hadith

TAOISM
Regard your neighbour's gain as your own gain, and your neighbour's loss as your own loss
T'ai Shang Kan Ying P'ien, 213-218

JUDAISM
What is hateful to you, do not do to your neighbour. This is the whole Torah; all the rest is commentary
Hillel, Talmud, Shabbat 31a

SIKHISM
I am a stranger to no one; and no one is a stranger to me. Indeed, I am a friend to all
Guru Granth Sahib, pg. 1299

JAINISM
One should treat all creatures in the world as one would like to be treated
Mahavira, Sutrakritanga

CHRISTIANITY
In everything, do to others as you would have them do to you; for this is the law and the prophets
Jesus, Matthew 7:12

ZOROASTRIANISM
Do not do unto others whatever is injurious to yourself
Shayast-na-Shayast 13.29

NATIVE SPIRITUALITY
We are as much alive as we keep the earth alive
Chief Dan George

UNITARIANISM
We affirm and promote respect for the interdependent web of all existence of which we are a part
Unitarian principle

Natural Theology

Natural theology is a program of inquiry into the existence and attributes of God without referring or appealing to any divine revelation. In natural theology, one asks what the word "God" means, whether and how names can be applied to God, whether God exists, whether God knows the future free choices of creatures, and so forth. The aim is to answer those questions without using any claims drawn from any sacred texts or divine revelation, even though one may hold such claims.

For purposes of studying natural theology, Jews, Christians, Muslims, and others will bracket and set aside for the moment their commitment to the sacred writings or traditions they believe to be God's word. Doing so enables them to proceed together to engage in the perennial questions about God using the sources of evidence that they share by virtue of their common humanity, for example, sensation, reason, science, and history. Agnostics and atheists, too, can engage in natural theology. For them, it is simply that they have no revelation-based views to bracket and set aside in the first place.

This received view of natural theology was a long time in the making. Natural theology was born among the ancient Greeks, and its meeting with ancient Judeo-Christian-Muslim thought constituted a complex cultural event. From that meeting there developed throughout the Middle Ages for Christians a sophisticated distinction between theology in the Christian sense and natural theology in the ancient Greek sense. Although many thinkers in the Middle Ages tried to unite theology and natural theology into a unity of thought, the project frequently met with objections, as we shall see below. The modern era was partly defined by a widespread rejection of natural theology for both philosophical and theological reasons. Such rejection persisted, and persists, although there has been a significant revival of natural theology in recent years.

Table of Contents

1. Historical Beginnings of Theology and Philosophy

The story of natural theology begins where theology begins. For the Greeks the term *theology* originally referred to inquiry into the lives and activities of the gods or

divinities. In the Greek world, theology and mythology were the same concept. The theologians were the poets whose task it was to present accounts of the gods in poetic form. In the same age when the gods dominated popular thinking, however, another movement was growing: philosophy. The first philosophers, the pre-Socratics, undertook a quest to find the first principle of things. "First principle" here means the ultimate source or origin of all things. The pre-Socratic quest is often described as "purely rational" in the sense that it proceeded without making reference or appeal to the authority of poets or stories of the gods. The pre-Socratic philosophers entertained various candidates as to the first principle, for example, water, fire, conflicting dualities, number, or simply "being." Both the mythology of the gods (already defined by the name of theology) and the purely rational quest for the first principle (later defined by the name of philosophy) constituted the cultural heritage of Plato and Aristotle – the two thinkers who would most greatly influence the development of natural theology. Plato and Aristotle each recognized the distinction between the two ways of inquiring into ultimate truth: the poetic-mythological-theological way and the purely rational way.

2. Ancient Philosophy and the First Principle

Plato (427 – 347 B.C.E.) in his well-known "Allegory of the Cave" in Book VII of *The Republic*, provides an image of what education consists in. True education consists in being led from the bondage of sensory appearances into the light of knowledge afforded by the form of the Good. The form of the Good is the cause of all being and all knowledge (the first principle). Knowledge of the form of the Good is arrived at through the struggle of dialectical argumentation. The dialectical arguments of philosophy do not prove the existence of the form of the Good, but contribute to inducing a non-inferential perception of it. Although Plato himself does not identify the form of the Good as God, later thinkers surely did.

Aristotle (384 – 322 B.C.E.) offers arguments for the existence of God (a God beyond the gods so to speak). Aristotle's arguments start from the observable fact of motion or change in things around us. On the basis of his theory of motion, change, and causality presented in *Physics*, Aristotle proceeds to offer a demonstration that there exists a first mover of all other movers which is not itself moved in any respect. The first, unmoved mover is a postulate intended to account for the perpetuity of motion and change around us. The "argument from motion" is not meant to be a dialectical exercise that induces non-inferential perception of God, but a demonstration or proof according to the canons of proof that Aristotle presents in the *Posterior Analytics*. In the later books of *Metaphysics*, Aristotle goes further and identifies the unmoved mover as separated from matter and as n*ous* or Mind. It is thought thinking itself. On Aristotle's view, even though the world is everlasting, all things everlastingly proceed in accord with separated Reason: the first principle of all. Both Plato and Aristotle have one view in common. They hold that through a form of rational argumentation (whether it be demonstrative or dialectical), one can – without appeal to the authority of sacred writings – arrive at some knowledge or awareness of a first principle that is separated from matter.

We have now come to call the development of this non-poetic or non-mythological form of thought from the pre-Socratics through Plato and Aristotle by the name of "philosophy." Aristotle's arguments for the existence of God, because they argued from some feature of nature, came to be called "natural theology." Natural theology was part of philosophy, as opposed to being part of the mytho-poetic theology.

3. Ancient Jewish and Early Christian Theology

As philosophy was developing from the Pre-Socratics through to Plato and Aristotle, another development was taking place among the Israelites or the ancient Jews. What was developing was their understanding of their corporate identity as the chosen people of God (YHWH). They conceived of themselves as a people established in a covenant with him, and bound to serve him according to the law and ritual prescriptions they had received from him. Texts received as sacred and as the word of God were an essential basis for their life, practice and thought.

It was among Jews and as a Jew that Jesus of Nazareth was born, lived his life, and gathered his first adherents. Christianity shared with Judaism a method for approaching God that essentially involved texts and faith in them as God's word (although Christianity would eventually involve more texts than ancient Judaism). As Christianity spread, so did its faith-based and text-based method for approaching an understanding of God. As a minority practice within a predominantly Roman-Hellenistic culture, Christianity soon faced two new questions. First, do Christians have a "theology?"Second, what should a Christian make of "philosophy?" So long as Christianity remained a minority practice, Christians themselves remained conflicted on how to answer the two questions posed by the predominant culture.

The first question – do Christians have a theology? – was difficult for Christians to answer due to the poetic-mythological sense of the term "theology" still prevalent in the predominant Roman-Hellenistic milieu. All Christians rejected the views of the mythological-poets (the theologians). So long as the word "theology" meant the pagan mythological poetry and worship of the gods as practiced in the prevailing culture, Christians rejected the word "theology" as well. But once Christianity became culturally predominant, the word "theology" could and did become disassociated from the belief in and worship of the gods and was applied instead to the specifically Christian task of thinking and speaking about God as revealed in the Christian Scriptures. Under the new conditions, Christians found themselves more widely capable of saying that they had a theology.

The second question – what should Christians make of philosophy? – was difficult for Christians to answer because in the name of "philosophy" Christianity met with strong resistance to its central claims, for example, that Jesus is the Word made flesh. Some Christians considered philosophy essentially incompatible with Christianity; other Christians considered the possibility of a sort of intellectual alliance between philosophy and Christianity. On the one hand, Tertullian (160 – 220) famously quipped "What has Athens to do with Jerusalem?" (*Prescription Against the Heretics*, ch. VII). He is often quoted to show (perhaps unfairly) that he and Christians of his age rejected philosophical or "purely rational" methods for approaching knowledge of God. On the other hand, some Christians who were roughly his contemporaries happily availed themselves of contemporary philosophical vocabulary, concepts, and reasoning to expound Christian teaching. For example, Justin the Martyr (100-165), a convert to Christianity from Platonism, developed an account of the activity of Christ in terms of a medley of Platonist and Stoic ideas. Clement of Alexandria developed an account of Christian knowledge (*gnosis*) based on a variety of ideas drawn from prevalent philosophies. Greek speaking eastern Christians (more quickly than Latin speaking ones) began a process of borrowing, altering, and then using prevalent

philosophical categories to corroborate and clarify their faith-based views of God. Their writings are filled with discussions of God's existence and attributes in terms that are recognizable to philosophers. But is philosophical thought that has been used to clarify and corroborate faith-based and text-based beliefs still *philosophical* thought? Philosophy, after all, proceeds without appeal to the authority of sacred texts, and Christian theology proceeded by way of appeal to Christian sacred texts. There was now need for a new degree of precision regarding the ways to arrive at knowledge of God.

4. Distinction between Revealed Theology and Natural Theology

The distinction between revealed theology and natural theology eventually grew out of the distinction between what is held by faith and what is held by understanding or reason. St. Augustine, in describing how he was taught as a catechumen in the Church, writes:

"From this time on, however, I gave my preference to the Catholic faith. I thought it more modest and not in the least misleading to be told by the Church to believe what could not be demonstrated – whether that was because a demonstration existed but could not be understood by all or whether the matter was not one open to rational proof...You [God] persuaded me that the defect lay not with those who believed your books, which you have established with such great authority amongst almost all nations, but with those who did not believe them." *Confessions* Bk. VI, v (7). (Chadwick, 1992)

Here Augustine describes being asked to believe certain things, that is, take them on authority, even though they could not be demonstrated. The distinction between what one takes on authority (particularly the authority of Scripture) and what one accepts on the basis of demonstration runs throughout the corpus of Augustine's writings. These two ways of holding claims about God correspond roughly with things one accepts by *faith* and things that proceed from *understanding* or *reason*. Each of the two ways will produce a type of theology. The program for inquiring into God on the basis of faith/text-commitments will be called "revealed theology" many centuries later. Also, the program for inquiring about God strictly on the basis of understanding or reason will be called "natural theology" many centuries later. The distinction between holding something by faith and holding it by reason, as well as the distinction between the two types of theology that each way produces, can be traced through some major figures of the Middle Ages. Two examples follow.

First, Anicius Manlius Severinus Boethius (480 – 524) presented an elaborate account of God's existence, attributes, and providence. Although a Christian, Boethius brings together in his *Consolation of Philosophy* the best of various ancient philosophical currents about God. Without any appeal to the authority of Christian Scripture, Boethius elaborated his account of God as eternal, provident, good, and so forth.

Second, Pseudo-Dionysius (late 5th century) also raised the distinction between knowing things from the authority of Scripture and knowing them from rational arguments:

"Theological tradition has a dual aspect, the ineffable and mysterious on the one hand, the open and more evident on the other. The one resorts to symbolism and involves initiation. The other is philosophic and employs the method of demonstration." *Epistola* IX (Luibheid, 1987)

Here we have the distinction between the two ways of approaching God explicitly identified as two aspects of *theology*. Augustine, Boethius, and Pseudo-Dionysius (to

name but a few) thus make possible a more refined distinction between two types of aspects to theology. On the one hand, there is a program of inquiry that aims to understand what one accepts in faith as divine revelation from above. On the other hand, there is a program of inquiry that proceeds without appeal to revelation and aims to obtain some knowledge of God from below.

The eighth to the twelfth centuries are often considered the years of monastic theology. During this time, Aristotle's writings in physics and metaphysics were lost to the West, and the knowledge of Platonism possessed by earlier Christians waned. The speculative ambitions of earlier Christian theologians (for example, Origen, Augustine, the Cappadocians, and so forth) were succeeded by the tendency of the monks to mate upon, but not to speculate beyond, the Scriptures and the theological tradition received from earlier Christians. The monk aimed primarily at *experiencing* what the texts revealed about God rather than to *understanding* what the texts revealed about God in terms afforded by reason and philosophy (see LeClerq, 1982). This began to change with Anselm of Canterbury (1033 - 1109).

Anselm is best known in contemporary philosophical circles for his ontological argument for the existence of God. As the argument is commonly understood, Anselm aimed to show that God exists without making appeal to any sacred texts and also without basing his argument upon any empirical or observable truth. The argument consists entirely of an analysis of the idea of God, and a tracing of the implications of that idea given the laws of logic, for example, the principle of non-contradiction. Anselm, however, is known among medieval specialists for much more. Although a monk himself, he is known as the first to go beyond the purely mative and experiential aims of monastic theology, and to pursue a serious speculative ambition. He wished to find the necessary reasons for why God acted as he has in history (as revealed by the Bible). Although Anselm's program was still a matter of Christian faith seeking to understand God as revealed by the Bible and grasped by faith, Anselm helped legitimize once again the use of reason for speculating upon matters held by faith. Once the writings of Aristotle in Physics and Metaphysics were recovered in the West, the question inevitably arose as to what to make of Aristotelian theses vis-à-vis views held on Christian faith. There arose a need for a new degree of precision on the relationship between philosophy and theology, faith and understanding. One classic account to provide that precision came from Thomas Aquinas who had at his disposal many centuries of preliminary reflection on the issues.

5. Thomas Aquinas

In the work of Thomas Aquinas (1225 - 1276), one finds two distinctions that serve to clarify the nature and status of natural theology. Aquinas distinguishes between two sorts of truths and between two ways of knowing them.

For Aquinas, there are two sorts of truths about God:

"There is a twofold mode of truth in what we profess about God. Some truths about God exceed all the ability of human reason. Such is the truth that God is triune. But there are some truths which the natural reason also is able to reach. Such are the truth that God exists, that he is one, and the like. In fact, such truths about God have been proved demonstratively by the philosophers, guided by the light of natural reason." (SCG I, ch.3, n.2)

On the one hand, there are truths *beyond* the capacity of the human intellect to discover or verifyand, on the other hand, there are truths falling *within* the capacity of

human intellect to discover and verify. Let us call the first sort *truths beyond reason* and the latter sort *truths of natural reason*. There are different ways of knowing or obtaining access to each sort of truth.

The truths of natural reason are discovered or obtained by using the *natural light of reason*. The natural light of reason is the capacity for intelligent thought that all human beings have just by virtue of being human. By exercising their native intelligence, human beings can discover, verify, and organize many truths of natural reason. Aquinas thinks that human beings have discovered many such truths and he expects human beings to discover many more. Although there is progress amidst the human race in understanding truths of natural reason, Aquinas thinks there are truths that are totally beyond the intelligence of the entire human race.

The truths beyond reason are outside the aptitude of the natural light of reason to discover or verify. The cognitive power of all humanity combined, all humanity of the past, present, and future, does not suffice to discover or verify one of the truths beyond reason. How then does an individual or humanity arrive at such truths? Humanity does not arrive at them. Rather, the truths arrive at humanity from a higher intellect – God. They come by way of divine revelation, that is, by God testifying to them. God testifies to them in a three-step process.

First, God elevates the cognitive powers of certain human beings so that their cognitive powers operate at a level of aptitude beyond what they are capable of by nature. Thanks to the divinely enhanced cognition, such people see more deeply into things than is possible for humans whose cognition has not been so enhanced. The heightened cognition is compared to light, and is often said to be a higher light than the light of natural reason. It is called the light of prophecy or the light of revelation. The recipients of the light of prophecy see certain things that God sees but that the rest of humanity does not. Having seen higher truths in a higher light, the recipients of the higher light are ready for the second step.

Second, God sends those who see things in the higher light to bear witness and to testify to what they see in the higher light. By so testifying, the witnesses (the prophets and Apostles of old) served as instruments or a mouthpiece through which God made accessible to humanity some of those truths that God sees but that humanity does not see. Furthermore, such truths were then consigned to Scripture (by the cognitively enhanced or "inspired" authors of the books of the Bible), and the Bible was composed. The Bible makes for the third step.

Third, in the present God uses the Bible as a current, active instrument for teaching the same truths to humanity. By accepting in faith God speaking through the Bible, people today have a second-hand knowledge of certain truths that God alone sees first-hand. Just as God illuminated the prophets and apostles in the light of prophecy to *see* what God alone sees, God also illuminates people today to *have faith in God speaking* through the Bible. This illumination is called the light of faith.

Just as one sees certain claims of natural reason by the light of natural reason, so the Christian faith hold certain claims beyond reason by the God-given light of faith. In the thought of Thomas Aquinas, the traditional distinction between two domains of truths and the distinctive way of knowing truth in each domain, reaches a point of clarity. This distinction is at the basis of the distinction between theology and natural theology.

Theology (in the Thomistic sense), as it later came to be called, is the program for inquiring by the light of faith into what one believes by faith to be truths beyond reason that are revealed by God. *Natural theology*, as it later came to be called, is the program for inquiring by the light of natural reason alone into whatever truths of natural reason human beings might be able to find about God. Theology and natural theology differ in *what* they inquire into, and *in what manner* they inquire. What theology inquires into is what God has revealed himself to be. What natural theology inquires into is what human intelligence can figure out about God without using any of the truths beyond reason, that is, the truths divinely revealed. Theology proceeds by taking God's revelation as a given and using one divinely revealed truth to account for another divinely revealed truth (or to give a higher account of truths of natural reason). Natural theology proceeds by bracketing and setting aside God's revelation and seeking to discover, verify, and organize truths of natural reason about God. Aquinas's distinctions remain the historical source of how many contemporary theologians and philosophers characterize the differences of their respective disciplines.

To see how theology and natural theology differ for Aquinas, it may help to look into faith and theology in more detail. One seems blind in accepting on faith the truths of revelation found in the Bible. They seem blind because faith is a way of knowing something second-hand. A faithful person is in the position of believing what another intellect (the divine intellect) sees. Now although one does not see for oneself the truths accepted in faith, one *desires* to see them for oneself. Faith tends to prompt intellectual questioning, inquiry, and seeking into the meaning and intelligibility of the mystery held in faith. Why did God create the world? Why does God allow so much suffering? Why did God become Incarnate? Why did he have to die on a cross to save humanity? Many more questions come up. One asks questions of the truths of divine revelation without doubting those truths. On the contrary, one raises such questions because in faith one is confident that one truth of divine revelation can explain another truth of divine revelation. The truth of the Trinity's purposes in creating us, for example, can explain the Incarnation. Thus, one questions the faith in faith. The project of questioning the faith in faith, finding answers, organizing them, justifying them, debating them, seeking to understanding "the why" and so forth is called *theology*.

Natural theology, on the other hand, does not presuppose faith as theology does. Natural theology does not attempt to explain truths beyond reason such as the Incarnation or the Trinity, and it certainly does not attempt to base anything on claims made in the Bible. Rather, natural theology uses other sources of evidence. Natural theology appeals to empirical data and the deliverances of reason to search out, verify, justify, and organize as much truth about God as can be figured out when one limits oneself to just these sources of evidence.

Aquinas practiced both theology and natural theology. Furthermore, he blended the two rather freely, and blended them into a *unified architectonic wisdom*. His architectonic contains both theology and natural theology (sometimes they are difficult to sort out).

Aquinas is primarily a theologian and his best-known work is his *Summa Theologica*. Aquinas saw himself as using truths of natural reason to help understand truths of divine revelation. Consequently, as part of his theology, Aquinas presents and refines many philosophical arguments (truths of natural reason) that he had inherited from multiple streams of his culture: Aristotle, Augustine, Boethius, Pseudo-Dionysius, Muslim philosophers and commentators on Aristotle, and the Jewish Rabbi Moses Maimonides. Aquinas saw himself as taking all the truth they had discovered and using

it all to penetrate the meaning and intelligibility of what God is speaking through the bible.

In his *Summa Contra Gentiles*, Aquinas presents in lengthy detail a series of philosophical demonstrations of the existence of God, philosophical demonstrations of a variety of divine attributes, a philosophical theory of naming God, as well as multiple philosophical points concerning divine providence, for example, the problem of evil. For the first two volumes of the *Summa Contra Gentiles*, Aquinas proceeds without substantial appeal to the authority of Scripture (although Aquinas does repeatedly point to the agreement between what he arrived at philosophically and what Christians hold by faith in their Scriptures). He seems to intend his arguments to presuppose as little of the Christian faith as possible. The *Summa Contra Gentiles*, traditionally, was pointed out as one of the principal locations of Aquinas natural theology. One old interpretation of the *Summa Contra Gentiles* says that its purpose was to train Christian missionaries who would be required to engage Muslims in discussion and debate about God. Since Christians and Muslims held no common sacred texts, they would need to dispute in terms afforded by their common humanity, that is, the truths of natural reason. Another interpretation makes it out to be Aquinas's own preparation for his *SummaTtheologice* (Hibbs, 1995).

Thomas Aquinas's distinction of the two sorts of truths about God and the two ways of knowing the truth about God soon faced outbreaks of skepticism. That skepticism, ironically, led to several developments in natural theology.

6. Modern Philosophy and Natural Theology

Not long after Aquinas, certain philosophers began to doubt that knowledge of God could be obtained apart from divine revelation and faith. William of Ockham (1280 – 1348) rejected central theses of Aristotelian philosophy that Aquinas relied upon in arguing for the existence of God, divine attributes, divine providence, and so forth. Ockham rejected the Aristotelian theory of form. He believed that a world construed in terms of Aristotelian essences was incompatible with God and creation as revealed in Scripture. To Ockham, Aquinas's God seemed subject to the natures of things rather than being their author in any significant sense. Nonetheless, Ockham was a Christian. Having rejected the Aristotelian theory of form and essence, natural theology as practiced by Aquinas was not possible. Of the two ways available for obtaining some knowledge of God – faith in revelation and reason without revelation – Ockham rejected the latter. Consequently, the only way remaining to know something of God was by faith in divine revelation.

After Ockham, the modern period abounded in various views towards natural theology. On the one hand, there were many who continued to hold that nature affords some knowledge of God and that human nature has some way of approaching God even apart from revelation. The scholastic thinker Francisco Suarez (1548-1617), for example, presented arguments for the existence of God, divine attributes, and divine providence. On the other hand, the rise of general anti-Aristotelianism (for example, Bacon), the rise of a mechanistic conception of the universe (for example, Hobbes, and the methodological decision to ignore final causality (for example, Descartes), all made traditional theological arguments for the existence of God from nature harder to sustain. Modern philosophy and modern science was perceived by many to threaten the traditional claims and conclusions of natural theology, for example, that the existence and attributes of God can be known apart from revelation and faith.

Many Christian thinkers responded to the new situation posed by modern philosophy and modern science. These responses shared with modern philosophy and modern science a non-Aristotelian, and perhaps even anti-Aristotelian, line of thought. Consequently, these responses constitute a thoroughly non-Aristotelian form of natural theology, that is, a natural theology that does not presuppose any of Aristotle's views on nature, motion, causality, and so forth.

Descartes himself, for example, is commonly thought to have offered a new version of the ontological argument (Anselm's argument) for the existence of God. Descartes advanced his argument in such a way that not only did he intend to avoid any Aristotelian presuppositions about the external world, he apparently intended to avoid any presuppositions at all about the external world – even the presupposition of its existence. Descartes' rationalist and *a priori* method characterized much of the natural theology on the continent of Europe. In Great Britain, there grew up another form of natural theology tending to use empirical starting points and consciously probabilistic forms of argument. Two examples are noteworthy in this regard. Samuel Clark's (1675 – 1729) work *A Demonstration of the Being and Attributes of God* and Joseph Butler's (1692 – 1752) *Analogy of Religion, Natural and Revealed*. The former latter work begins from the fact, presumably accessible empirically, that something or other has always existed. It proceeds to argue for the existence of God and various attributes, for example, God's infinity and omnipresence. The latter work offers a probabilistic argument in favor of the existence of God and certain attributes based on analogies between what is found in nature and what is found in revelation.

David Hume (1711 – 1761) offered perhaps the most poignant criticisms of the post-Aristotelian forms of natural theology. His *Enquiry Concerning Human Understanding* contained a chapter criticizing the justification for belief in miracles as well as a chapter leveled against arguments from design. The latter criticism against design arguments, as well as additional criticisms of various divine attributes, was offered in much more extensive detail in his *Dialogues Concerning Natural Religion*. The latter work was more extensive in that it applied some of the central tenets of Hume's epistemology to natural theology in general, and thus served as a sort of critique of natural theology as a whole. Inspired by Hume's thought, the empiricist critique of natural theology would later take on even more expanded and sophisticated forms.

David Hume's agnostic and atheistic conclusions, however, did not find much popular appeal in his own day. Hence, even after Hume's death, William Paley (1743 – 1805) was able to advance a natural theology that became standard reading in universities for the first half of the nineteenth century. Paley's *Natural Theology or Evidences of the Existence and Attributes of the Deity* formulated a version of the design argument that even convinced the early Charles Darwin. Although Hume did not dissuade his contemporaries such as Paley from doing natural theology, Hume still had a significant impact on natural theology through his influence on Immanuel Kant.

Immanuel Kant (1724 – 1804) found himself faced on the one side with a rationalism that made quite ambitious metaphysical claims and on the other side with an empiricism that allowed humans to know little beyond what was immediately sensible. The rationalists claimed to offer *in modo geometrico,* a series of demonstrations of many truths about God proceeding from a set of axioms self-evident to reason and needing no empirical verification. Later, their approach would be called *a priori*. The empiricists followed a different course, and stressed the human incapacity to know substantive necessary truths, or at least Hume seems to have stressed this or Hume as Kant understood him. Kant became skeptical of the rationalist's metaphysical

ambitions, yet was eager to overcome the Humean skepticism that threatened not only metaphysics but the new science as well. In his work, Kant is widely thought to have posed perhaps the most significant argumentative challenge to theology, natural theology, and metaphysics in general.

For Kant, arguments for the existence of God cannot prove their point due to the limits of the human cognitive capacity. The apparent cogency of such arguments is due to transcendental illusion; confusing the constitution of things and the constitution of one's thought or experience of things. For example, causal principles such as "every event has a cause" are nothing but requirements for the rational organization of our perceptions. Demonstrations of God's existence, divine attributes, and divine providence, to the extent that they use such principles as premises concerning the constitution of things in themselves, are illusory. Henceforth, any attempt to do classical theology, natural theology, or metaphysics had to answer the Kantian challenge.

Natural theology after Kant took two various routes. In Protestant and Anglican circles, the influence of Paley and others suffered a blow from Charles Darwin's (1809 - 1882) theory of evolution and the subsequent evolutionary theories that have been developed. Given Darwin, the proposition that all life developed by chance alone is widely perceived to have a degree of plausibility that it was not perceived to have in Paley's day. Whether and to what extent Darwinian principles eliminate the necessity for positing a divine designer is one of the most hotly contested issues in natural theology today. But there was more to post-Kantian natural theology.

In Catholic circles, natural theology went in two directions. On the one hand, there were some who intended to use modern philosophy for theological purposes just as the mediaevals had done. Antonio Rosmini (1797 - 1855), for example, developed a theology and a natural theology using elements from Augustine, Bonaventure, Pascal, and Malebranche. On the other hand, there were some who revived the thought of Thomas Aquinas. At first, there were but a handful of neo-Thomists. But in time Thomism was not only revived, but disseminated through a vast system of Catholic education. Thomists disagreed amongst each other on how to relate to strands of contemporary thought such as science and Kant. So neo-Thomism grew in many directions: Transcendental Thomism, Aristotelian Thomism, Existential Thomism, and so forth. At any rate, neo-Thomists tended to develop their own counter-reading of modern philosophy – especially Kant – and to use Thomistic natural theology as an apparatus for higher education and apologetics.

7. Natural Theology Today

Outside neo-Thomistic circles, natural theology was generally out of favor throughout the twentieth century. Due to neo-Kantian criticisms of metaphysics, an extreme confidence in contemporary science, a revival and elaboration of Humean empiricism in the form of logical positivism, as well as existentialism among Continental thinkers, metaphysics was thought to be forever eliminated as a way of knowing or understanding truth about God (or anything at all for that matter). Natural theology was thought to have suffered the same fate as being part of metaphysics. It is fair to say that in many places metaphysics and natural theology were even held in contempt. Towards the second half of the twentieth century, however, the tide began to turn –

first in favor of the possibility of metaphysics and soon afterwards to a revival of natural theology.

Natural theology today is practiced with a degree of diversity and confidence unprecedented since the late Middle Ages. Natural theologians have revived and extended arguments like Anselm's (the so-called "perfect being theology"). They have also re-cast arguments from nature in several forms – from neo-Thomistic presentations of Aquinas's five ways to new teleological arguments drawing upon the results of contemporary cosmology. Arguments from the reality of an objective moral order to the existence of God are circulated and taken seriously. Ethical theories that define goodness in terms of divine command are considered live options among an array of ethical theories. Discussions of divine attributes abound in books and journals devoted exclusively to purely philosophical treatments of God, for example, the journal *Faith and Philosophy*. Debates rage over divine causality, the extent of God's providence, and the reality of human free choice. The problem of evil has also been taken up anew for fresh discussions – both by those who see it as arguing against the existence of God and by those who wish to defend theism against the reality of evil. It is English speaking "analytic" philosophers who have taken the lead in discussing and debating these topics.

For people of faith who wish to think through their faith, to see whether reason alone apart from revelation offers anything to corroborate, clarify, or justify what is held by faith, there is no shortage of materials to research or study or criticize. Rather, vast quantities of books, articles, debates, discussions, conferences, and gatherings are available. For those who have no faith, but wish to inquire into God without faith, the same books, articles, debates, discussion, conferences, and gatherings are available. Natural theology is alive and well to assist anyone interested grappling with the perennial questions about God.

8. References and Further Reading
a. Primary Sources
i. Ancient Mediaeval Theology

- Plato, *Republic*, particularly Bk. VII.
- The so-called "Allegory of the Cave" in the opening pages of Bk. VII was an influential text upon later conceptions of God and the Good.
- Aristotle, *Physics*, particularly Bk. VII & VIII.
- The *locus classicus* for the argument from motion for the existence of a first, unmoved mover.
- Aristotle, *Metaphysics*, particularly Bk. XII
- This passage takes the argument of the *Physics* Bks. VII & VIII a step further by arguing that the first mover moves things as an end or goal and is intelligent.

ii. Mediaeval Natural Theology

- Augustine, *Confessions*, trans. Chadwick, Henry. Oxford, 1992.
  - A classic autobiographical account of a thinking man's journey to faith in the Christian God. In Bk.VI, Augustine draws a distinction between things demonstrable and things to be taken on authority.
- Augustine, *On Free Choice of the Will*, trans. Williams, Thomas. Indianapolis: Hackett Publishing Company, 1993.
- Out of the many works of St. Augustine, Bks. II & III in this work come as close as possible to presenting an argument for the existence of God. Augustine considers eternal truths, the order of the world, and the nature of reason, and proceeds to discuss the relationship between these things and the wisdom the pre-existed that world. Many students find this dialogue satisfying to read.

- Boethius, *The Consolation of Philosophy*. trans. Green, Richard. New York: Macmillan Publishing Company, 1962.

  - A shorter work, cast in semi-dialogue form, that synthesizes and presents a great deal of late Hellenistic natural theology. It is fair to call this work one of the principal sources of mediaeval humanism and philosophy. Many students find this work satisfying to read.

- Plotinus, *Enneads*. trans. MacKenna, Stephen. New York: Larson Publications, 1992.

  - A lengthy work of neo-Platonic cosmology and natural theology. Being the work of a non-Christian, it shows (like Aristotle's works) that someone without Christian faith commitments can engage in natural theology. However, Plotinus' sympathies lie more with Plato's notion of a dialectically induced vision of the Good than with a demonstrative approach to proving the existence of God. Consequently, there are many passages of a more mystical and mative quality intended for those who have had the prerequisite perceptions of the One.

- Pseudo-Dionysius, "Letter Nine" in *The Complete Works*. trans. Luibheid, Colm. New Jersey: Paulist Press, 1987.

  - Presents the distinction between natural and mystical theology and the two ways of knowing that are proper to each.

- Anselm, "Monologion" & "Proslogion" both in *The Major Works*. Oxford University Press, 1998.

  - The *Proslogion* contains the so-called "ontological argument" for the existence of God. The *Monologion,* in its first two dozen chapters, presents a natural theology by way of unpacking what is involved in the notion of a supreme nature.

- Aquinas, *SummaTtheologiae,* trans. Fathers of the English Dominican Province. New York: Benziger Bros, 1948 .

  - The classic theological work by Thomas Aquinas. In part I, q. 2 – 27, Aquinas presents numerous philosophical arguments for the existence of God, divine attributes, divine providence, and so forth. Often called the "Treatise on God," it is a classic locus of natural theology.

- Aquinas, *Summa Contra Gentiles*, esp. trans. Pegis, Anton. University of Notre Dame Press, 1975.

  - In Bks. I & II, Aquinas presents what he considers to be demonstrations for the existence of God, several divine attributes, and an account of divine providence. For these two books, a great deal of the thinking is commonly thought to proceed in the light of natural reason alone.

- Bonaventure, *The Journey of the Mind to God*. trans. Boehner, Philotheus. Indianapolis: Hackett Publishing Company, 1993.

  - A short work of mediaeval natural theology. A contemporary of Aquinas, Bonaventure takes the reader on a journey from creatures to the Creator. This book shows what an alternative to Aquinas's Aristotelian natural theology looks like.

iii. Modern Natural Theology

- Butler, Joseph. *The Analogy of Religion, Natural and Revealed, to the Constitution and Course of Nature*. Ann Arbor, MI: Scholarly Publishing Office, University of Michigan Library, 2005.

  - A classic of English natural theology with an extended treatment of the immortality of the soul. The author ventures a probabilistic argument in confirmation of certain revealed truths.

- Clark, Samuel. *A Demonstration of the Being and Attributes of God: And Other Writings*. Ed. Vailato, Ezio. Cambridge University Press, 1998.

  - This treatise of English natural theology was originally a set of sermons preached against the writings of Hobbes and Spinoza and their followers. Those sermons were revised into an extended and rigorous argument.

- Descartes, Rene. "Mations" in *Selected Philosophical Writings*. trans. Cottingham, John., Stoothoff, Robert., Murdoch, Dougald. Cambridge University Press, 1998.

  - In the "Third Mation," Descartes advances an argument for the existence of God that some have called an "ontological argument" because he infers from his idea of God to the existence of God.

- Locke, John. *An Essay Concerning Human Understanding*. Oxford University Press, 1975.

  - In Bk. IV, ch. 10 John Locke advances what he considers to be a demonstration of the existence of an eternal and necessary being. The chapter is an example of how arguments for the existence of God continued to be advanced well into early modernity by post-Aristotelian thinkers.

- Hume, David. *An Enquiry Concerning Human Understanding*. Indianapolis, IN: Hackett Publishing Company, 1977.

  - A brief classical essay in empiricist philosophy. The principles presented in this book served first to motivate Kant to mount his criticisms of metaphysics and natural theology and continue to motivate many of today's criticisms of arguments for the existence of God, divine attributes, and so forth.

- Hume, David. *Dialogues Concerning Natural Religion: The Posthumous Essays of the Immortality of the Soul and of Suicide*. Indianapolis, IN: Hackett Publishing Co., 1998.

- This dialogue is an extended application of Hume's epistemology, and in effect a critique of natural theology as an enterprise.
- Kant, Immanuel. *Critique of Pure Reason*. trans. Smith, Norman Kemp. NY: St. Martin's Press. 1929.
  - This classical work stands as a permanent challenge to anyone aiming at arriving at some knowledge or understanding of God by the light of natural reason alone. The work is no easy read – not even for specialists. However, in Part II, Second Division, Chapter II, Kant presents his famous "antinomies of pure reason." The antinomies are arguments, laid out in synopsis form, both for and against certain theses. Of all the criticism of metaphysics that can be found in this book, the antinomies in particular have persuaded many thinkers to hold that any attempt by reason alone to arrive at some knowledge of God is bound to end in hopeless self-contradiction. See especially the Fourth Antinomy.
- Kant, Immanuel. *Prolegomena to Any Future Metaphysics*. trans. Ellington, James W. Indianapolis: Hackett Publishing Company, 1977.
  - This shorter work summarizes and presents in simpler form much of the thought found in the longer and more elaborate *Critique of Pure Reason*.
- Newman, John Henry Cardinal. *An Essay in Aid of a Grammar of Assent*. University of Notre Dame Press, 1979.
  - A classic work of nineteenth century British apologetics. Among many other things, Newman presents an account of how conscience moves one to believe in the existence of God.

iv. Contemporary Natural Theology

- Howard-Snyder, Daniel, ed. *The Evidential Argument from Evil*. Indiana University Press, 1996.
  - An excellent anthology of essays, all treating of the problem of evil, by contemporary philosophers. The collection contains some essays arguing against the existence of God on the basis of evil and other essays defending the existence of God against such arguments.
- Kenny, Anthony. *The Five Ways: St. Thomas Aquinas' proofs of the existence of God*. London: Routledge & K. Paul, 1969.
  - A short work that goes through Aquinas's arguments for the existence of God and treats them in terms of contemporary formal logic. Kenny concludes that all the arguments fail.
- Mackie, J.L., *The Miracle of Theism: Arguments for and against the existence of God*. Oxford University Press, 1982.
  - A widely read work that presents a wide variety of arguments for the existence of God, criticizes them, and ultimately rejects them all. It also contains important discussions of who has the burden of proof in natural theology and arguments against the existence of God based on the reality of evil.
- Plantinga, Alvin. *God and Other Minds*. Cornell University Press, 1967.
  - Another work that presents several standard proofs for the existence of God and criticizes them. The author, however, is a theist. After dismissing the standard proofs for the existence of God as inconclusive or indecisive, Plantinga goes on to give an argument that belief in the existence of God can be rational even without such proofs. He argues that believing in God is analogous to believing in other minds. Just as one is rational in believing in other minds without decisive or conclusive proof that other minds exist, so one is rational in believing in God without decisive or conclusive proof that God exists.
- Plantinga, Alvin. *God, Freedom, & Evil*. William B. Eerdmans Publishing Co., 1977.
  - This widely hailed work purports to refute the thesis that it is impossible for both God and evil to exist. Using the modal logic that he helped to pioneer, Plantinga shows how it is possible for both God and evil to exist. Even atheist philosophers find Plantinga's point to be compelling, and the terms of the debate on the problem of evil have changed since, and because of, the book's publication. For the current state of the debate, see Howard-Snyder's work referenced above.
- Swinburne, Richard. *The Coherence of Theism*. Oxford: Clarendon Press, 1977. Swinburne, Richard. *The Existence of God*. 2nd ion. Oxford University Press, 2004. Swinburne, Richard. *Providence and the Problem of Evil*. Oxford: Clarendon Press, 1998.
  - These three books by Richard Swinburne jointly constitute a powerful argument for, and defense of, the existence of God. In *The Coherence of Theism,* Swinburne answers common arguments advanced against the possibility of the existence of God or arguing for the existence of God. In *The Existence of God*, Swinburne presents his "cumulative case" inductive argument for the existence of God. In *Providence and the Problem of Evil*, Swinburne aims to account for the existence of evil given the existence of a provident God.
- Varghese, Roy Abraham. *The Wonder of the World: A Journey from Modern Science to the Mind of God*. Arizona: Tyr Publishing, 2004.
  - This work brings together under one cover many of the scientifically received facts that tend to confirm the existence of God. One can find laid out here many of the physical, biological, and cosmological facts that have persuaded many contemporary scientists of the existence of an intelligent God behind it all. The work also raises pertinent philosophical considerations in favor of the same

conclusion. Written in semi-dialogue form, without using significant technical jargon, this award-winning book is accessible to a wide audience.

b. Secondary Sources

- Craig, William Lane. *The Cosmological Argument from Plato to Leibniz*. NY: Barnes & Noble Books, 1980.

  • The book does what the title says; it gives a history of the various cosmological arguments from ancient times until modernity.

- Congar, Yves. *A History of Theology*. NY: Doubleday, 1968.

  • A good one-volume summary of the history of theology. This book served as the basic reference for section 3 above in the discussion of ancient Greek theology, and the development of theology among early Christians.

- Davies, Brian. *An Introduction to the Philosophy of Religion*. Oxford University Press, 1982.

  • This widely used textbook presents most of the main topics in the philosophy of religion today – including arguments in natural theology.

- Hibbs, Thomas. *Dialectic and Narrative in Aquinas: An Interpretation of the Summa Contra Gentiles*. University of Notre Dame Press, 1995.

  • This book was referenced above as presenting an alternative interpretation to the *Summa Contra Gentiles*.

- LeClerq, Jean. *The Love of Learning and the Desire for God*. trans. Misrah, Catharine. Fordham University Press, 1982.

  • This book was referenced in the fourth section above as regards the state of theology in mediaeval monasteries.

- Stump, Eleonore. "Aquinas on the Sufferings of Job" in *The Evidential Argument from Evil*. ed. Howard-Snyder, Daniel. Indiana University Press, 1996.

  • An unusually clear elucidation of Aquinas' understanding of the relationship between God and evil as Aquinas presents it in his commentary on Job.

- Stump, Eleonore, ed. *Philosophy of Religion*. Malden, MA: Blackwell Publishers, 1999.

  • An anthology of classic texts on many topics in the philosophy of religion. Many of the texts referenced in this list are found within this anthology.

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Anselm: Ontological Argument for God's Existence

One of the most fascinating arguments for the existence of an all-perfect God is the ontological argument. While there are several different versions of the argument, all purport to show that it is self-contradictory to deny that there exists a greatest possible being. Thus, on this general line of argument, it is a necessary truth that such a being exists; and this being is the God of traditional Western theism. This article explains and evaluates classic and contemporary versions of the ontological argument.

Most of the arguments for God's existence rely on at least one empirical premise. For example, the "fine-tuning" version of the design argument depends on empirical evidence of intelligent design; in particular, it turns on the empirical claim that, as a nomological matter, that is, as a matter of law, life could not have developed if certain fundamental properties of the universe were to have differed even slightly from what they are. Likewise, cosmological arguments depend on certain empirical claims about the explanation for the occurrence of empirical events.

In contrast, the ontological arguments are conceptual in roughly the following sense: just as the propositions constituting the concept of a bachelor imply that every bachelor is male, the propositions constituting the concept of God, according to the ontological argument, imply that God exists. There is, of course, this difference: whereas the concept of a bachelor explicitly contains the proposition that bachelors are unmarried, the concept of God does not explicitly contain any proposition asserting the existence of such a being. Even so, the basic idea is the same: ontological arguments attempt to show that we can deduce God's existence from, so to speak, the very definition of God.

Table of Contents

1. Introduction: The Non-Empirical Nature of the Ontological Arguments

It is worth reflecting for a moment on what a remarkable (and beautiful!) undertaking it is to deduce God's existence from the very definition of God. Normally, existential claims don't follow from conceptual claims. If I want to prove that bachelors, unicorns, or viruses exist, it is not enough just to reflect on the concepts. I need to go out into the world and conduct some sort of empirical investigation using my senses. Likewise, if I want to prove that bachelors, unicorns, or viruses don't exist, I must do the same.

In general, positive and negative existential claims can be established only by empirical methods.

There is, however, one class of exceptions. We can prove certain negative existential claims merely by reflecting on the content of the concept. Thus, for example, we can determine that there are no square circles in the world without going out and looking under every rock to see whether there is a square circle there. We can do so merely by consulting the definition and seeing that it is self-contradictory. Thus, the very concepts imply that there exist no entities that are both square and circular.

The ontological argument, then, is unique among such arguments in that it purports to establish the real (as opposed to abstract) existence of some entity. Indeed, if the ontological arguments succeed, it is as much a contradiction to suppose that God doesn't exist as it is to suppose that there are square circles or female bachelors. In the following sections, we will evaluate a number of different attempts to develop this astonishing strategy.

2. The Classic Version of the Ontological Argument
a. The Argument Described

St. Anselm, Archbishop of Cantebury (1033-1109), is the originator of the ontological argument, which he describes in the *Proslogium* as follows:

[Even a] fool, when he hears of ... a being than which nothing greater can be conceived ... understands what he hears, and what he understands is in his understanding.... And assuredly that, than which nothing greater can be conceived, cannot exist in the understanding alone. For suppose it exists in the understanding alone: then it can be conceived to exist in reality; which is greater.... Therefore, if that, than which nothing greater can be conceived, exists in the understanding alone, the very being, than which nothing greater can be conceived, is one, than which a greater can be conceived. But obviously this is impossible. Hence, there is no doubt that there exists a being, than which nothing greater can be conceived, and it exists both in the understanding and in reality.

The argument in this difficult passage can accurately be summarized in standard form:

1. It is a conceptual truth (or, so to speak, true by definition) that God is a being than which none greater can be imagined (that is, the greatest possible being that can be imagined).
2. God exists as an idea in the mind.
3. A being that exists as an idea in the mind and in reality is, other things being equal, greater than a being that exists only as an idea in the mind.
4. Thus, if God exists only as an idea in the mind, then we can imagine something that is greater than God (that is, a greatest possible being that does exist).
5. But we cannot imagine something that is greater than God (for it is a contradiction to suppose that we can imagine a being greater than the greatest possible being that can be imagined.)
6. Therefore, God exists.

Intuitively, one can think of the argument as being powered by two ideas. The first, expressed by Premise 2, is that we have a coherent idea of a being that instantiates all

of the perfections. Otherwise put, Premise 2 asserts that we have a coherent idea of a being that instantiates every property that makes a being greater, other things being equal, than it would have been without that property (such properties are also known as "great-making" properties). Premise 3 asserts that existence is a perfection or great-making property.

Accordingly, the very concept of a being that instantiates all the perfections implies that it exists. Suppose *B* is a being that instantiates all the perfections and suppose *B* doesn't exist (in reality). Since Premise 3 asserts that existence is a perfection, it follows that *B* lacks a perfection. But this contradicts the assumption that *B* is a being that instantiates all the perfections. Thus, according to this reasoning, it follows that *B* exists.

b. Gaunilo's Criticism

Gaunilo of Marmoutier, a monk and contemporary of Anselm's, is responsible for one of the most important criticisms of Anselm's argument. It is quite reasonable to worry that Anselm's argument illegitimately moves from the existence of an idea to the existence of a thing that corresponds to the idea. As the objection is sometimes put, Anselm simply defines things into existence-and this cannot be done.

Gaunilo shared this worry, believing that one could use Anselm's argument to show the existence of all kinds of non-existent things:

Now if some one should tell me that there is ... an island [than which none greater can be conceived], I should easily understand his words, in which there is no difficulty. But suppose that he went on to say, as if by a logical inference: "You can no longer doubt that this island which is more excellent than all lands exists somewhere, since you have no doubt that it is in your understanding. And since it is more excellent not to be in the understanding alone, but to exist both in the understanding and in reality, for this reason it must exist. For if it does not exist, any land which really exists will be more excellent than it; and so the island understood by you to be more excellent will not be more excellent."

Gaunilo's argument, thus, proceeds by attempting to use Anselm's strategy to deduce the existence of a perfect island, which Gaunilo rightly views as a counterexample to the argument form. The counterexample can be expressed as follows:

1. It is a conceptual truth that a piland is an island than which none greater can be imagined (that is, the greatest possible island that can be imagined).
2. A piland exists as an idea in the mind.
3. A piland that exists as an idea in the mind and in reality is greater than a piland that exists only as an idea in the mind.
4. Thus, if a piland exists only as an idea in the mind, then we can imagine an island that is greater than a piland (that is, a greatest possible island that does exist).
5. But we cannot imagine an island that is greater than a piland.
6. Therefore, a piland exists.

Notice, however, that premise 1 of Gaunilo's argument is incoherent. The problem here is that the qualities that make an island great are not the sort of qualities that admit of conceptually maximal qualities. No matter how great any island is in some respect, it

is always possible to imagine an island greater than that island in that very respect. For example, if one thinks that abundant fruit is a great-making property for an island, then, no matter how great a particular island might be, it will always be possible to imagine a greater island because there is no intrinsic maximum for fruit-abundance. For this reason, the very concept of a piland is incoherent.

But this is not true of the concept of God as Anselm conceives it. Properties like knowledge, power, and moral goodness, which comprise the concept of a maximally great being, do have intrinsic maximums. For example, perfect knowledge requires knowing all and only true propositions; it is conceptually impossible to know more than this. Likewise, perfect power means being able to do everything that it is possible to do; it is conceptually impossible for a being to be able to do more than this.

The general point here, then, is this: Anselm's argument works, if at all, only for concepts that are entirely defined in terms of properties that admit of some sort of intrinsic maximum. As C.D. Broad puts this important point:

[The notion of a greatest possible being imaginable assumes that] each positive property is to be present in the highest possible degree. Now this will be meaningless verbiage unless there is some *intrinsic* maximum or upper limit to the possible intensity of every positive property which is capable of degrees. With some magnitudes this condition is fulfilled. It is, e.g., logically impossible that any proper fraction should exceed the ratio 1/1; and again, on a certain definition of "angle," it is logically impossible for any angle to exceed four right angles. But it seems quite clear that there are other properties, such as length or temperature or pain, to which there is no intrinsic maximum or upper limit of degree.

If any of the properties that are conceptually essential to the notion of God do not admit of an intrinsic maximum, then Anselm's argument strategy will not work because, like Guanilo's concept of a piland, the relevant concept of God is incoherent. But insofar as the relevant great-making properties are limited to omnipotence, omniscience, and moral perfection (which do admit of intrinsic maximums), Anselm's notion of a greatest possible being seems to avoid the worry expressed by Broad and Guanilo.

c. Aquinas's Criticisms

While St. Thomas Aquinas (1224-1274) believed that God's existence is self-evident, he rejected the idea that it can be deduced from claims about the concept of God. Aquinas argued, plausibly enough, that "not everyone who hears this word 'God' understands it to signify something than which nothing greater can be thought, seeing that some have believed God to be a body." The idea here is that, since different people have different concepts of God, this argument works, if at all, only to convince those who define the notion of God in the same way.

The problem with this criticism is that the ontological argument can be restated without defining God. To see this, simply delete premise 1 and replace each instance of "God" with "A being than which none greater can be conceived." The conclusion, then, will be that a being than which none greater can be conceived exists - and it is, of course, quite natural to name this being God.

Nevertheless, Aquinas had a second problem with the ontological argument. On Aquinas's view, even if we assume that everyone shares the same concept of God as a being than which none greater can be imagined, "it does not therefore follow that he understands what the word signifies exists actually, but only that it exists mentally."

One natural interpretation of this somewhat ambiguous passage is that Aquinas is rejecting premise 2 of Anselm's argument on the ground that, while we can rehearse the words "a being than which none greater can be imagined" in our minds, we have no idea of what this sequence of words really means. On this view, God is unlike any other reality known to us; while we can easily understand concepts of finite things, the concept of an infinitely great being dwarfs finite human understanding. We can, of course, try to associate the phrase "a being than which none greater can be imagined" with more familiar finite concepts, but these finite concepts are so far from being an adequate description of God, that it is fair to say they don't help us to get a detailed idea of God.

Nevertheless, the success of the argument doesn't depend on our having a complete understanding of the concept of a being than which none greater can be conceived. Consider, for example, that, while we don't have a complete understanding (whatever this means) of the concept of a natural number than which none larger can be imagined, we understand it well enough to see that there does not exist such a number. No more complete understanding of the concept of a maximally great being than this is required, on Anselm's view, to successfully make the argument. If the concept is coherent, then even a minimal understanding of the concept is sufficient to make the argument.

d. Kant's Criticism: Is Existence a Perfection?

Immanuel Kant (1724-1804) directs his famous objection at premise 3's claim that a being that exists as an idea in the mind and in reality is greater than a being that exists only as an idea in the mind. According to premise 3, existence is what's known as a great-making property or, as the matter is sometimes put, a perfection. Premise 3 thus entails that (1) existence is a property; and (2) instantiating existence makes a thing better, other things being equal, than it would have been otherwise.

Kant rejects premise 3 on the ground that, as a purely formal matter, existence does not function as a predicate. As Kant puts the point:

Being is evidently not a real predicate, that is, a conception of something which is added to the conception of some other thing. It is merely the positing of a thing, or of certain determinations in it. Logically, it is merely the copula of a judgement. The proposition, *God is omnipotent*, contains two conceptions, which have a certain object or content; the word *is*, is no additional predicate-it merely indicates the relation of the predicate to the subject. Now if I take the subject (God) with all its predicates (omnipotence being one), and say, *God is*, or *There is a God*, I add no new predicate to the conception of God, I merely posit or affirm the existence of the subject with all its predicates - I posit the object in relation to my conception.

Accordingly, what goes wrong with the first version of the ontological argument is that the notion of existence is being treated as the wrong logical type. Concepts, as a logical matter, are defined entirely in terms of logical predicates. Since existence isn't a logical

predicate, it doesn't belong to the concept of God; it rather affirms that the existence of something that satisfies the predicates defining the concept of God.

While Kant's criticism is phrased (somewhat obscurely) in terms of the logic of predicates and copulas, it also makes a plausible metaphysical point. Existence is not a property (in, say, the way that being red is a property of an apple). Rather it is a precondition for the instantiation of properties in the following sense: it is not possible for a non-existent thing to instantiate any properties because there is nothing to which, so to speak, a property can stick. Nothing has no qualities whatsoever. To say that *x* instantiates a property *P* is hence to presuppose that *x* exists. Thus, on this line of reasoning, existence isn't a great-making property because it is not a property at all; it is rather a metaphysically necessary condition for the instantiation of any properties. But even if we concede that existence is a property, it does not seem to be the sort of property that makes something better for having it. Norman Malcolm expresses the argument as follows:

The doctrine that existence is a perfection is remarkably queer. It makes sense and is true to say that my future house will be a better one if it is insulated than if it is not insulated; but what could it mean to say that it will be a better house if it exists than if it does not? My future child will be a better man if he is honest than if he is not; but who would understand the saying that he will be a better man if he exists than if he does not? Or who understands the saying that if God exists He is more perfect than if he does not exist? One might say, with some intelligibility, that it would be better (for oneself or for mankind) if God exists than if He does not-but that is a different matter.

The idea here is that existence is very different from, say, the property of lovingness. A being that is loving is, other things being equal, better or greater than a being that is not. But it seems very strange to think that a loving being that exists is, other things being equal, better or greater than a loving being that doesn't exist. But to the extent that existence doesn't add to the greatness of a thing, the classic version of the ontological argument fails.

3. Anselm's Second Version of the Ontological Argument

As it turns out, there are two different versions of the ontological argument in the *Prosologium*. The second version does not rely on the highly problematic claim that existence is a property and hence avoids many of the objections to the classic version. Here is the second version of the ontological argument as Anselm states it:

God is that, than which nothing greater can be conceived.... And [God] assuredly exists so truly, that it cannot be conceived not to exist. For, it is possible to conceive of a being which cannot be conceived not to exist; and this is greater than one which can be conceived not to exist. Hence, if that, than which nothing greater can be conceived, can be conceived not to exist, it is not that, than which nothing greater can be conceived. But this is an irreconcilable contradiction. There is, then, so truly a being than which nothing greater can be conceived to exist, that it cannot even be conceived not to exist; and this being thou art, O Lord, our God.

This version of the argument relies on two important claims. As before, the argument includes a premise asserting that God is a being than which a greater cannot be conceived. But this version of the argument, unlike the first, does not rely on the claim that existence is a perfection; instead it relies on the claim that *necessary* existence is a perfection. This latter claim asserts that a being whose existence is *necessary* is greater than a being whose existence is not necessary. Otherwise put, then, the second key claim is that a being whose non-existence is *logically impossible* is greater than a being whose non-existence is logically possible.

More formally, the argument is this:

1. By definition, God is a being than which none greater can be imagined.
2. A being that *necessarily* exists in reality is greater than a being that does not *necessarily* exist.
3. Thus, by definition, if God exists as an idea in the mind but does not necessarily exist in reality, then we can imagine something that is greater than God.
4. But we cannot imagine something that is greater than God.
5. Thus, if God exists in the mind as an idea, then God necessarily exists in reality.
6. God exists in the mind as an idea.
7. Therefore, God necessarily exists in reality.

This second version appears to be less vulnerable to Kantian criticisms than the first. To begin with, necessary existence, unlike mere existence, seems clearly to be a property. Notice, for example, that the claim that x necessarily exists entails a number of claims that attribute particular properties to x. For example, if x necessarily exists, then its existence does not depend on the existence of any being (unlike contingent human beings whose existence depends, at the very least, on the existence of their parents). And this seems to entail that x has the reason for its existence in its own nature. But these latter claims clearly attribute particular properties to x.

And only a claim that attributes a particular property can entail claims that attribute particular properties. While the claim that x exists clearly entails that x has at least one property, this does not help. We cannot soundly infer any claims that attribute *particular* properties to x from either the claim that x exists or the claim that x has at least one property; indeed, the claim that x has at least one property no more expresses a particular property than the claim that x exists. This distinguishes the claim that x exists from the claim that x necessarily exists and hence seems to imply that the latter, and only the latter, expresses a property.

Moreover, one can plausibly argue that necessary existence is a great-making property. To say that a being necessarily exists is to say that it exists eternally in every logically possible world; such a being is not just, so to speak, indestructible in this world, but indestructible in every logically possible world - and this does seem, at first blush, to be a great-making property. As Malcolm puts the point:

If a housewife has a set of extremely fragile dishes, then as dishes, they are inferior to those of another set like them in all respects except that they are not fragile. Those of the first set are dependent for their continued existence on gentle handling; those of the second set are not. There is a definite connection between the notions of dependency and inferiority, and independence and superiority. To say that something which was dependent on nothing whatever was superior to anything that was dependent on any way upon anything is quite in keeping with the everyday use of the terms superior and greater.

Nevertheless, the matter is not so clear as Malcolm believes. It might be the case that, other things being equal, a set of dishes that is indestructible in this world is greater than a set of dishes that is not indestructible in this world. But it is very hard to see how transworld indestructibility adds anything to the greatness of a set of dishes that is indestructible in this world. From our perspective, there is simply nothing to be gained by adding transworld indestructibility to a set of dishes that is actually indestructible. There is simply nothing that a set of dishes that is indestructible in every possible world can do *in this world* that can't be done by a set of dishes that is indestructible in this world but not in every other world.

And the same seems to be true of God. Suppose that an omniscient, omnipotent, omnibenevolent, eternal (and hence, so to speak, indestructible), personal God exists in this world but not in some other worlds. It is very hard to make sense of the claim that such a God is deficient in some relevant respect. God's indestructibility in this world means that God exists eternally in all logically possible worlds that resemble this one in certain salient respects. It is simply unclear how existence in these other worlds that bear no resemblance to this one would make God greater and hence more worthy of worship. From our perspective, necessary existence adds nothing in value to eternal existence. If this is correct, then Anselm's second version of the argument also fails.

4. Modal Versions of the Argument

Even if, however, we assume that Anselm's second version of the argument can be defended against such objections, there is a further problem: it isn't very convincing because it is so difficult to tell whether the argument is sound. Thus, the most important contemporary defender of the argument, Alvin Plantinga, complains "[a]t first sight, Anselm's argument is remarkably unconvincing if not downright irritating; it looks too much like a parlor puzzle or word magic." As a result, despite its enduring importance, the ontological argument has brought few people to theism.

There have been several attempts to render the persuasive force of the ontological argument more transparent by recasting it using the logical structures of contemporary modal logic. One influential attempts to ground the ontological argument in the notion of God as an unlimited being. As Malcolm describes this idea:

God is usually conceived of as an *unlimited* being. He is conceived of as a being who *could not* be limited, that is, as an absolutely unlimited being.… If God is conceived to be an absolutely unlimited being He must be conceived to be unlimited in regard to His existence as well as His operation. In this conception it will not make sense to say that He depends on anything for coming into or continuing in existence. Nor, as Spinoza observed, will it make sense to say that something could *prevent* Him from existing. Lack of moisture can prevent trees from existing in a certain region of the earth. But it would be contrary to the concept of God as an unlimited being to suppose that anything … could prevent Him from existing.

The unlimited character of God, then, entails that his existence is different from ours in this respect: while our existence depends causally on the existence of other beings (e.g., our parents), God's existence does not depend causally on the existence of any other being.

Further, on Malcolm's view, the existence of an unlimited being is either logically necessary or logically impossible. Here is his argument for this important claim. Either

an unlimited being exists at world *W* or it doesn't exist at world *W*; there are no other possibilities. If an unlimited being does not exist in *W*, then its nonexistence cannot be explained by reference to any causally contingent feature of *W*; accordingly, there is no contingent feature of *W* that explains why that being doesn't exist. Now suppose, per *reductio*, an unlimited being exists in some other world *W'*. If so, then it must be some contingent feature *f* of *W'* that explains why that being exists in that world. But this entails that the nonexistence of an unlimited being in *W* can be explained by the absence of *f* in *W*; and this contradicts the claim that its nonexistence in *W* can't be explained by reference to any causally contingent feature. Thus, if God doesn't exist at *W*, then God doesn't exist in any logically possible world.

A very similar argument can be given for the claim that an unlimited being exists in every logically possible world if it exists in some possible world *W*; the details are left for the interested reader. Since there are only two possibilities with respect to *W* and one entails the impossibility of an unlimited being and the other entails the necessity of an unlimited being, it follows that the existence of an unlimited being is either logically necessary or logically impossible.

All that is left, then, to complete Malcolm's elegant version of the proof is the premise that the existence of an unlimited being is not logically impossible - and this seems plausible enough. The existence of an unlimited being is logically impossible only if the concept of an unlimited being is self-contradictory. Since we have no reason, on Malcolm's view to think the existence of an unlimited being is self-contradictory, it follows that an unlimited being, i.e., God, exists. Here's the argument reduced to its basic elements:

1. God is, as a conceptual matter (that is, as a matter of definition) an unlimited being.
2. The existence of an unlimited being is either logically necessary or logically impossible.
3. The existence of an unlimited being is not logically impossible.
4. Therefore, the existence of God is logically necessary.

Notice that Malcolm's version of the argument does not turn on the claim that necessary existence is a great-making property. Rather, as we saw above, Malcolm attempts to argue that there are only two possibilities with respect to the existence of an unlimited being: either it is necessary or it is impossible. And notice that his argument does not turn in any way on characterizing the property necessary existence as making something that instantiates that property better than it would be without it. Thus, Malcolm's version of the argument is not vulnerable to the criticisms of Anselm's claim that necessary existence is a perfection.

But while Malcolm's version of the argument is, moreover, considerably easier to understand than Anselm's versions, it is also vulnerable to objection. In particular, Premise 2 is not obviously correct. The claim that an unlimited being *B* exists at some world *W* clearly entails that *B always* exists at *W* (that is, that *B*'s existence is eternal or everlasting in *W*), but this doesn't clearly entail that *B* necessarily exists (that is, that *B* exists at every logically possible world). To defend this further claim, one needs to give an argument that the notion of a contingent eternal being is self-contradictory. Similarly, the claim that an unlimited being *B* does not exist at *W* clearly entails that *B never* exists at *W* (that is, that it is always true in *W* that *B* doesn't exist), but it doesn't clearly entail that *B* necessarily doesn't exist (that is, *B* exists at no logically possible world or *B*'s existence is logically impossible. Indeed, there are plenty of beings that

will probably never exist in this world that exist in other logically possible worlds, like unicorns. For this reason, Premise 2 of Malcolm's version is questionable.

Perhaps the most influential of contemporary modal arguments is Plantinga's version. Plantinga begins by defining two properties, the property of maximal greatness and the property of maximal excellence, as follows:

1. A being is *maximally excellent* in a world W if and only if it is omnipotent, omniscient, and morally perfect in W; and
2. A being is *maximally great* in a world W if and only if it is maximally excellent in every possible world.

Thus, maximal greatness entails existence in every possible world: since a being that is maximally great at W is omnipotent at every possible world and non-existent beings can't be omnipotent, it follows that a maximally great being exists in every logically possible world.

Accordingly, the trick is to show that a maximally great being exists in some world W because it immediately follows from this claim that such a being exists in every world, including our own. But notice that the claim that a maximally great being exists in some world is logically equivalent to the claim that the concept of a maximally great being is not self-contradictory; for the only things that don't exist in any possible world are things that are conceptually defined in terms of contradictory properties. There is no logically possible world in which a square circle exists (given the relevant concepts) because the property of being square is inconsistent with the property of being circular.

Since, on Plantinga's view, the concept of a maximally great being is consistent and hence possibly instantiated, it follows that such a being, i.e., God, exists in every possible world. Here is a schematic representation of the argument:

1. The concept of a maximally great being is self-consistent.
2. If 1, then there is at least one logically possible world in which a maximally great being exists.
3. Therefore, there is at least one logically possible world in which a maximally great being exists.
4. If a maximally great being exists in one logically possible world, it exists in every logically possible world.
5. Therefore, a maximally great being (that is, God) exists in every logically possible world.

It is sometimes objected that Plantinga's Premise 4 is an instance of a controversial general modal principle. The S5 system of modal logic includes an axiom that looks suspiciously similar to Premise 4:

AxS5: If A is possible, then it is necessarily true that A is possible.

The intuition underlying AxS5 is, as James Sennett puts it, that "all propositions bear their modal status necessarily." But, according to this line of criticism, Plantinga's version is unconvincing insofar as it rests on a controversial principle of modal logic.

To see that this criticism is unfounded, it suffices to make two observations. First, notice that the following propositions are not logically equivalent:

PL4 If "A maximally great being exists" is possible, then "A maximally great being exists" is necessarily true.

PL4* If "A maximally great being exists" is possible, then it is necessarily true that "A maximally great being exists" is possible.

PL4 is, of course, Plantinga's Premise 4 slightly reworded, while PL4* is simply a straightforward instance of AxS5. While PL4 implies PL4* (since if A is true at every world, it is possible at every world), PL4* doesn't imply PL4; for PL4 clearly makes a much stronger claim than PL4*.

Second, notice that the argument for Premise 4 does not make any reference to the claim that all propositions bear their modal status necessarily. Plantinga simply builds necessary existence into the very notion of maximal greatness. Since, by definition, a being that is maximally great at W is omnipotent at every possible world and a being that does not exist at some world W' cannot be omnipotent at W', it straightforwardly follows, without the help of anything like the controversial S5 axiom, that a maximally great being exists in every logically possible world.

Indeed, it is for this very reason that Plantinga avoids the objection to Malcolm's argument that was considered above. Since the notion of maximal greatness, in contrast to the notion of an unlimited being as Malcolm defines it, is conceived in terms that straightforwardly entail existence in every logically possible world (and hence eternal existence in every logically possible world), there are no worries about whether maximal greatness, in contrast to unlimitedness, entails something stronger than eternal existence.

IV. **Is the Concept of a Maximally Great Being Coherent?**

As is readily evident, each version of the ontological argument rests on the assumption that the concept of God, as it is described in the argument, is self-consistent. Both versions of Anselm's argument rely on the claim that the idea of God (that is, a being than which none greater can be conceived) "exists as an idea in the understanding." Similarly, Plantinga's version relies on the more transparent claim that the concept of maximal greatness is self-consistent.

But many philosophers are skeptical about the underlying assumption, as Leibniz describes it, "that this idea of the all-great or all-perfect being is possible and implies no contradiction." Here is the problem as C.D. Broad expresses it:

Let us suppose, e.g., that there were just three positive properties X, Y, and Z; that any two of them are compatible with each other; but that the presence of any two excludes the remaining one. Then there would be *three* possible beings, namely, one which combines X and Y, one which combines Y and Z, and one which combines Z and X, each of which would be such that nothing ... superior to it is logically possible. For the only kind of being which would be ... superior to any of these would be one which had all three properties, X, Y, and Z; and, by hypothesis, this combination is logically

impossible…. It is now plain that, unless all positive properties be compatible with each other, this phrase [i.e., "a being than which none greater can be imagined"] is just meaningless verbiage like the phrase "the greatest possible integer."

Thus, if there are two great-making characteristics essential to the classically theistic notion of an all-perfect God that are logically incompatible, it follows that this notion is incoherent.

Here it is important to note that all versions of the ontological argument assume that God is simultaneously omnipotent, omniscient, and morally perfect. As we have seen, Plantinga expressly defines maximal excellence in such terms. Though Anselm doesn't expressly address the issue, it is clear (1) that he is attempting to show the existence of the God of classical theism; and (2) that the great-making properties include those of omnipotence, omniscience, and moral perfection.

There are a number of plausible arguments for thinking that even this restricted set of properties is logically inconsistent. For example, moral perfection is thought to entail being both perfectly merciful and perfectly just. But these two properties seem to contradict each other. To be perfectly just is always to give every person *exactly* what she deserves. But to be perfectly merciful is to give at least some persons less punishment than they deserve. If so, then a being cannot be perfectly just and perfectly merciful. Thus, if moral perfection entails, as seems reasonable, being perfectly just and merciful, then the concept of moral perfection is inconsistent.

The problem of divine foreknowledge can also be seen as denying that omniscience, omnipotence, and moral perfection constitute a coherent set. Roughly put, the problem of divine foreknowledge is as follows. If God is omniscient, then God knows what every person will do at every moment t. To say that a person p has free will is to say that there is at least one moment t at which p does A but could have done other than A. But if a person p who does A at t has the ability to do other than A at t, then it follows that p has the ability to bring it about that an omniscient God has a false belief - and this is clearly impossible.

On this line of analysis, then, it follows that it is logically impossible for a being to simultaneously instantiate omniscience and omnipotence. Omnipotence entails the power to create free beings, but omniscience rules out the possibility that such beings exist. Thus, a being that is omniscient lacks the ability to create free beings and is hence not omnipotent. Conversely, a being that is omnipotent has the power to create free beings and hence does not know what such beings would do if they existed. Thus, the argument concludes that omniscience and omnipotence are logically incompatible. If this is correct, then all versions of the ontological argument fail.

5. References and Further Reading

- Anselm, St., *Anselm's Basic Writings*, translated by S.W. Deane, 2nd Ed. (La Salle, IL: Open Court Publishing Co., 1962)
- Aquinas, Thomas, St., *Summa Theologica* (1a Q2), "Whether the Existence of God is Self-Evident (Thomas More Publishing, 1981)
- Barnes, Jonathan, *The Ontological Argument* (London: MacMillan Publishing Co., 1972)
- Broad, C.D., *Religion, Philosophy and Psychical Research* (New York: Routledge & Kegan Paul, 1953)
- Findlay, J.N., "God's Existence is Necessarily Impossible," from Flew, Antony and MacIntyre, Alasdair, *New Essays in Philosophical Theology* (New York: MacMillan Publishing Co., 1955)
- Gale, Richard, *On the Nature and Existence of God* (Cambridge: Cambridge University Press, 1991)
- Hartshore, Charles, *The Logic of Perfection* (LaSalle, IL: Open Court, 1962)

- Hegel, Georg Wilhelm Friedrich, *Lectures on the History of Philosophy*, translated by E.S. Haldane and F.H. Simson (London, Kegan Paul, 1896)
- Kant, Immanuel, *Critique of Pure Reason*, translated by J.M.D. Meiklejohn (New York: Colonial Press, 1900)
- Leibniz, Gottfried Wilhelm, *New Essays Concerning Human Understanding*, translated by A.G. Langley (Chicago, IL: Open Court Publishing, 1896).
- Malcolm, Norman, "Anselm's Ontological Argument," *Philosophical Review*, vol. 69, no. 1 (1960), 41-62
- Miller, Ed L., *God and Reason*, 2nd Ed. (Upper Saddle River, NJ: Prentice-Hall, Inc., 1995)
- Pike, Nelson, "Divine Omniscience and Voluntary Action," *Philosophical Review*, vol. 74 (1965)
- Plantinga, Alvin, *God, Freedom, and Evil* (New York: Harper and Row, 1974)
- Plantinga, Alvin, *The Ontological Argument from St. Anselm to Contemporary Philosophers* (Garden City, NY: Doubleday, 1965)
- Pojman, Louis, *Philosophy of Religion* (London: Mayfield Publishing Co., 2001)
- Rowe, William, "Modal Versions of the Ontological Argument," in Pojman, Louis (ed.), *Philosophy of Religion*, 3rd Ed. (Belmont, CA: Wadsworth Publishing Co., 1998)
- Sennett, James F., "Universe Indexed Properties and the Fate of the Ontological Argument," *Religious Studies*, vol. 27 (1991), 65-79

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WHAT IS EVIL?

Free Will

Most of us are certain that we have free will, though what exactly this amounts to is much less certain. According to [David Hume](), the question of the nature of free will is "the most contentious question of metaphysics." If this is correct, then figuring out *what free will is* will be no small task indeed. Minimally, to say that an agent has free will is to say that the agent has the capacity to choose his or her course of action. But animals seem to satisfy this criterion, and we typically think that only persons, and not animals, have free will. Let us then understand free will as the capacity unique to persons that allows them to control their actions. It is controversial whether this minimal understanding of what it means to have a free will actually requires an agent to have a specific faculty of will, whether the term "free will" is simply shorthand for other features of persons, and whether there really is such a thing as free will at all. This article considers why we should care about free will and how freedom of will relates to freedom of action. It canvasses a number of the dominant accounts of what the will is, and then explores the persistent question of the relationship between free will and causal determinism, articulating a number of different positions one might take on the issue. For example, does determinism imply that there is no free will, as the incompatibilists argue, or does it allow for free will, as the compatibilists argue? This article explores several influential arguments that have been given in favor of these two dominant positions on the relationship between free will and causal determinism. Finally, there is a brief examination of how free will relates to theological determinism and logical determinism.

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1. Free Will, Free Action and Moral Responsibility

Why should we even care whether or not agents have free will? Probably the best reason for caring is that free will is closely related to two other important philosophical issues: freedom of action and moral responsibility. However, despite the close connection between these concepts, it is important not to conflate them.

We most often think that an agent's free actions are those actions that she does as a result of exercising her free will. Consider a woman, Allison, who is contemplating a paradigmatic free action, such as whether or not to walk her dog. Allison might say to herself, "I know I should walk the dog—he needs the exercise. And while I don't really want to walk him since it is cold outside, I think overall the best decision to make is that I should take him for a walk." Thus, we see that one reason we care about free will is that it seems necessary for free action—Allison must first decide, or choose, to walk the dog before she actually takes him outside for his walk. If we assume that human actions are those actions that result from the rational capacities of humans, we then see that the possibility of free action depends on the possibility of free will: to say that an agent acted freely is minimally to say that the agent was successful in carrying out a free volition or choice.

Various philosophers have offered just such an account of freedom. [Thomas Hobbes](#) suggested that freedom consists in there being no external impediments to an agent doing what he wants to do: "A *free agent* is he that *can do as he will*, and *forbear* as he will, and that *liberty is the absence of external impediments*." In *An Enquiry Concerning Human Understanding*, David Hume thought that free will (or "liberty," to use his term) is simply the "power of acting or of not acting, according to the determination of the will: that is, if we choose to remain at rest, we may; if we choose to move, we also may.... This hypothetical liberty is universally allowed to belong to everyone who is not a prisoner and in chains." This suggests that freedom is simply the ability to select a course of action, and an agent is free if he is not being prevented by some external obstacle from completing that course of action. Thus, Hobbes and Hume would hold that Allison is free to walk her dog so long as nothing prevents her from carrying out her decision to walk her dog, and she is free not to walk her dog so long as nothing would compel her to walk her dog if she would decide not to.

However, one might still believe this approach fails to make an important distinction between these two related, but conceptually distinct, kinds of freedom: freedom of will versus freedom of action. This distinction is motivated by the apparent fact that agents can possess free will without also having freedom of action. Suppose that before Allison made the choice to walk the dog, she was taking a nap. And while Allison slept, there was a blizzard that moved through the area. The wind has drifted the snow up against the front of her house so that it is impossible for Allison to get out her front door and walk her dog even if she wanted to. So here we have a case involving free will, because Allison has chosen to take the dog for a walk, but not involving free action, because Allison is not able to take her dog for a walk.

Whether or not one can have freedom of action without free will depends on one's view of what free will is. Also, the truth of causal determinism would not entail that agents lack the freedom to do what they want to do. An agent could do what she wants to do, even if she is causally determined to do that action. Thus, both Hobbes and Hume are rightly characterized as compatibilists.

Even if there is a distinction between freedom of will and freedom of action, it appears that free will is necessary for the performance of free actions. If Allison is brainwashed during her nap to want to walk her dog, then even if no external impediment prevents her from carrying through with this decision, we would say that her taking the dog for a walk is not a free action. Presumably, the reason why it would not be a free action is because, in the case of brainwashing, Allison's decision does not arise from her free will. Thus, it looks like free will might be a necessary condition for free action, even if the two are distinct. In what follows, the phrase "acting with free will" means engaging in an action as the result of the utilization of free will. Use of the phrase does not deny the distinction between free will and free action.

The second reason to care about free will is that it seems to be required for moral responsibility. While there are various accounts of what exactly moral responsibility is, it is widely agreed that moral responsibility is distinct from causal responsibility. Consider a falling branch that lands on a car, breaking its window. While the branch is causally responsible for the broken window, it is not morally responsible for it because branches are not moral agents. Depending on one's account of causation, it also might be possible to be morally responsible for an event or state of affairs even if one is not causally responsible for that same event or state of affairs. For present purposes, let us simply say that an agent is morally responsible for an event or state of affairs only if she is the appropriate recipient of moral praise or moral blame for that event or state of affairs (an agent can thus be morally responsible even if no one, including herself, actually does blame or praise her for her actions). According to the dominant view of the relationship between free will and moral responsibility, if an agent does not have free will, then that agent is not morally responsible for her actions. For example, if Allison is coerced into doing a morally bad act, such as stealing a car, we shouldn't hold her morally responsible for this action since it is not an action that she did of her own free will.

Some philosophers do not believe that free will is required for moral responsibility. According to John Martin Fischer, human agents do not have free will, but they are still morally responsible for their choices and actions. In a nutshell, Fischer thinks that the kind of control needed for moral responsibility is weaker than the kind of control needed for free will. Furthermore, he thinks that the truth of causal determinism would preclude the kind of control needed for free will, but that it wouldn't preclude the kind of control needed for moral responsibility. See Fischer (1994). As this example shows, virtually every issue pertaining to free will is contested by various philosophers.

However, many think that the significance of free will is not limited to its necessity for free action and moral responsibility. Various philosophers suggest that free will is also a requirement for agency, rationality, the autonomy and dignity of persons, creativity, cooperation, and the value of friendship and love [see Anglin (1990), Kane (1998) and Ekstrom (1999)]. We thus see that free will is central to many philosophical issues.

2. Accounts of the Will

Nearly every major figure in the history of philosophy has had something or other to say about free will. The present section considers three of the most prominent theories of what the will is.

a. Faculties Model of the Will

The faculties model of the will has its origin in the writings of ancient philosophers such as Plato and Aristotle, and it was the dominant view of the will for much of medieval and modern philosophy [see Descartes (1998) and the discussion of Aquinas in Stump (2003)]. It still has numerous proponents in the contemporary literature. What is distinct about free agents, according to this model, is their possession of certain powers or capacities. All living things possess some capacities, such as the capacities for growth and reproduction. What is unique about free agents, however, is that they also possess the capacities for intellection and volition. Another way of saying this is that free agents alone have the faculties of intellect and will. It is in virtue of having these additional faculties, and the interaction between them, that agents have free will.

The intellect, or the rational faculty, is the power of cognition. As a result of its cognitions, the intellect presents various things to the will as good under some description. To return to the case of Allison contemplating walking her dog, Allison's intellect might evaluate walking the dog as good for the health of the dog. Furthermore, all agents that have an intellect also have a will. The will, or the volitional faculty, is an appetite for the good; that is, it is naturally drawn to goodness. The will, therefore, cannot pursue an option that the intellect presents as good in no way. The will is also able to command the other faculties; the will can command the body to move or the intellect to consider something. In the case of Allison, the will could command the body to pick up the leash, attach it to the dog, and go outside for a walk. As Aquinas, a proponent of this view of the will, puts it: "Only an agent endowed with an intellect can act with a judgment which is free, in so far as it apprehends the common note of goodness; from which it can judge this or the other thing to be good. Consequently, wherever there is intellect, there is free will" (*Summa Theologiae*, q. 59 a. 3). Thus, through the interaction between the intellect and will, an agent has free will to pursue something that it perceives as good.

b. Hierarchical Model of the Will

A widely influential contemporary account of the will is Harry Frankfurt's hierarchical view of the will [see Frankfurt (1971)]. This account is also sometimes called a "structuralist" or "mesh" account of the will, since a will is free if it has a certain internal structure or "mesh" among the various levels of desires and volitions. According to the hierarchical model, agents can have different kinds of desires. Some desires are desires to do a particular action; for example, Allison may desire to go jogging. Call these desires "1st order desires." But even if Allison doesn't desire to go jogging, she may nevertheless desire to be the kind of person who desires to go jogging. In other words, she may desire to have a certain 1st order desire. Call desires of this sort "2nd order desires." If agents also have further desires to have particular 2nd order desires, one could construct a seemingly infinite hierarchy of desires.

Not all of an agent's desires result in action. In fact, if one has conflicting desires, then it is impossible for an agent to satisfy all her desires. Suppose that Allison not only desires to run, but that she also desires to stay curled up in bed, where it is nice and warm. In such a case, Allison cannot fulfill both of her 1st order desires. If Allison decides to act on her desire to run, we say that her desire to run has moved her to action. An effective desire of this sort is called a volition; a volition is a desire that moves the agent all the way to action. Similarly, one can differentiate between a mere 2nd order desire (simply a desire to have a certain desire) and a 2nd order volition (a

desire for a desire to become one's will, or a desire for a desire to become a volition). According to the hierarchical view of the will, free will consists in having 2nd order volitions. In other words, an agent has a free will if she is able to have the sort of will that she wants to have. An agent acts on her own free will if her action is the result of a 1st order desire that she wants to become a 1st order volition.

Hierarchical views of the will are problematic, however, because it looks as if certain sorts of questionable manipulation can be compatible with this view's account of free will. According to the view under consideration, Allison has free will with regard to going jogging if she has a 2nd order desire that her 1st order desire to go jogging will move her to go jogging. Nothing in this account, however, depends on how she got these desires. Even if she were manipulated, via brainwashing, for example, into having her 2nd order desire for her 1st order desire to go running become her will, Allison has the right "mesh" between her various orders of desires to qualify as having free will. This is an untoward consequence. While more robust hierarchical accounts of the will have the resources for explaining why Allison might not be free in this case, it is widely agreed that cases of manipulation and coercion are problematic for solely structural accounts of the will [see Ekstrom (1999), Fischer (1994), Kane, (2005), Pereboom (2001) and van Inwagen (1983)].

c. Reasons-Responsive View of the Will

A third treatment of free will takes as its starting point the claim that agency involves a sensitivity to certain reasons. An agent acts with free will if she is responsive to the appropriate rational considerations, and she does not act with a free will if she lacks such responsiveness. To see what such a view amounts to, consider again the case of Allison and her decision to walk her dog. A reasons-responsive view of the will says that Allison's volition to walk her dog is free if, had she had certain reasons for not walking her dog, she would not have decided to walk her dog. Imagine what would have happened had Allison turned on the television after waking from her nap and learned of the blizzard before deciding to walk her dog. Had she known of the blizzard, she would have had a good reason for deciding not to walk her dog. Even if such reasons never occur to her (that is, if she doesn't learn of the blizzard before her decision), her disposition to have such reasons influence her volitions shows that she is responsive to reasons. Thus, reasons-responsive views of the will are essentially dispositional in nature.

Coercion and manipulation undermine free will, on this view, in virtue of making agents not reasons-responsive. If Allison has been brainwashed to walk the dog at a certain time, then even if she were to turn on the news and sees that it is snowing, she would attempt to walk the dog despite having good reasons not to. Thus, manipulated agents are not reasons-responsive, and in virtue of this lack free will. [See Fischer and Ravizza (1998) for one of the primary reasons-responsive views of free will.]

3. Free Will and Determinism
a. The Thesis of Causal Determinism

Most contemporary scholarship on free will focuses on whether or not it is compatible with causal determinism. Causal determinism is sometimes also called "nomological determinism." It is important to keep causal determinism distinct from other sorts

of [determinism](#), such as logical determinism or theological determinism (to be discussed below). Causal determinism (hereafter, simply "determinism") is the thesis that the course of the future is entirely determined by the conjunction of the past and the laws of nature. Imagine a proposition that completely describes the way that the entire universe was at some point in the past, say 100 million years ago. Let us call this proposition "P." Also imagine a proposition that expresses the conjunction of all the laws of nature; call this proposition "L." Determinism then is the thesis that the conjunction of P and L entails a unique future. Given P and L, there is only one possible future, one possible way for things to end up. To make the same point using possible world semantics, determinism is the thesis that all the states of affairs that obtain at some time in the past, when conjoined with the laws of nature, entail which possible world is the actual world. Since a possible world includes those states of affairs that will obtain, the truth of determinism amounts to the thesis that the past and the laws of nature entail what states of affairs will obtain in the future, and that only those states of affairs entailed by the past and the laws will in fact obtain.

A system's being determined is different from its being predictable. It is possible for determinism to be true and for no one to be able to predict the future. The fact that no human agent knows or is able to know future truths has no bearing on whether there are future truths entailed by the conjunction of the past and the laws. However, there is a weaker connection between the thesis of determinism and the predictability of the future. If determinism were true, then a being with a complete knowledge of P and L and with sufficient intellective capacities should be able to infallibly predict the way that the future will turn out. However, given that we humans lack both the relevant knowledge and the intellective capacities required, the fact that we are not able to predict the future is not evidence for the falsity of determinism.

b. Determinism, Science and "Near Determinism"

Most philosophers agree that whether or not determinism is true is a contingent matter; that is, determinism is neither necessarily true nor necessarily false. If this is so, then whether or not determinism is true becomes an empirical matter, to be discovered by investigating the way the world is, not through philosophical argumentation. This is not to deny that the truth of determinism would have metaphysical implications. For one, the truth of determinism would entail that the laws of nature are not merely probabilistic—for if they were, then the conjunction of the past and the laws would not entail a unique future. Furthermore, as we shall see shortly, philosophers care very much about what implications the truth of determinism would have for free will. But the point to note is that if the truth of determinism is a contingent truth about the way the world actually is, then scientific investigation should give us insight into this matter. Let us say that a possible world is deterministic if causal determinism is true in that world. There are two ways that worlds could fail to be deterministic. As already noted, if the laws of nature in a given world were probabilistic, then such a world would not be deterministic. Secondly, if there are entities within a world that are not fully governed by the laws of nature, then even if those laws are themselves deterministic, that world would not be deterministic.

Some scientists suggest that certain parts of physics give us reason to doubt the truth of determinism. For example, the standard interpretation of Quantum Theory, the Copenhagen Interpretation, holds that the laws governing nature are indeterministic and probabilistic. According to this interpretation, whether or not a small particle such as a quark swerves in a particular direction at a particular time is described properly

only by probabilistic equations. Although the equations may predict the likelihood that a quark swerves to the left at a certain time, whether or not it actually swerves is indeterministic or random.

There are also deterministic interpretations of Quantum Theory, such as the Many-Worlds Interpretation. Fortunately, the outcome of the debate regarding whether Quantum Theory is most properly interpreted deterministically or indeterminstically, can be largely avoided for our current purposes. Even if (systems of) micro-particles such as quarks are indeterministic, it might be that (systems involving) larger physical objects such as cars, dogs, and people are deterministic. It is possible that the only indeterminism is on the scale of micro-particles and that macro-objects themselves obey deterministic laws. If this is the case, then causal determinism as defined above is, strictly speaking, false, but it is "nearly" true. That is, we could replace determinism with "near determinism," the thesis that despite quantum indeterminacy, the behaviors of all large physical objects—including all our actions—obey deterministic laws [see Honderich (2002), particularly chapter 6].

What would be the implications of the truth of either determinism or near determinism? More specifically, what would be the implications for questions of free will? One way to think about the implications would be by asking the following the question: Could we still be free even if scientists were to discover that causal determinism (or near determinism) is true?

c. Compatibilism, Incompatibilism, and Pessimism

The question at the end of the preceding section (Could we have free will even if determinism is true?) is a helpful way to differentiate the main positions regarding free will. Compatibilists answer this question in the affirmative. They believe that agents could have free will even if causal determinism is true (or even if near determinism is true. In what follows, I will omit this qualification). In other words, the existence of free will in a possible world is compatible with that world being deterministic. For this reason, this position is known as "compatibilism," and its proponents are called "compatibilists." According to the compatibilist, it is possible for an agent to be determined in all her choices and actions and still make some of her choices freely.

According to "incompatibilists," the existence of free will is incompatible with the truth of determinism. If a given possible world is deterministic, then no agent in that world has free will for that very reason. Furthermore, if one assumes that having free will is a necessary condition for being morally responsible for one's actions, then the incompatibility of free will and determinism would entail the incompatibility of moral responsibility and causal determinism.

There are at least two kinds of incompatibilists. Some incompatibilists think that determinism is true of the actual world, and thus no agent in the actual world possesses free will. Such incompatibilists are often called "hard determinists" [see Pereboom (2001) for a defense of hard determinism]. Other incompatibilists think that the actual world is not deterministic and that at least some of the agents in the actual world have free will. These incompatibilists are referred to as "libertarians" [see Kane (2005), particularly chapters 3 and 4]. However, these two positions are not exhaustive. It is

possible that one is an incompatibilist, thinks that the actual world is not deterministic, and yet still thinks that agents in the actual world do not have free will. While it is less clear what to call such a position (perhaps "free will deniers"), it illustrates that hard determinism and libertarianism do not exhaust the ways to be an incompatibilist. Since all incompatibilists, whatever their stripe, agree that the falsity of determinism is a necessary condition for free will, and since compatibilists deny this assertion, the following sections speak simply of incompatibilists and compatibilists.

It is also important to keep in mind that both compatibilism and incompatibilism are claims about possibility. According to the compatibilist, it is possible that an agent is both fully determined and yet free. The incompatibilist, on the other hand, maintains that such a state of affairs is impossible. But neither position by itself is making a claim about whether or not agents actually do possess free will. Assume for the moment that incompatibilism is true. If the truth of determinism is a contingent matter, then whether or not agents are morally responsible will depend on whether or not the actual world is deterministic. Furthermore, even if the actual world is indeterministic, it doesn't immediately follow that the indeterminism present is of the sort required for free will (we will return to a similar point below when considering an objection to incompatibilism). Likewise, assume both that compatibilism is true and that causal determinism is true in the actual world. It does not follow from this that agents in the actual world actually possess free will.

Finally, there are free will pessimists [see Broad (1952) and G. Strawson (1994)]. Pessimists agree with the incompatibilists that free will is not possible if determinism is true. However, unlike the incompatibilists, pessimists do not think that indeterminism helps. In fact, they claim, rather than helping support free will, indeterminism undermines it. Consider Allison contemplating taking her dog for a walk. According to the pessimist, if Allison is determined, she cannot be free. But if determinism is false, then there will be indeterminacy at some point prior to her action. Exactly where one locates this indeterminacy will depend on one's particular view of the nature of free will. Let us assume that that indeterminacy is located in which reasons occur to Allison. It is hard to see, the pessimist argues, how this indeterminacy could enhance Allison's free will, for the occurrence of her reasons is indeterministic, then having those reasons is not within Allison's control. But if Allison decides on the basis of whatever reasons she does have, then her volition is based upon something outside of her control. It is based instead on chance. Thus, pessimists think that the addition of indeterminism actually makes agents lack the kind of control needed for free will. While pessimism might seem to be the same position as that advocated by free will deniers, pessimism is a stronger claim. Free will deniers thinks that while free will is possible, it just isn't actual: agents in fact don't have free will. Pessimists, however, have a stronger position, thinking that free will is impossible. Not only do agents lack free will, there is no way that they could have it [see G. Strawson (1994)]. The only way to preserve moral responsibility, for the pessimist, is thus to deny that free will is a necessary condition for moral responsibility.

As pessimism shows us, even a resolution to the debate between compatibilists and incompatibilists will not by itself solve the debate about whether or not we actually have free will. Nevertheless, it is to this debate that we now turn.

4. Arguments for Incompatibilism (or Arguments against Compatibilism)

Incompatibilists say that free will is incompatible with the truth of determinism. Not all arguments for incompatibilism can be considered here; let us focus on two major varieties. The first variety is built around the idea that having free will is a matter of having a choice about certain of our actions, and that having a choice is a matter of having genuine options or alternatives about what one does. The second variety of arguments is built around the idea that the truth of determinism would mean that we don't cause our actions in the right kind of way. The truth of determinism would mean that we don't originate our actions in a significant way and our actions are not ultimately controlled by us. In other words, we lack the ability for self-determination. Let us consider a representative argument from each set.

a. The Consequence Argument

The most well-known and influential argument for incompatibilism from the first set of arguments is called the "Consequence Argument," and it has been championed by Carl Ginet and Peter van Inwagen [see Ginet (1966) and van Inwagen (1983)]. The Consequence Argument is based on a fundamental distinction between the past and the future. First, consider an informal presentation of this argument. There seems to be a profound asymmetry between the past and the future based on the direction of the flow of time and the normal direction of causation. The future is open in a way that the past is not. It looks as though there is nothing that Allison can now do about the fact that Booth killed Lincoln, given that Lincoln was assassinated by Booth in 1865.

This point stands even if we admit the possibility of time travel. For if time travel is possible, Allison can influence what the past became, but she cannot literally change the past. Consider the following argument:

1. The proposition "Lincoln was assassinated in 1865" is true.
2. If Allison travels to the past, she could prevent Lincoln from being assassinated in 1865 (temporarily assumed for *reductio* purposes).
3. If Allison were to travel to the past and prevent Lincoln from being assassinated in 1865, the proposition "Lincoln was assassinated in 1865" would be false.
4. A proposition cannot both be true and false.
5. Therefore, 2 is false.

So, at most the possibility of time travel allows for agents to have causal impact on the past, not for agents to change what has already become the past. The past thus appears to be fixed and unalterable. However, it seems that the same is not true of the future, for Allison can have an influence on the future through her volitions and subsequent actions. For example, if she were to invent a time machine, then she could, at some point in the future, get in her time machine and travel to the past and try to prevent Lincoln from being assassinated. However, given that he was assassinated, we can infer that her attempts would all fail. On the other hand, she could refrain from using her time machine in this way.

The asymmetry between past and future is illustrated by the fact that we don't deliberate about the past in the same way that we deliberate about the future. While Allison might deliberate about whether a past action was really the best action that she

could have done, she deliberates about the future in a different way. Allison can question whether her past actions were in fact the best, but she can both question what future acts would be best as well as which future acts she should perform. Thus, it looks like the future is open to Allison, or up to her, in a way that the past is not. In other words, when an agent like Allison is using her free will, what she is doing is selecting from a range of different options for the future, each of which is possible given the past and the laws of nature. For this reason, this view of free will is often called the "Garden of Forking Paths Model."

The Consequence Argument builds upon this view of the fixed nature of the past to argue that if determinism is true, the future is not open in the way that the above reflections suggest. For if determinism is true, the future is as fixed as is the past. Remember from the above definition that determinism is the thesis the past (P) and the laws of nature (L) entail a unique future. Let "F" refer to any true proposition about the future. The Consequence argument depends on two modal operators, and two inference rules. Let the modal operator "$\Box$" abbreviate "It is logically necessary that..," so that, when it operates on some proposition p, "$\Box p$" abbreviates "It is logically necessary that p." Let the modal operator "N" be such that "Np" stands for "p is true and no one has, or ever had, any choice about whether p was true." Call the following two inference rules "Alpha" and "Beta:"

Alpha: $\Box p$ implies Np
Beta: {Np and N$(p \rightarrow q)$} implies Nq

According to Alpha, if p is a necessary truth, then no one has, or ever had, any choice about whether p was true. Similarly, according to Beta, if no one has, or ever had, any choice about p being true, and no one has, or ever had, any choice that p entails q, then no one has, or ever had, any choice about whether q is true. To see the plausibility of Beta, consider the following application. Let p be the proposition "The earth was struck by a meteor weighing 100 metric tons one billion years ago," and let q be the proposition "If the earth was struck by a meteor weighing 100 metric tons one billion years ago, then thousands of species went extinct." Since I have no choice about such a meteor hitting in the past, and have no choice that if such meteor hits, it will cause thousands of species to go extinct, I have no choice that thousands of species went extinct. Beta thus looks extremely plausible. But if Beta is true, then we can construct an argument to show that if determinism is true, then I have no choice about anything, including my supposed free actions in the future. The argument begins with the definition of determinism given above:

(1) $\Box\{(P \text{ and } L) \rightarrow F\}$

Using a valid logical rule of inference (exportation), we can transform 1 into 2:

(2) $\Box\{P \rightarrow (L \rightarrow F)\}$

Applying Alpha, we can derive 3:

(3) N$\{P \rightarrow (L \rightarrow F)\}$

The second premise in the Consequence Argument is called the "fixity of the past." No one has, or ever had, a choice about the true description P of the universe at some point in the distant past:

(4) NP

From 3, 4 and Beta, we can deduce 5:

(5) N($L \rightarrow F$)

The final premise in the argument is the fixity of the laws of nature. No one has, or ever had, a choice about what the laws of nature are (try as I might, I cannot make the law of universal gravitation not be a law of nature):

(6) NL

And from 5 and 6, again using Beta, we can infer that no one has, or ever had, a choice about F:
(7) NF

Given that F was any true proposition about the future, the Consequence Argument concludes that if determinism is true, then no one has or ever had a choice about any aspect of the future, including what we normally take to be our free actions. Thus, if determinism is true, we do not have free will.

b. The Origination Argument

The second general set of arguments for the incompatibility of free will and determinism builds on the importance of the source of a volition for free will. Again, it will be helpful to begin with an informal presentation of the argument before considering a formal presentation of it. According to this line of thought, an agent has free will when her volitions issue from the agent herself in a particular sort of way (say, her beliefs and desires). What is important for free will, proponents of this argument claim, is not simply that the causal chain for an agent's volition goes through the agent, but that it *originates* with the agent. In other words, an agent acts with free will only if she originates her action, or if she is the ultimate source or first cause of her action [see Kane (1998)].

Consider again the claim that free will is a necessary condition for moral responsibility. What reflection on cases of coercion and manipulation suggests to us is that even if a coerced or manipulated agent is acting on her beliefs and desires, this isn't enough for moral responsibility. We normally assume that coercion and certain forms of manipulation undercut an agent's moral responsibility precisely because a coerced or manipulated agent isn't the originator of her coerced action. If Allison is coerced into walking her dog via brainwashing, then her walking of the dog originates in the brainwashing, and not in Allison herself. Consider, then, the similarities between cases of coercion and manipulation, on the one hand, and the implications of the truth of determinism on the other. If determinism were true, it might be true that Allison chooses to walk her dog because of her beliefs and desires, but those beliefs and desires would themselves be the inevitable products of causal chains that began millions of years ago. Thus, a determined agent is at most a source, but not the ultimate source, of her volitions. According to proponents of this sort of argument for incompatibilism, the truth of determinism would mean that agents don't cause their actions in the kind of way needed for free will and, ultimately, moral responsibility.

We can represent a formal version of the argument, called the "Origination Argument," as follows:

1. An agent acts with free will only if she is the originator (or ultimate source) of her actions.
2. If determinism is true, then everything any agent does is ultimately caused by events and circumstances outside her control.
3. If everything an agent does is ultimately caused by events and circumstances beyond her control, then the agent is not the originator (or ultimate source) of her actions.
4. Therefore, if determinism is true, then no agent is the originator (or ultimate source) of her actions.
5. Therefore, if determinism is true, no agent has free will.

The Origination Argument is valid. So, in evaluating its soundness, we must evaluate the truth of its three premises. Premise 3 is clearly true, since for an agent to be an originator just is for that agent not to be ultimately determined by anything outside of herself. Premise 2 of this argument is true by the definition of determinism. To reject the conclusion of the argument, one must therefore reject premise 1.

Earlier we briefly noted one account of free will which implicitly denies premise 1, namely the hierarchical model of free will. According to this model, an agent acts with free will so long as the causal chain for that action goes through the agent's 1st- and 2nd-order desires. One way of emphasizing the need for origination over-against such a hierarchical model is to embrace agent-causation. If premise 1 is true, then the agent's volition cannot be the product of a deterministic causal chain extended beyond the agent. What other options are there? Two options are that volitions are uncaused, or only caused indeterministically. It is difficult to see how an agent could be the originator or ultimate source of volitions if volitions are uncaused. Similarly, for reasons we saw above when discussing the free will pessimist, it looks as if indeterministic causation would undermine, rather than enhance, an agent's control over her volitions. For these reasons, some incompatibilists favor looking at the causation involved in volitions in a new light. Instead of holding that a volition is caused by a previous event (either deterministically or indeterministically), these incompatibilists favor saying that volitions are caused directly by agents. [For an extended defense of this view, see O'Connor, (2000).] They hold that there are two irreducibly different kinds of causation, event-causation and agent-causation, and the latter is involved in free will. Proponents of agent-causation propose that agents are enduring substances that directly possess the power to cause volitions. Although many philosophers question whether agent-causation is coherent, if it were coherent, then it would provide support for premise 1 of the Origination Argument.

c. The Relation between the Arguments

The above way of delineating the Consequence and Origination Arguments may unfortunately suggest that the two kinds of arguments are more independent from each other than they really are. A number of incompatibilists have argued that agents originate their actions in the way required by premise 1 of the Origination Argument if and only if they have a choice about their actions in the way suggested by the Consequence Argument. In other words, if my future volitions are not the sort of thing that I have a choice about, then I do not originate those volitions. And as the above arguments contend, the truth of causal determinism threatens both our control over our actions and volitions, and our ability to originate those same actions and volitions. For if causal determinism is true, then the distant past, when joined with the laws of

nature, is sufficient for every volition that an agent makes, and the causal chains that lead to those volitions would not begin within the agent. Thus, most incompatibilists think that having a choice and being a self-determiner go hand-in-hand. Robert Kane, for instance, argues that if agents have "ultimate responsibility" (his term for what is here called "origination" or "self-determination"), then they will also have alternative possibilities open to them. According to this line of argumentation, the power to cause one's own actions is not a distinct power from the power to choose and do otherwise. Thus, the two different kinds of arguments for incompatibilism may simply be two sides of the same coin [see Kane (1996) and (2005)].

5. Arguments for Compatibilism (or Arguments against Incompatibilism)

Having laid out representatives of the two most prominent arguments for incompatibilism, let's consider arguments in favor of compatibilism. In considering these kinds of arguments, it is pedagogically useful to approach them by using the arguments for incompatibilism. So, this section begins by considering ways that compatibilists have responded to the arguments given in the preceding section.

a. Rejecting the Incompatibilist Arguments

As noted above, the Origination Argument for incompatibilism is valid, and two of its premises are above dispute. Thus, the only way for the compatibilist to reject the conclusion of the Origination Argument is to reject its first premise. In other words, given the definition of determinism, compatibilists must reject that free will requires an agent being the originator or ultimate source of her actions. But how might this be done? Most frequently, compatibilists motivate a rejection of the "ultimacy condition" of free will by appealing to either a hierarchical or reasons-responsive view of what the will is [see Frankfurt, (1971) and Fischer and Ravizza, (1998)]. If all that is required for free will, for example, is that a certain mesh between an agent's 1st-order volitions and 2nd-order desires, then such an account does not require that an agent be the originator of those desires. Furthermore, since the truth of determinism would not entail that agents don't have 1st and 2nd-order desires and volitions, a hierarchical account of the will is compatible with the truth of determinism. Similarly, if an agent has free will if she has the requisite level of reasons-responsiveness such that she would have willed differently had she had different reasons, ultimacy is again not required. Thus, if one adopts certain accounts of the will, one has reason for rejecting the central premise of the Origination Argument.

Compatibilists have a greater number of responses available to them with regard to the Consequence Argument. One way of understanding the N operator that figures in the Consequence Argument is in terms of having the ability to do otherwise. That is, to say that Allison has no choice about a particular action of hers is to say that she could not have performed a different action (or even no action at all). Incompatibilists can easily account for this ability to do otherwise. According to incompatibilists, an agent can be free only if determinism is false. Consider again the case of Allison. If determinism is false, even though Allison did choose to walk her dog, she could have done otherwise than walk her dog since the conjunction of P and L is not sufficient for her taking her dog for a walk. Compatibilists, however, can give their own account of the ability to do otherwise. For them, to say that Allison could have done otherwise is

simply to say that Allison would have done otherwise had she willed or chosen to do so [see, for example, Chisholm (1967)]. Of course, if determinism is true, then the only way that Allison could have willed or chosen to do otherwise would be if either the past or the laws were different than they actually are. In other words, saying that an agent could have done otherwise is to say that the agent would have done otherwise in a different counterfactual condition. But saying this is entirely consistent with one way of understanding the ability to do otherwise. Thus, these compatibilists are saying that Allison has the ability to do something such that, had she done it, either the past or the laws of nature would have been different than they actually are. If P and L entail that the agent does some action A, then the agent's doing otherwise than A entails that either P or L would have been different than they actually are. Some compatibilists favor saying that agents have this counterfactual power over the past, while others favor counterfactual power over the laws of nature [Compare Lewis (1981) and Fischer (1984)]. Regardless, adopting either strategy provides the compatibilist with a way of avoiding the conclusion of the Consequence Argument by denying either premise 4 or premise 6 of that argument. Furthermore, having such a power is not a hollow victory, for it demarcates a plausible difference between those actions an agent would have done even if she didn't want to (as in the case of coercion or manipulation) from those actions that an agent only would have done had she had certain beliefs and desires about that action. This view thus differentiates between those actions that were within the agent's power to bring about from those that were not.

A second compatibilist response to the Consequence Argument is to deny the validity of the inference rule Beta the argument uses. While there are several approaches to this, perhaps the most decisive is the following, called the principle of Agglomeration [see McKay and Johnson (1996)]. Using only the inference rules Alpha, Beta and the basic rule of logical replacement, one can show that

(1) Np

and

(2) Nq

would entail

(3) $N(p \ and \ q)$

if Beta were valid. 1 and 2 do not entail 3, so Beta must be invalid.

To see why 3 does not follow from 1 and 2, consider the case of a coin-toss. If the coin-toss is truly random, then Allison has no choice regarding whether the coin (if flipped) lands heads. Similarly, she has no choice regarding whether the coin (again, if flipped) lands tails. For purposes of simplicity, let us stipulate that the coin cannot land on its side and, if flipped, must land either heads or tails. Let p above represent 'the coin doesn't land heads' and q represent 'the coin doesn't land tails'. If Beta were valid, then 1 and 2 would entail 3, and Allison would not have a choice about the conjunction of p and q; that is, she wouldn't have a choice about the coin not landing heads and the coin not landing tails. If Allison didn't have a choice about the coin not landing heads and didn't have a choice about the coin not landing tails, then she wouldn't have a choice about the coin landing either heads or tails. But Allison does have a choice about this—

after all, she can ensure that the coin lands either heads or tails by simply flipping the coin. So Allison does have a choice about the conjunction of p and q. Since Alpha and the relevant rules of logical replacement in the transformation from N*p* and N*q* to N(*p and q*) are beyond dispute, Beta must be invalid. Thus, the Consequent Argument for incompatibilism is invalid. [For an incompatibilist reply to the argument from Agglomeration, see Finch and Warfield (1998).]

b. Frankfurt's Argument against "the Ability to Do Otherwise"

Two other arguments for compatibilism build on the freedom requirement for moral responsibility. If one can show that moral responsibility is compatible with the truth of determinism, and if free will is required for moral responsibility, one will have implicitly shown that free will is itself compatible with the truth of determinism. The first of these arguments for compatibilism rejects the understanding of having a choice as involving the ability to do otherwise mentioned above. While most philosophers have tended to accept that an agent can be morally responsible for doing an action only if she could have done otherwise, Harry Frankfurt has attempted to show that this requirement is in fact false. Frankfurt gives an example in which an agent does an action in circumstances that lead us to believe that the agent acted freely [Frankfurt (1969); for recent discussion, see Widerker and McKenna (2003)]. Yet, unbeknown to the agent, the circumstances include some mechanism that would bring about the action if the agent did not perform it on her own. As it happens, though, the agent does perform the action freely and the mechanism is not involved in bringing about the action. It thus looks like the agent is morally responsible despite not being able to do otherwise. Here is one such scenario:

Allison is contemplating whether to walk her dog or not. Unbeknown to Allison, her father, Lloyd, wants to insure that that she does decide to walk the dog. He has therefore implanted a computer chip in her head such that if she is about to decide not to walk the dog, the chip will activate and coerce her into deciding to take the dog for a walk. Given the presence of the chip, Allison is unable not to decide to walk her dog, and she lacks the ability to do otherwise. However, Allison does decide to walk the dog on her own.

In such a case, Frankfurt thinks that Allison is morally responsible for her decision since the presence of Lloyd and his computer chip play no causal role in her decision. Since she would have been morally responsible had Lloyd not been prepared to ensure that she decide to take her dog for a walk, why think that his mere presence renders her not morally responsible? Frankfurt concludes that Allison is morally responsible despite lacking the ability to do otherwise. If Frankfurt is right that such cases are possible, then even if the truth of determinism is incompatible with a kind of freedom that requires the ability to do otherwise, it is compatible with the kind of freedom required for moral responsibility.

c. Strawson's Reactive Attitudes

In an influential article, Peter Strawson argues that many of the traditional debates between compatibilists and incompatibilists (such as how to understand the ability to do otherwise) are misguided [P. Strawson (1963)]. Strawson thinks that we should instead focus on what he calls the reactive attitudes—those attitudes we have toward other people based on their attitudes toward and treatment of us. Strawson says that the hallmark of reactive attitudes is that they are "essentially natural human reactions

to the good or ill will or indifference of others toward us, as displayed in *their* attitudes and actions." Examples of reactive attitudes include gratitude, resentment, forgiveness and love. Strawson thinks that these attitudes are crucial to the interpersonal interactions and that they provide the basis for holding individuals morally responsible. Strawson then argues for two claims. The first of these is that an agent's reactive attitudes would not be affected by a belief that determinism was true:

The human commitment to participation in ordinary interpersonal relationships is, I think, too thoroughgoing and deeply rooted for us to take seriously the thought that a general theoretical conviction might so change our world that, in it, there were no longer such things as inter-personal relationships as we normally understand them.… A sustained objectivity of inter-personal attitude, and the human isolation which that would entail, does not seem to be something of which human beings would be capable, even if some general truth were a theoretical ground for it.

Furthermore, Strawson also argues for a normative claim: the truth of determinism *should not* undermine our reactive attitudes. He thinks that there are two kinds of cases where it is appropriate to suspend our reactive attitudes. One involves agents, such as young children or the mentally disabled, who are not *moral* agents. Strawson thinks that we should not have reactive attitudes toward non-moral agents. The second kind of case where it is appropriate to suspend our reactive attitudes are those in which while the agent is a moral agent, her action toward us is not connected to her agency in the correct way. For instance, while I might have the reactive attitude of resentment towards someone who bumps into me and makes me spill my drink, if I were to find out that the person was pushed into me, I would not be justified in resenting that individual. The truth of determinism, however, would neither entail that no agents are moral agents nor that none of an agent's actions are connected to her moral agency. Thus, Strawson thinks, the truth of determinism should not undermine our reactive attitudes. Since moral responsibility is based on the reactive attitudes, Strawson thinks that moral responsibility is compatible with the truth of determinism. And if free will is a requirement for moral responsibility, Strawson's argument gives support to compatibilism.

6. Related Issues

The above discussion should help explain the perennial attraction philosophers have to the issues surrounding free will, particularly as it relates to causal determinism. However, free will is also intimately related to a number of other recurrent issues in the history of philosophy. In this final section, I will briefly articulate two other kinds of determinism and show how they are connected to free will.

a. Theological Determinism

The debate about free will and causal determinism parallels, in many ways, another debate about free will, this one stemming from what is often called 'theological determinism'. Some religious traditions hold that God is ultimately responsible for everything that happens. According to these traditions, God's willing *x* is necessary and sufficient for *x*. But if He is ultimately responsible for everything in virtue of what He wills, then He is ultimately responsible for all the actions and volitions performed by agents. God's willing that Allison take the dog for a walk is thus necessary and sufficient for Allison taking the dog for a walk. But if this is true, it is hard to see how Allison could have free will. The problem becomes especially astute when considering tradition doctrines of eternal punishment. The traditional Christian doctrine of Hell, for example, is that Hell is a place of eternal punishment for non-repentant sinners.

But if theological determinism is true, then whether or not agents repent is ultimately up to God, not to the agents themselves. This worry over free will thus gives rise to a particular version of the problem of evil: why does God not will that all come to faith, when His having such a will is sufficient for their salvation? [For a discussion of these, and related issues, see Helm, (1994).]

b. Logical Determinism

In addition to the causal and theological forms of determinism, there is also logical determinism. Logical determinism builds off the law of excluded middle and holds that propositions about what agents will do in the future already have a truth value. For instance, the proposition "Allison will take the dog for a walk next Thursday" is already true or false. Assume that it is true. Since token propositions cannot change in truth value over time, it was true a million years ago that Allison would walk her dog next Thursday. But the truth of the relevant proposition is sufficient for her actually taking the dog for a walk (after all, if it is true that she will walk the dog, then she *will* walk the dog). But then it looks like no matter what happens, Allison will in fact take her dog for a walk next Thursday and that this has always been the case. However, it is hard to see how Allison's deciding to walk the dog can be a free decision since she must (given that the relevant token proposition *is* true and *was* true a million years ago) decide to walk him. In response to this problem, some philosophers have attempted to show that free will is compatible with the existence of true propositions about what we will do in the future, and others have denied that propositions about future free actions have a truth value, that is, that the law of excluded middle fails for some propositions. [For an introduction to these issues, see Finch and Warfield, (1999) and Kane, (2002).] If God is a being who knows the truth value of every proposition, this debate also connects with the debate over the relationship between divine foreknowledge and free will.

From this brief survey, we see that free will touches on central issues in metaphysics, philosophy of human nature, action theory, ethics and the philosophy of religion. Furthermore, we've seen that there are competing views regarding virtually every aspect of free will (including whether there is, or even could be, such a thing). Perhaps this partially explains the perennial philosophical interest in the topic.

7. References and Further Reading

- Anglin, W. S. (1990). *Free Will and the Christian Faith* (Clarendon Press).
- Broad, C. D. (1952). "Determinism, Indeterminism, and Libertarianism," in *Ethics and the History of Philosophy* (Routledge and Kegan Paul).
- Chisholm, Roderick (1967). "He Could Have Done Otherwise," *Journal of Philosophy* 64: 409-417.
- Descartes, René (1998). *Discourse on Method and Mations on First Philosophy*, 4th ion (Hackett Publishing Company).
- Ekstrom, Laura Waddell (1999). *Free Will: A Philosophical Study* (HarperCollins Publishers).
- Finch, Alicia and Ted Warfield (1994). "Fatalism: Logical and Theological," *Faith and Philosophy* 16.2: 233-238.
- Finch, Alicia and Ted Warfield (1998). "The *Mind* Argument and Libertarianism," *Mind* 107: 515-528.
- Fischer, John Martin (1984). "Power Over the Past," *Pacific Philosophical Quarterly* 65: 335-350.
- Fischer, John Martin (1994). *The Metaphysics of Free Will* (Blackwell).
- Fischer, John Martin and Mark Ravizza (1998). *Responsibility and Control: A Theory of Moral Responsibility* (Cambridge University Press).
- Frankfurt, Harry (1969). "Alternate Possibilities and Moral Responsibility," reprinted in Pereboom, (1997), pages 156-166.
- Frankfurt, Harry (1971). "Freedom of the Will and the Concept of a Person," reprinted in Pereboom (1997), pages 167-183.

- Ginet, Carl (1966). "Might We Have No Choice," in Keith Lehrer, ed., *Freedom and Determinism*(Random House), pages 205-224.
- Helm, Paul (1994). *The Providence of God* (InterVarsity Press).
- Honderich, Ted (2002). *How Free are You?*, 2nd ion (Oxford University Press).
- Kane, Robert (1998). *The Significance of Free Will* (Oxford University Press).
- Kane, Robert, ed. (2001). *Free Will* (Blackwell).
- Kane, Robert, ed. (2002). *The Oxford Handbook of Free Will* (Oxford University Press).
- Kane, Robert (2005). *A Contemporary Introduction to Free Will* (Oxford University Press).
- Lewis, David (1981). "Are We Free to Break the Laws?" *Theoria* 47: 113-121.
- McKay, Thomas and David Johnson (1996). "A Reconsideration of an Argument against Compatibilism," *Philosophical Topics* 24: 113-122.
- O'Connor, Timothy (2000). *Persons and Causes: The Metaphysics of Free Will* (Oxford University Press).
- Pereboom, Derk, ed. (1997). *Free Will* (Hackett).
- Pereboom, Derk (2001). *Living Without Free Will* (Cambridge University Press).
- Smilansky, Saul (2000). *Free Will and Illusion* (Clarendon Press).
- Strawson, Galen (1994). "The Impossibility of Moral Responsibility," *Philosophical Studies* 75: 5-24.
- Strawson, Peter (1963). "Freedom and Resentment," reprinted in Pereboom (1997), pages 119-142.
- Stump, Eleonore (2003). *Aquinas* (Routledge).
- Van Inwagen, Peter (1983). *An Essay on Free Will* (Clarendon Press).
- Widerker, David and Michael McKenna (2003). *Moral Responsibility and Alternative Possibilities: Essays on the Importance of Alternative Possibilities* (Ashgate).

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